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EGG FARMING IN CALIFORNIA

By Charles Weeks
This book is dedicated to all who are interested in intensive production on small acreage—to those who love nature and enjoy plants and animals—and especially to those who contemplate a state of higher independence on the land.
Egg Farming in California

CHAPTER I.

Boyhood Days

My earliest recollections are of the hens my mother kept on the old farm in Indiana. Well do I remember the medley of colors and varieties in our flock of barnyard fowl. I played among them and always had my pets. I call to mind one old black hen that to my childish mind seemed almost human. My childish fancy made me a chicken and I played chicken until the hens themselves looked upon me as one of them. How often have I made a nest and sat on it like biddy until my youthful patience was exhausted. Why, I even could understand hen language and talk to them with as much understanding as they could talk to each other. When I clucked the whole flock would come running for the dainty morsel without hesitation. Hen nature is very interesting to a boy and well I knew all the moods and habits of biddy.

As I grew larger I naturally had charge of the setting hens in the Spring time, and the joy of bringing out the first brood of fluffy chicks is beyond words. With our motley mongrel breeds in those days the little chicks presented all colors. Some were black as crows. Some had a white spot on top of the head with black back and breast. Some had brown stripes down their back. Others were spotted, or white or grey or red.
I can see now the crude coops I used to make by driving sharp stakes in the ground alongside of the garden fence and making little pens about three feet square in each of which was a nest box and each covered with a shabby clapboard roof. As the hens became broody I tried them out in their respective coops and if they "set" would place the eggs under them late in the evening. I tell you life was pretty full for a boy when these hens began to hatch out the most beautiful fluffy chicks and they had their first feed. Soon they would run outside through the slatted front, out into the wide, wide world. With what fatherly pride a boy watches the little ones scampers here and there in search of insect life. One can sit for hours and watch them scurry and scratch and flop their little wings. They have no lessons to learn, no dead language to deaden their animal spirits, but joy of existence is complete. Their lifework is already laid out and they accept it gladly.

Once the mother of fourteen new hatched chicks died and they were left orphans. My boyish ingenuity was exercised to know how to take care of such a helpless family. With the help of my mother I made a brooder with felt strips hanging down for the little ones to nestle in. It was not long before they accepted this for their home after being shut in between their first feeds. Soon they looked upon me as their foster mother. To this day I can remember nothing that gave me more pleasure than this motherless brood of chicks. They followed me all around the farm just as if I were the hen. I clucked to them and kept them together on our rambles after insects. They knew my call when I caught a grasshopper or cricket for them. How they would fall over each other trying to get to my hand first. They would follow me out through the fields and be ready to jump for the worms and bugs as I turned over each little board or clod.

They would eat crickets and grasshoppers best of all. Some bugs they did not like, especially beetles. I soon learned which "game" they liked best and what fun it was to fill them up and see them grow. One day a rain came up suddenly and one became lost before I could get them all in. When I found it it was half drowned. I took it in to the fire and tried to revive it, but it peeped and peeped such a pitiful little cry that my heart ached, and in spite of care it died. To my boyish mind it seemed like one of my own children, and I cried myself to sleep. Next morning my sister and I had a solemn funeral back behind the old woodshed. There we made a little grave and placed the dead chick in a little wooden box for a coffin and buried it with tears in our eyes.

The balance of this brood grew up to market size and always kept together and followed me all that summer all over the farm. I remem-ber I was very busy in a big field along the highway one day turning over clods and chasing hoppers for the brood when some people passed by and stopped to see the hen boy with his brood of half grown chicks. They called me over to the road with my brood and marveled at the sight. To my boyish imagination this was a great honor, and to this day I remember the pride I had for that brood of chicks.

One of the keenest pleasures of my boyhood days on that old Indiana farm was hunting eggs. The boy that has never hunted eggs on a real old farm with barns, and sheds, and straw stacks, and hay fields of timothy and clover has missed a great treat.
How clear it all comes back today, though I am as old as my father was then, and over two thousand miles from that old Indiana home. Again I take the egg basket from its accustomed place and start out to make the rounds of the old barns, and sheds, and with what anticipation! What if I should find a new nest with bushels of eggs! What if I should find a large double-yolk egg! Here is a nest in the horse trough with a beautiful pink egg with little white specks. Oh, that manhood days could rave over a perfect thing as a boy does over a pink speckled egg. How carefully it is placed in the basket away to one side to show mother what a beauty. Then down deep in the manger among the old cornstalks is another nest with its treasure. Then up to the sweet-scented hay mow and behind the beams and dark passages under the roof we crawl, feeling carefully in every hole. We come out all breathless with "hay seed in our hair" and spider webs across our face and take a few turns on the hay to shake the dust off. Then down to the old straw stack with its pole shed underneath and its long dark hole away back in where we play bear. It takes grit to go in there for eggs where we have peeped it so often with big bears and things. Then we climb up over the sides of the old stack so steep and high that we can hardly keep from sliding off, and follow around to the little hole on the side where biddy has a snug nest. Then we slide down, down to the soft bunch of straw below, which takes our breath.

Then back past the old gimpson patch where the old sawdust pile used to be we part the weeds and search for stolen nests, and to this day I can smell the fresh trampled weeds as we wade through them. What excitement if we find a "new" nest with "lots" of eggs!

Then what a pleasure to go to grandpa's old farm place and hunt for eggs where grandpa never thought of looking. The big barns and sheds are so strange and mysterious. What a world of adventure for a boy at grandfather's place! Grandfather had guineas, and with what a thrill did I hear the old guinea at the noon hour set up that well-known cry that told where she had stolen her nest away down in the hay field, and how carefully I watched to see just where she flew from so that I might find the nest. A nest full of guinea eggs away out in the hayfield is about the choicest treasure that a boy could possibly discover. The little brownish pointed eggs so uniform and perfect fill a boy's wildest dreams for perfect eggs. I have stood long over a nest of guinea eggs in perfect ecstasy.

Grandfather gave me a setting of guinea eggs and how carefully I carried them home and placed them under the most reliable old hen, and how patiently I waited for them to come out, and how my hopes went down when I found that they were not out on the twenty-first day. My hopes arose again when my mother told me that it took longer to hatch guinea eggs than hen eggs.

How I danced with glee when the first little striped guinea appeared. Mother said that guineas were naturally wild and that I could not expect to tame them as I did my chickens. But it was not long till they would run far from their coop to meet me and pick the bugs and worms from my hand.

I think a baby guinea the sleekest, quickest, most lovable of all young fowl. They are so perfect and feather out so young and fly
while they are so tiny. How I wanted to fly with them when they arose and flew to the top of our old woodshed.

Then we had turkeys on that old Indiana farm when I was a boy. Of all the broods it was considered the most difficult to brood and raise turkeys. They seemed to resent domestication and would not accommodate themselves to our artful ways. I used to feed them curds and bread and milk and humor them along till they were able to roam the fields, when they were back to their natural ways.

The easiest thing to raise of all my boyhood fowl was the duck. What a world of satisfaction a boy gets out of watching a brood of baby ducks having their first swim. To see them duck and splash and swim would start the most dutiful boy to the "old swimmin' hole." To my boyish fancy the baby life of a duck seemed the most interesting. They took such a joy in living. They would waddle around through the blue grass and white clover with their heads low and necks stretched looking for insect life and then rethink themselves of their swimming pool at the corner of the old barn and all make a break and lunge into the water and stand on their heads trying to feed from the bottom.

When I look back and think of the keen, pure joys of boyhood days on that old Indiana farm among the barnyard fowl I feel almost resentful that the breeding of fowls should become so much commercialized. Why could we not breed them more for pleasure, just for the keen joy of evolving perfect things. Now we make our bread and butter from producing large quantities of fowl. In this commercial age we are rushed off our feet from the sentimental to the cold plain facts of earning an existence. Little did I think of the dollars my broods would bring when rearing chicks in my boyhood days. It was for the pure joy and love of it.

What a world of pets I had on that old Indiana farm! The boy who has never known what it is to care for pets and love them and invent houses and coops and cages for them has missed much in life. In memory I can even now see the most intimate pets of which I was so fond. My boyish dreams were of a whole menagerie of pets. What curious devices I studied up for the comfort of my pets. In those days there were large forests of oak and elm and hickory and maple and beech, and what a heaven for a barefoot boy! My father was well versed in the names and habits of all the plant and animal life of the forest, and much I owe to him for the deep love of nature which I possess. In this fairy-land forest I roamed and studied the birds and squirrels and flowers. The wild birds of the forest had a wonderful fascination for me, and how well I knew their habits. I knew where their nests were hidden, and what a joy it was to search for new nests and stand in admiration and awe watching the old birds care for the young. The robin built a nest of mud and sticks, usually on the corner of an old rail fence. The old snag in the clearing was the resort of the woodpecker and the old bare trunk was full of holes which led to the nest deeper into the rotten wood. With an upward swoop the red head catches an insect in the air and with periodical flapping of the wings moves in wave-like motion over the cornfield toward the old snag where the young at the little round entrance set up a wild cry for the food. How they jaw and scold over all the old dead limbs in the forest! I like the silent forest at the noon hour when there is
scarcely a sound save the sweet, sad note of a tiny bird far away in
the elm boughs and another in answer which reverberates through the
leafy corridors of the dense forest. Far away in the old deadening
where the sun shines so hot you can hear the rat-a-tat-tat of the
woodpecker or sap-sucker. A turtle dove coos plaintively from the
dead limb and makes you feel so lonesome. The bob-white "raises to
whizz to where some other's whistle is." The cat-bird and the jay and
the blue-bird and the wren seemed to like our farm. I built little bird
houses and set then on poles around our garden fence for the blue-birds
and wrens, and year after year they would come back in the Spring
time and build a nest in the same place. The little wren always built
its nest of twigs so thick and heavy that it could hardly get them
through the tiny door.

I had a mania for hunting and studying the different kinds of bird
nests. It was always a marvel to me that each particular family of
birds had its own characteristic nest. Instinct seems to guide them in
the building of their homes. They never worry over plans and new
designs, but accept the fashion as they find it. They have no guess-
work about how to live to get the most out of life. They accept the
modes and customs of their ancestors and save much time to themselves
for sheer enjoyment of life in the very present. They have no past to
forget, no future to plan, and work and dread over. They have no
long, cold dead languages to pore over, perverting their minds from
the joyful present with its wonders in trees and flowers and sounds and
sunlight and fresh air.

No lessons to learn of what to do and how to do, but accept the
present and revel in the mere delight of a full and healthy existence in
the ways that their Creator laid out for them. Does the quail weary
of building her home on the ground under the tuft of grass and pine
for a more stately home high among the waving branches? Does the
blue-bird envy the red-bird her pretty colors? I sometimes think that
the little bird singing from the topmost twig all quivering with melody
and life knows a greater happiness than we humans have ever attained.
They are fulfilling the place in the universe which was set aside for
them in the beginning. Humanity has guessed at ways and means of
living and has tried so hard to dodge the issue and has made a
jumbled mess of it till no man hardly knows his life work. We box
ourselves in between walls and borrow our thoughts from the dead
past and call it life. We jam and crowd ourselves into huge cities and
pile story on story, shutting out the life-giving sunshine and breathing
air into our lungs that would soon sicken the very birds of the forest
if they had to inhale it. We pollute our flesh with nicotine, caffeine,
tannin, and strong drink, and with this weak, painful, sickly tenement
of flesh go about the earth searching for happiness. Restless, indolent,
grumbling, fighting, or going to the other extreme in over-work, letting
false ambitions warp our lives until we lose the true joys of existence.
We pass our fellow men on the highways of life with their roll on their
back restlessly wandering, listless, unkempt, bored, no purpose, no
will, dragging out an existence that is entirely unknown to any other
living thing. The birds have their duties, their nests, their loves and
a poise and purpose that should shame our shiftless lives. Who ever
heard of a tramp squirrel or homeless bird? Equanimity, complacency,
poise, purpose, physical buoyancy, health and a keen appreciation seem to be characteristic of all animals except man or those man has perverted by domestication.

Man has wandered so far from nature and natural ways of living that he has lost his way and tosses helplessly on a sea of doubt and indecision, drifting, as it were, until a whole life is spent without once doing the thing that is so much desired. Strong minds take advantage of purposeless lives and set them to work; thus it is that most men work for someone else and never have true independence. Birds and squirrels would disdain to be bossed, or labor long hours for their mere keep for others of their kind. All nature seems to preach sermons to our tardy and imperfect lives.

On that old Indiana farm we kept horses and cows and hogs and sheep. The young of all these animals were my pets. I fed the motherless lamb from the bottle and of all pets it seemed the most human, so gentle and lovable. The little pig that was crowded out by the rest of the litter found a home in our old wood-shed and was fed with milk warm from the cow. Pigs were made to consume things, and of all the feeds my pet pig received it was a wonder that it lived.

Then the little calves were my charge and I taught them how to drink warm milk from the pail by letting them suck my fingers down in the milk pail. Thus it was that I learned to love animal life. I believe every boy should have the care of animals and learn to feed and care for them. It is a wholesome outdoor life that is much more real than streets and houses.

I also had cages of the different kinds of squirrels which I had caught in the crude traps that I had made. These traps were a source of great pleasure, and with what excitement I went the rounds through the deep forest to see if I had trapped any venturesome squirrel.

I will never forget the time my cage of chipmunks gnawed out during the night and all were gone next morning. I could see them hiding around the old wood-shed and corn-cribs, but they were too sharp to be trapped again. What a fairyland to a boy were our old Indiana forests in those days, with chipmunks or ground squirrels, red squirrels, grey squirrels, fox squirrels and, strangest of all, flying squirrels. Once in a long while we might find a black squirrel which was a marvel. Then there were woodchucks or ground hogs, and coon which made our hair stand on end to even hear about them.

I have dwelt at length upon my boyhood and the pets I had so that you may understand why I have chosen the poultry business as my life work. It is my natural calling. Blessed is the man who has found his work, for then every day will be a holiday and real pleasure will be found. But I had to pass through a terrible ordeal to find out just what was the healthiest, sanest, truest life for me. My free, happy, independent boyhood days caring for animals and cultivating plants out in the open air under the blue sky in the sunshine was the real life.

"Better than grandeur, better than gold, 
Better than wealth a hundred fold, 
Are a healthful body, a mind at ease, 
And simple pleasures that always please."
Well do I remember the morning I left this healthy, natural way of living on the old farm. That morning father brought the old farm team hitched to the “spring wagon” to the door of the farmhouse and loaded in the trunks and my sister and I climbed in and we drove away to attend the Academy fifteen miles away. We looked back, waving our hands to mother standing on the porch and taking a last look at the old farm through our tears. Little did we know that we were starting off on an entirely different line of life that would even make us strangers to our good father and mother. We were going from the real existence to one of books and passivity. We were to cram our memories with second-hand thoughts from others. No more initiative, no more freedom, no more activity, but a daily routine was planned for us and we were only receptacles being crammed with words, words, words, cold and dead. There we were left to mingle with other boys and girls who came to get a “higher education.” I shall never forget the hungry heart and utter lonesomeness as I sat in that little scantily furnished dormitory room next morning with the morning sunshine pouring in at the window. I was a prisoner in this little room with a strange stack of books on the cheap table. From the branches of a tree below the window sang a bird, a little song sparrow, and it sang such a sad, sweet song that I leaned my head on my arm and cried. It sang of the glad, free life that I had left behind on the old farm. How I longed to be at home with my pigs and calves and lambs and chickens. Was it right that the little bird should know so much joy and freedom while I must set out on this long road of slavery to so-called education?

The days dragged by and I dutifully studied my lessons, going from my little room to the classroom and back again to the little bare room.

I had a great sense of duty or my aching heart would have sent me back to clover fields and corn fields and cool, shady forests. How often have I sat and stared at the bare walls of that stuffy little room and tried to imagine the glories that were going to waste out under the blue sky on the old farm. My muscles ached for exercise. They were growing soft and flabby. It took sheer force of will power to keep me from fleeing from such an unnatural life. Why could there not be a way of going into the fields and forests and studying the beauties of nature first hand?

Object lessons are the only ones that leave much of an impression. Memory of words will never make feelings of joy, gladness, ecstacy, and buoyancy, but instead tend toward a dead, cold, callous nature without any of the finer emotions. Why should we make the mistake of taking our boys and girls out of the real active life around them and set them aside to study things so foreign to the good and welfare of their physical and emotional existence? We take them out of life to prepare them for life, and how sad the mistake! We need a school that will lead us to take great pleasure in producing beautiful flowers, or growing choice vegetables for the table, or in evolving perfect animals useful to man.

We need a school where the emotions are cultivated, the more human and finer feelings, that will make us more sensitive to the beauties all around us so that we can revel seeing with our eyes the pretty color of flowers or perfect shape of animals, or go into ecstacy
listening to sweet song of birds. There is too much of a feeling among students that it is soft, too sentimental to allow the emotions to carry you away, and so they curb the least expression of appreciation and animation and miss the finest of pleasures. Bookworms and students of dead languages see very little in this immediate world around them. They are the dullest of company to a real live person who is all glowing with the real world all around. In the study of mathematics or dead languages the mind creates a world of its own that is so foreign to the real beautiful world all around us. We neglect the natural life and crucify our very physical existence for mere memory of words. Girls grow thin and spindling and pale under this unnatural pressure of committing to memory words, words, words. They unsex themselves and are weakened for life for the real world into which they must come soon.

So it was that the craze for a "higher education" drew me away from the old farm, away from the natural life of man, into a chaotic subjective world of ologies and isms that blinded and warped the mind until the warm, living, throbbing world that I had left behind became a matter of memory only. At first I came home often for a visit for my heart was hungry for the clover fields, orchard and forest, and I would ramble over the old farm trying to feel the same interest that had once held me so strongly, but a change was working slowly and surely and I was in grave danger of losing the emotional side of my nature. I could not take the same joy in things. My memory was clouded with dead things, mere rote work. Planning, expectation, initiative was all gone.

Academy days bring to mind some things that live in memory. I gathered the flowers for the botany class. I won many honors in field day exercises. Zoology, biology, botany and physics were of much interest in the laboratory and of use. But the memory often calls to mind two long braids of hair that belonged to the girl in the seat just in front of me. My youthful dreams got tangled in those two long braids and in after years those braids became interwoven with the life work which I am to tell you about.

After finishing the Academy, or the Academy finishing me, which is too often the case, I taught country school for a few years and then launched off to a four years' college course at De Pauw University, Ind.

It is needless to dwell upon college days. They were not much different from others. I became a fraternity man, was strong in field day exercises, and made average grades. But through it all there was a hungry heart, an aching, a void, that with all the lore of college walls could not be filled. I felt that the best days of my young life were slipping away and that I was not living in the truest and fullest sense of the word. The dusty, badly ventilated classrooms became unbearable.

I often dreamed of the free, glad boyhood days back close to nature. Was this life fulfilling my boyhood dreams? My youthful dreams as I plowed corn up and down the long rows with my bare feet in the mellow earth were not of musty volumes and dingy walls, but of an open air freedom with birds, and flowers, and bees, and trees, and animals. My boyhood dreams were of a farm that would have the choicest creations of man in both plants and animals.
In that youthful dream home I would have the sleekest cows for my milk, the fattest pork for sausage, heavy horses for plowing, light trim ones for travel, sheep for wool, poultry for eggs and flesh that would be uniform and pleasing to the eye, bees for honey, and all the choice fruits and vegetables for the table. Were these college days helping my dreams come true? Were they not making me impracticable, a mere nummber of other men’s words? Over my study table with the midnight oil burning low I tried in vain to join the “higher education,” so called, with the fuller, healthier, more satisfying life that had once been mine. It seemed that I had lost my way and that attempting to master the knowledge of the whole world that I was in grave danger of neglecting the temple of flesh in which my soul lived and that the finer and nobler emotions of that hungry soul were being ignored. I wanted to get back into the beauties of the real world where I could put my hands on pulsating animals, train the flowers, and grow vegetables, and prune trees, gather food for the table, build a cozy fireside.

In due respect to the more modern schools of today I must say that they are making a great movement forward in adding school gardens and industrial courses to the curriculum.

As I look back in memory to my college days the work that has been of the most benefit is that which I was compelled to do to pay my way through school. I washed dishes, waited on table, run a laundry wagon, canvassed for books, and kept a boarding club. These things held my feet down on the earth and made me somewhat practical. The first essential of an education is that it should teach us how to earn an honorable living. I have seen college graduates in many parts of the world incapable of earning a decent living. Crippled for life even to the bare comforts and necessities of living. We need a school that will teach us first of all how to take care of this physical body in the way of cleanliness, good food, clothing and shelter. If we are proficient in this and have some time left, then we can the more appreciate the higher arts.

In the world of books and in all the studies for developing the mind I failed to find that which would satisfy a soul longing for a larger freedom. I wanted a world where my eyes could feast on beautiful colors, where my ears could hear sweet sounds, where the fragrance of flowers reached my nostrils, where the taste of fruits pleased my palate, where my hand could find useful work to do. A world of this kind would develop all these five avenues to the mind and make us keen and alive and one with the universe. I could see no other outlet for the hungry soul. I could not find it in the printed page. I became disgusted with college for study. Was I there for study itself or for companionship or from custom or a sense of duty?

I could stand it no longer. I was in my senior year. So I packed my trunk, boarded a train for Chicago and went out into the wide, wide world, restless, incapable, undecided, inexperienced, drifting as thousands of students do each year. I was swallowed up in that great city of Chicago as thousands of country boys are each year. My boyhood dreams were not of this artificial life in this rushing, seething mass of humanity.
I had dreamed of a sunny home among the trees and flowers with thousands of interesting, growing, beautiful things all around. Now I was swallowed alive with all the individuality I ever had ironed out of me.

I walked the streets with an aching heart. What could I do to earn my keep? I tried to get a position as bookkeeper, thinking that would be a genteel life for a college boy. But no, they had no time to teach a schoolboy without experience. I tried to get a place clerking in the stores, but had no references and less experience. I looked at the list of work offered by the employment offices, but nothing but heavy muscular labor was wanted. I came near shipping to the western corn fields in answer to a demand for corn huskers. I had once been a capable hand in the field, but college days had softened my hands as well as determination. I was in desperation. No one wanted a college boy. I should be able to do things, not read about other people's thoughts and think I could do things. The futility of all my labor in college came over me like a flash. I must put my hand to the wheel and learn to do things.

What one thing had I learned in college that would help me out in my present dilemma? Oh, yes! I had waited on table and learned to serve. It was Dewey day in Chicago and the streets were crowded. The restaurants were crowded. Now was my chance. I walked into a lunch counter eating house and applied for a job. The proprietor looked me over, smiled to his wife on the side, gave me an apron. I shall never forget the confusion of that first day in that restaurant. It was a circus for all who saw me try to fill orders.

I tried to do as I saw the other waiters doing. I would take an order, rush out into the kitchen and perchance forget it before I could deliver it to the cook. The cooks laughed and roared. The waiters winked at each other and shoved me aside. I could not carry dishes on my arm and many went upside down to the floor. The whole house was in a roar.

A college boy's first introduction to the cruel, cruel world. I thought my heart would break. But I was hungry and had to eat. The proprietor looked at me with a red face and seemed amused that I should attempt to wait on table with so little experience. I overheard him say to his wife that he was not going to fire me, but was just going to see if I could learn to use myself. He saw my earnestness. This gave me courage and I finished that first day. The next day there was not so much of a rush and I had time to study the bill of fare and learn how to order the dishes, and one waiter gave me pointers how to stack the dishes on my arm. I must say that the mental drill I received in the seven weeks that I "slung hash" excelled all the vaunted courses that had ever been handed me at college. My mind soon became wide awake, alert to all around, and took a delight in this new activity. But, oh! the bad air, and hard floor, and weary limbs! The perspiration stood out on my forehead and all my clothes were damp. Still there was a new satisfaction in service and being able to do things. In this little cheap hash house on State Street I began my first work away from home out in the wide world. In conversing with the waiters I learned that if one became proficient as a waiter in a first-class place he could earn a fair salary. I applied at once for a place as "bus boy"
at the Great Northern hotel and received the job of carrying the dishes from the dining room. This gave me access to the dining room and kitchen and I soon picked up the essentials of waiting in a high class place.

I then purchased a waiter's outfit and went to the Victoria Hotel and applied for a place and got it. I had a pretty hard time for a few days, but by the help of some good-natured waiters I pulled through and could soon serve table as well as the best. I was getting experience in city ways and had a good chance to observe the people as they dined. I studied city life from various angles and often tried to compare the two lives, that of the ordinary city man and that of the country. The life in this great city seemed so hollow and false as compared to that I had known in the country.

After spending one year in Chicago I went to New York and worked there two years in some of the best eating houses in the city. This gave me a very cosmopolitan idea of the world. I had opportunity to study very notable people who came to dine at my table. In visiting different parts of the city it was appalling to observe the poverty and squalor.

I was astonished that people should be crowded together in such unhealthy quarters. Then there was the vice that always disgusted me, for I was reared a clean, virtuous lad, and things low and mean were loathsome. I studied the city from every angle. On every opportunity I spent long hours in Central Park enjoying the trees and grass and flowers and the animals. It was here that I felt at home and that old longing for that free, healthful life that I had once known came back again and again. I had not found it in college, neither in the busy city. I took excursions up the Hudson River. I walked miles in the country recalling the good, honest, freed life of early days. I began to doubt all mankind in the large cities. I had no close, staunch friend like I had known in the country. It seemed hard to find the sincerity. Every one seemed so trivial. I became sick and tired of this artificial life and longed for the old farm back in Indiana. If I could only walk out over the old farm with father as we used to do and view the crops. Thus musing one day, I strolled past Madison Square Garden. From inside there came the sound of a crowing cock. Then another and another. The cackle of a hen instantly called to mind my boyhood pets. These familiar sounds made my sore, hungry heart beat with rapture.

I bought a ticket and passed in to view the Great Madison Square Poultry Show. With tears in my eyes and a great lump at my throat, I walked down the aisles and viewed the grand fowls, so much grander than my boyhood had ever known. How I revelled all day long among that glorious collection of perfect birds. Such a day! It seemed that my school days had been for naught and that my city life had been a trance.

I then and there dedicated my life to my first love.
CHAPTER II.

From the City Back to the Old Farm

Most people who live in the city, and can afford it, own a country home. Those who are not able to possess a country home usually rent one for a portion of the year. Some must be satisfied with a short vacation each year. Many are unable to get out of the city to the country at all.

The dream of every city dweller is to have a country home some time in the “afterwhile.” A quiet, peaceful, vine-covered cottage with berries and fruit and vegetables and fowls—this is the dream of most all who toil in kitchens, or basements, or stores or offices, in bad air shut out from sunlight. Human moles breathing vitiated air full of dust and microbes, air that has never been purified by the sun’s rays, air that never bears the sweet fragrance of flowers or the freshness of morning.

A little personal heart-to-heart talk with any clerk, or bellboy, or waiter, or office man, even dishwashers and floor-scrubbers, each and all will apologize for the part he is playing in life and begin to tell you of his dreams of the time when this unpleasant routine in this great cog-wheel can be changed for that little cottage with the flowers and birds and freedom and peace of mind and health.
The horrors of Dante’s Inferno are not much worse than the ordeals which many go through with in the over-crowded cities. Dishwashers and greasy potwashers down under the ground in basements over hot, steaming, greasy water, away from fresh air and sunlight, compelled to toil for that gnawing and insatiable appetite which can never be satisfied. These may have gotten past the place of dreams that might come true and only live for the short flashes of memory of better days conjured by strong drink. Clerks behind long counters walking up and down on hard floors until they have corns on their feet and become “kidney-footed,” as waiters call it, and their limbs stiff and calloused—this is their little world, delving out goods to the passing public in a mechanical way, only a cog in the great wheel that grinds out their lives. Compelled to punch the time clock on the minute every morning, regardless of moods or desires, with no initiative, forever following others’ orders, with no heart in the work, and the only stimulus that induced by hopes of promotion. Promotion only means more money so that those luring dreams of that independent country home can be the sooner realized.

Nature is calling man back to the natural, free, independent, healthy life on the soil. There is something in the heart thathungers for the flowers, and trees, and birds, and hills, and forests, and streams; and man rushes from the city on every occasion to gratify this longing. For six months the city man looks forward to a country vacation and for the other six months he has the memory of that vacation to stimulate his dreams and hopes. Dreaming, planning, stinting, saving, enduring the most disagreeable jobs, in order that that ideal of a quiet, peaceful, restful, country home can be realized. There ought to be some way, some plan by which we could obtain the heart’s desire early in life without drudging away the best part of life in distasteful work trying to accumulate enough to purchase the ideal. What a bountiful, well-fed world this would be if we only had schools that would teach the boys and girls the joy of producing the essentials of life from the soil. We have drifted away from the real life.

So it was that the crowing of a cock in Madison Square Garden in the great City of New York called me, a wanderer from Nature’s ways, back to the old country home of my boyhood days. I wrote home to father and told him I wanted to come back to the soil and that I wanted to go into the poultry business as my life work. I rather think that father thought that the poultry business was a little business for a boy to go into who had been to college, taught school, worked in a store, waited in a hotel, and “traveled over so much of the world,” but he was glad to hear that I was wanting to return to the old farm and wrote for me to come at once and that we would go in together. Before coming home I visited many of the large poultry farms around New York and Philadelphia and received inspiration enough to give me a momentum to carry me over many a hard place in the years to come. I became alive to the magnitude and opportunities in the poultry business. I bought poultry books and subscribed for poultry magazines, and, to be candid, became a poultry crank. With all the enthusiasm from the journals and books and visits to large poultry plants I was carried away, and stepped off the train near my old home place with a new purpose and a new life work before me.
It was the return of the prodigal son, and a great day in the old home. It is needless to say that father was carried away by my new and youthful enthusiasm, and we immediately set about evolving plans of a great poultry business. It was hard for father with his thrifty, steady, easy-going ways to launch into such a big undertaking.

Father had a life-time experience in doing things with his own two hands on the old farm and had always taken a keen delight and a great joy in his work, which, by the way, is, perhaps, the best blessing of life. It was hard for him to be rushed off his feet with such a big enterprise as my young imagination pictured to him. I was impetuous. He, solid and sure. Safety first, with much care, and not too much haste, was his motto. In after years I learned how wise was father in all his deliberations and that the purest joy comes from work well done with your own two hands.

Imagination and ambition make a restless life and mother oft told me that I was too ambitious and that I should be satisfied with the common joys of living and not aspire so eagerly to youthful dreams. Perhaps she was right, and in the end quiet paths of peace may be best. But without imagination, and longings after ideals, and yearnings for perfection, no progress can be made. Without dreamers, the world would be very prosaic. In early days father had his youthful dreams, and they were realized in a solid, substantial country home and broad, fertile acres, with well-bred horses and cattle, and he was enjoying the realization of his dream without the youthful impetuosity, and it was hard, as it has always been, for the mature judgment and the young ambition to work to the best satisfaction of each.

So we talked poultry and studied poultry house plans and began to launch off into the poultry business. It was hard to decide from the multitude of plans just what kind of poultry houses to build. We were bothered to know just what were the best breeds to choose. Had we realized how little we really did know and how long the road to experience, we may have been discouraged. We read poultry books and journals and wrote for catalogues, and drove for miles all round trying to find the kind of fowls to start with. We finally found a flock of pure-bred brown leghorns owned by a Mrs. Harvey, who was considered the best breeder of pure-bred poultry far and near. They were beauties and from the best blood in the United States. Mrs. Harvey showed us her brooder room, in which was a fine lot of new-hatched fluffy brown chicks around a coal stove in the center of the room. They were a pretty sight. This was the first artificial brooding I had ever seen. Then she showed us her home-made incubator in the house. It was a large square box with a copper boiler that held nearly a barrel of warm water packed around with saw-dust. Under this warm water was a drawer that held the eggs. To keep up the heat, you must first draw off a bucket or two of water and pour in more hot water, which would bring the temperature up to the desired point. The only ventilation this home-made incubator had was a one-inch hole into the chamber beneath the egg drawer. It was remarkable what fine hatches Mrs. Harvey brought out of this crude incubator. This was the first incubator I had ever seen in actual operation. We took measurements and went home determined to make our own incubators, which we did. We ordered hatching eggs from Mrs. Harvey and placed 240 eggs in
one of our new home-made machines. Each morning and evening we would draw off a bucket of water and fill in one of hot water, which would bring the temperature up to the desired point of 103 degrees. Mother heated the water on the back of the stove in a large kettle. We only turned the eggs once per day and knew nothing about cooling the eggs. Our new work was absorbing and interesting and we had great times planning and discussing. We placed the incubator in the thick-walled cellar house just back of our old farm home and each evening we would turn the eggs and talk chicken, and I reckon this period among the happiest days of my life. With what a thrill we heard the first peep in those eggs, and how we rushed into the house to tell the balance of the family, who gathered around to make sure we knew what we were talking about. They were alive, all right, for we heard a peep. This being our very first experience, we were not sure that they would come out. Next morning there were several eggs pipped and some little, wet, wobbly chicks rolling out of the eggs.

While we had been incubating we were building a brooder house for these chicks, which was the usual type of hot water system with hovers and small pens. This was heated with coal in a hot-water boiler. Into these nice new warm pens we put our first hatch. There was some hustling on the old farm the next morning when we carried the chicks from the incubator to the brooder house. My brother-in-law came over to see how the hatch came off. He met me coming out of the brooder house all red in the face, with a basket on my arm. "How many chicks did you get?" was the first question. Now this was the "unkindest" question that could possibly be asked an amateur poultryman. Reluctantly, I told him that I only had 197 chicks from my 240 eggs placed in the incubator and that I was at a loss to know
just why some of the eggs did not hatch. He laughed till I was provoked and told me that the old hen herself could not beat that record.

To this day my brother-in-law likes to joke me about that first hatch of chicks and how disappointed I was in not being able to bring out all the chicks. I had hatched 82 per cent of all eggs placed in the machine, and of the many thousand eggs hatched in after years seldom have I ever beaten that first record. We had located the incubator in the best place possible, in a cellar house with walls two feet thick and not too dry. This kept an even temperature. Then we kept the temperature very even and turned the eggs carefully, always washing our hands before turning them so that no oil would get on the shells. Then the eggs were from breeding stock of proper age and good mating, and this made vigor. From this hatch of 197 chicks we raised 193, losing only four, and these were drowned in a rain storm. This made me somewhat conceited and of course I knew then and there all about the poultry business. I had large dreams. I could hatch and raise them and of course there was no limit to the fortune to be made. We hatched several hundred brown Leghorns that Spring and also some Barred Rock, Black Langshang, Buff Cochin, White Javas. We had fine luck with the brown Leghorn, but soon found that we did not know it all in hatching and rearing the heavier breeds. There was a great difference in the vitality from the different eggs. It took years for me to find out that good vigorous breeding stock was the first requisite in rearing the young chicks. This first year, however, was a pretty successful year as a whole, and we placed something like seven hundred fine Leghorn pullets and two hundred Barred Rock pullets in our long laying house. This new laying house was about twenty feet wide and about one hundred feet long. This was divided into three pens with dropping floor and nest boxes. It was built close with ceiled walls and windows to the south. It looked like a perfect house for comfort in that cold climate.

We soon began to have our trouble, for the house being so tight and ventilation so badly arranged that the walls gathered moisture and were even covered with frost on cold mornings. The pullets began to catch cold and then swelled head which turned into roup. We tried dusting them with lime and fumigating with coal tar and every remedy we could hear of, and nothing seemed to do any good. Father's ardor for the poultry business began to cool quite perceptibly. We pulled them through the winter without much loss and had a fair yield of eggs, but we began to realize that the poultry game was not so easy as we had at first thought. We did not know at the time that our houses were built entirely too close and that fresh air is absolutely necessary for poultry, and that hens must not be crowded for best results.

Open Front Poultry Houses were unknown in those days and we were making the same mistake that thousands were making of housing the poultry too close and in too crowded quarters. But when the sunny days of Spring came we soon forgot our Winter troubles and began to dream big dreams. We would build more incubators, and more long houses, and hatch them out by the thousand and make a famous poultry ranch. So we built a large incubator cellar with thick walls filled in with sawdust. In this we constructed a 3000-egg
incubator. It was the talk of the country far and near. We filled
this incubator with eggs from those young brown Leghorn pullets.
What a tragical mistake this was! Any breeder could have told us
that this was folly. It seemed that fate should have us go through
this experience on purpose that the lesson could be well learned.

On the day that we brought out the hatch people came from far
and near to see the mammoth incubator. We carried the chicks out
to the long brooder house by the hundred, bringing out about a 50
per cent hatch. This was a big drop from our first year’s experience,
and we were again puzzled.

It was a pretty sight to look down the long rows of pens in the
brooder house and see the little brown chicks scratching for their feed.
But how our hopes went down when they began to die one by one.
They were puny and weak and no power on earth could have raised
them. The parent stock was immature and not correctly mated. We
made a fizzle and hardly a respectable fizzle trying to raise chicks this
year. It was enough to discourage the bravest. The puny lot of stock
we raised that Spring was disgusting. Thin-breasted, thin-beaked,
with hardly enough vitality to hobble about. If we had only known
why we failed it would have made us feel better. We blamed the
incubator and the brooder system. Thousands have done the same
thing, and it has caused more kinds of brooder systems to be put on
the market than any other thing. The incubators and brooder were
all right, but the parent stock could not have been more carelessly
mated. It was only my bulldog tenacity that made me hold on.
Father was ready to quit. I was sure that there was a way to do it,
and began to take more heed to what I read and also to visit other
poultrymen to see what had already been done thus far in the history
of the poultry business.

You know it takes some experience before you can look intelligently
into the experience of others. It is hard to take the other’s word for
it; we like to try it ourselves. But a little actual experience makes you
read between the lines. I had just arrived at the place where I could
be told just a little bit. This receptive attitude saves an awful waste
of energy, but we have to have a taste of the real thing to appreciate
just what the other fellow has done along the line.

I began to get a clearer perspective of what the poultry business
really meant. I wanted to make poultry my life work. I wanted to
locate in the most favorable place possible to start with. The long,
cold Winters in Indiana were forever a handicap. I had heard of the
glorious climate of California. To make a long story short, father and
I sold out the poultry business at the old home place at a loss to both.
I would hunt a new location and begin all over again. Father advised
me to raise hogs or go into cows. But I had started out to make a
poultryman and I could not bear to have my dreams changed. I saw
a bigger and more wonderful field in poultry than ever before. These
two years’ experience would be worth dollars if I could only profit
by them.

So I began the search for a good location, for I wanted the environ-
ment to be as good as Uncle Sam had on his broad domain for this
life work. I traveled through the Eastern States, visiting poultry
farms and gathering what experience I could. I saw many plants that
had taken fortunes to erect and many that were not built right and were doomed to failure. The poultry industry was still in its infancy and there was a world of room to work out and put it on a systematic basis. To my maturer judgment today I can see the mistakes of those earlier attempts in the Eastern States. Their houses were built too close and fowls were crowded. The modern open front house has changed all this, but it took years to convince farmers that hens must have fresh air.

It would make too long a story to go into detail telling how I searched for that favored location and finally headed toward the West. Horace Greeley's advice, "Young man, go West," haunted me from a boy.

I stopped in Spokane, Seattle, Portland, and many smaller towns on the way to the coast, studying the few poultry ranches that could be found and comparing advantages.

I had read of the wonderful poultry section around Petaluma and headed this way. I finally arrived in San Francisco, which city immediately impressed me, as it does everyone, that this was the coming city on the Pacific Coast, and that here within reach of this growing seaport center would be the place to build that dream ranch.

First California ranch fifteen years ago
CHAPTER III.

First Attempts at Poultry Raising in California

The selection of a location for poultry raising in California is a most serious problem. I did not realize the importance of getting the poultry ranch located on a rich soil with plenty of water for irrigation. I did not realize at that time that the highest success on the land in California is obtained by irrigation. With no practical experience as to California conditions, I started out on that long hunt for a location. Almost every man, some time in life, takes a turn in this exciting hunt for an ideal location for that dream home. I would choose a beautiful place to live where I could grow my own vines and trees and raise poultry and still be close to the large centers of population.

It would make too long a story to go into details telling how I visited the poultry ranches in the Petaluma country trying to find a location that would suit my whims and meager capital. Somehow Petaluma did not appeal to me. My aesthetic tastes may have been too highly developed for an egg farmer, but the lack of system and unkempt appearance of most of the ranches discouraged me. I must have a pretty, systematic poultry ranch, and I did not want it surrounded by shacks. Little did I then know of the toils, and trials, and experimenting it would take to evolve even a plain poultry ranch on economic lines. These egg farmers were passing through their early experimental periods, and it was not strange that every man had a different brooder system and that there were almost as many styles of laying houses as there were men. Old abandoned shacks of houses cumbered the landscape then as now, because all were experimenting and there was no established system that was universally accepted. Every enterprise must pass through this transition stage.
I visited many places lying near San Francisco, for I realized that here was the best market on the Coast and I did not want to go far from it.

One beautiful September day I stepped off the train at Palo Alto. Through the kindness of the real estate men I was shown the surrounding country. There had been an early Fall rain and the foothills were green and the picture was entrancing. From their tops I looked out over the far-famed Santa Clara Valley, with San Francisco Bay in the distance. At my feet were the red tile roofs of one of the coming universities of the world. From the foothills to the bay were broad, level fields whose fertility was capable of feeding many happy families.

I then and there decided that somewhere in this beautiful Santa Clara Valley I would make my home. When a barefoot boy away back in Indiana on the old farm, I dreamed, as I plowed corn up and down the long rows, of that home I should sometime make, and always I pictured it under the shadow of a great seat of learning. Here was Stanford University and rich soil and the most delightful climate in the world and glorious sunshine spread over all. No need to look farther. I had arrived at a place that was far beyond my wildest dreams. As I looked out over the orchards and grand oak trees spread out beneath me on the floor of the valley, and surveyed the mountains that enclosed all this little world of wealth and beauty, I thanked Providence that my longing, restless nature had led me to this delightful spot.

If I had only known just how to choose a location for a poultry ranch in the start, I could have saved more than five years experimenting. I chose ten acres near the foothills six miles out of Palo Alto. It was a beautiful residence section and fine orchard land for prunes and apricots; but what a mistake I made in this selection as a poultry ranch! In the first place, I could not get water for irrigation without
One of the first small pen poultry houses used many years ago with portable yard, showing experiences that led up to the present "Weeks System"

spending a small fortune, and then the cost of lifting was too much. In the second place, while the soil was good for trees, it was worthless for vegetation.

In the third place, I bought about ten times as much land as I could thoroughly work. These three mistakes have caused the failure of more poultrymen than any other cause. I did not then know that if I had chosen a spot lower down nearer the bay that I could have had an abundance of irrigating water and fertile soil. I did not then know that I must have these two things in California to make hens pay. So I bought ten acres in the wrong place for poultry, as many another has done. I paid $1400 for the ten acres, paying $400 down and going in debt $1000. I only had $1275. This left me $875 to put in my well, build a house to live in, and start the poultry business. Of course the land was cheap, but some land is dear as a gift for poultry raising. The old theory that any cheap land will do for the poultry business is a fallacy. I could not make hens pay on this cheap, unirrigated land, and in after years have made hens pay handsomely on land at $1000 per acre.

I went to work on this bare ten acres of land $1000 in debt and $875 cash to develop improvements. Out of this I must have incubators, brooder house, a place in which to live and well for water.

Step by step in this story I want to tell of all the mistakes I made, as well as of the good things learned through experience.

There is no use in any reader making the same mistakes that I made. Also you can appropriate all the truths discovered through all these fourteen years experimenting. If you can begin where I leave off you have gained so much time.

My first building was designed as a brooder house with a sort of flat above in which to live. In one of these five rooms above I built a 1200-egg incubator after the Cyphers plan. The whole space below,
Portable houses for ten hens scattered over the green alfalfa field. These were used many years ago, but now discarded for present system.

24 by 40 feet, was given to brooding. This was mistake number one in brooder house construction. In California, brooder house roofs should be low and receive the direct rays of the sun. Then I cemented the whole floor, which was mistake number two. Cement floors are too cold and expensive for any kind of poultry house. Then a heater system of pipes ran through the middle of the large room, and these pipes were encased in a cement sill over which hover boards projected on either side. The chicks ran under these hovers and could warm themselves against this cement sill. In previous experiences I had trouble in chicks crowding to the back side of the brooder and thought by making this cement sill hot enough I could roast them out of the corners. Perhaps this was one of the most foolish brooder heaters ever installed. Cement is a poor conductor of heat and the oil consumed in trying to heat all this bulk of cement was extravagant. Over this large brooder room I fitted up four rooms into a sort of flat. The walls were papered and with the fifty dollars worth of furniture they were quite cozy.

This was my first attempt at home building, and it was the most interesting work that my hands had ever attempted. It was rather an unpresumptuous nest to invite a mate into, but I had the courage to write back to that girl who sat in front of me at the old Academy and ask her to join me in my simple abode and become partners for life in the work which I had chosen. I wrote her that I could not give her a home like that from which I would take her, but that I had a strong pair of arms and a stout heart in a healthy body and big dreams of the wonderful opportunities on the Pacific Coast. Perhaps the picture I drew of that future home we might have in this glorious sunshine of California, with its grandeur of natural scenery, perhaps this had some
weight in making the decision, but she promised. Little did we then know of the toil, concentration and application it took to evolve a home that would approach our dreams; neither did we then realize that the keenest joys of life come with the making of this dream home.

It was a crucial moment when I found that I had spent the $875 cash and was down to my last dollar. My future wife was due to arrive March 10th and I was broke. I was a stranger in a strange land and in a very strange and uncomfortable condition. I explained my predicament to the man from whom I had purchased the land and begged a loan of $25 to carry me over the wedding day until I could get work. To make the story short, I got the $25, married the girl and went to work. It is needless to go into details telling of the many kinds of work I had to do to make ends meet. I thought I never would get that $25 paid back, and I think the man became uneasy himself. Mine was the common story of many who buy too much land and have too little capital left to work with. I did not know that it was possible to make a better living with less work on one acre than I was doing on ten.

I shall hurry through the long list of experiments that has led me up to the system which I am now using. Our first eggs were from a fine flock of white Leghorns from a near neighbor, and as these were two and three years old and had not been forced for eggs the chicks were first class. We brought out a medium hatch from our home-made incubator and raised a fine percentage in the big cold brooder house underneath our flat. Then I built a long laying house for the 400 pullets raised this year. This long house had a scratching shed underneath and roosting compartment above. It was a cumbersome affair and entirely impractical for poultry. The hens run at large in the ten-acre orchard of young peach trees. They did moderately well at egg production this first year. But I had too many hens together and ventilation was wrong, and that first winter some had colds and I became dissatisfied with the house. Next year I built portable canvas poultry houses and scattered them through the orchard. These
accommodated about twenty hens each. They were ventilated from below, and as the heat from the hens accumulated above there was naturally too much animal heat, and this house was soon condemned. The next year I invented a small open front trap nest house for fifteen hens. It was arranged so that the hen was trapped in the nest and could pass out into a coop after laying the egg and was there retained until her number was recorded from the band on her leg. This was a good little house and many times a hundred per cent egg yield was gathered for the day. I was getting down to one essential in egg production. Small flocks with individual attention. Trapnesting is a sure but tedious way to select breeding hens, and it was not long till I had evolved a better house for hens.

The next poultry house was four feet wide and six feet long, with a two-foot opening on either side through the middle. This had a capacity of ten hens. In one end was the feed hopper and nest boxes. In the other the perches. These were very light and were moved about on the alfalfa as the house needed cleaning. These were tried with light portable yards and without yard. I also made open front houses the same size and tried them with and without yards. In each and every experiment my hens laid more eggs in the small houses without yards.

The objection to this system was that the detail was too much. Water must be carried to each coop each day. The coops must be moved often.

In rainy weather it was bad getting around from coop to coop with feed and water. So while I got the largest possible number of eggs the detail was so great that one man could not turn off enough work.

It was a pretty sight to see these light canvas houses scattered over the green, but it was impractical and not a system that a hired man could be trusted with. In the five years on this place I changed my system of housing five times, each time increasing my egg production.

The problem that confronted me was that of eliminating the immense lot of detail. If I could evolve a system that would get me the eggs and still save labor, I would have a wonderful step forward.
All my time and thought were concentrated on this problem. The most important truth learned in these first five years experience was that green feed was absolutely necessary to profitable egg production. At those seasons of the year when I had sufficient greens my hens laid and paid well. My problem was to have green every day in the year, and I soon saw that here in California we could have greens all the time if we had cheap water for irrigation. If I had plenty of water for irrigation, I could grow the most luxuriant greens and arrange to have plenty the year through. So I had two problems confronting me. One of eliminating the detail in small house systems and one of securing plenty of water for irrigating. There was only one way of securing cheap water in quantities, and that was to move on some place that had water in abundance. If I would get eggs the year around, I must give my hens Spring-time conditions. To do this in California requires water.

During these first five years I also learned how to dress and retail poultry direct to customer. I tried all kinds of fattening coops and all breeds of poultry for market. The larger breeds were better for roasting, but the white Leghorn was best for broilers and eggs.

In this first five years experience with poultry in California I had learned several truths that were destined to add to my success in after years. I learned that one must learn to use the hands on a poultry ranch, and learn to use them skillfully and swiftly. Also that these hands require a good head to manage them with the least loss of motion.

To be able to turn off a big day’s work with the hands with the least wear is a fine accomplishment. Also that it requires as much brain work as any other business and that this is one of the strongest inducements for the poultry business, for it gives the opportunity for wide development.
I also learned that it was easy to get mixed up with the means and forget the end in view. All thought and theory and no manual labor will produce no results. All manual labor with no careful thought behind it will get nowhere. It requires capable hands with concise thinking to bring results. Above all, concentration to the one purpose in view.

Concentration and application with a reasonable amount of common sense along with physical labor are the qualities of a successful poultryman. I also began to learn the true type of the heavy-laying hen and how useless it was to keep unproductive hens. I also learned that there was more and easier money in egg production than in meat production.

These are some of the essentials discovered in these first five years of hard work and experimenting: First, that you must have a good hen. The best feed and care in the world will not bring eggs from a poorly-bred hen. Second, this well-bred hen must have a large variety of green feed every day in the year if she lays eggs at the greatest profit. To have green feed requires a rich soil with abundance of irrigating water. Third, this hen must be kept in a small flock with absolutely fresh air and no dust. Plenty of sunshine, dry, clean quarters, and all the good, clean, wholesome feeds before her all the time, with pure water to drink. Well-bred hens, well fed, and well housed in small flocks, and there is a sure profit. In this hasty review of the road gone over you can see better how I have at last arrived to the present system of poultry keeping. In future chapters I will give the truths thus far discovered in incubation, brooding, feeding, mating and marketing.
Old plan of giving hens free range. No longer used on Weeks Ranch.

I have worked out these truths through fifteen years of experience and hard work. If I can save time for any reader I will feel that my work has not been in vain.

Plowing kale, feeding hens and gathering eggs on Weeks Ranch
The New Poultry Ranch on Rich Soil with Plenty of Water

In selecting a new location for my poultry ranch, it is needless to say that I had to see the water running before buying, and this new place fulfilled my wildest dreams. My old place had proven beyond a doubt that I must have water.

In looking back over my twelve years experience in the poultry business in California, I see so many mistakes, so much grinding over useless detail, so much useless labor, that my heart goes out in sympathy to the beginner and I feel like saying just what any old successful would say to those just starting. The old adage, “Learn to do by doing,” holds good in the raising of poultry as in all other things, but the successful men in the world are keen to make use of the accumulated knowledge on their line and thus save years of toiling and experimenting.

That the man that has the ability to start in where the other man leaves off is the man that is able to progress. “Learn to do by doing” is the only practical way to become an expert poultryman, but by using the accumulated experience of others we are able to start doing the right thing instead of groping blindly for a right system. There is a way to do the right thing in the right place and at the right time, and if we can make this “doing” count while we are getting experience, then we save time.
If I were to start over again I would go to the most successful poultryman I could find, put on my overalls, roll up my sleeves and go to work. If he could not pay me wages, I would work for my board. If I could not earn my board, I would pay for the privilege of working with hens until I had found out the secret of how to make hens pay. This is one of the surest ways of becoming proficient in the art of making poultry pay. Another way is to start in on a small scale and accumulate experience in off hours. Perhaps our most successful poultrymen have started in this way. Another way, and a very good way, is to locate in the neighborhood of a group of successful poultrymen and from observation and mingling and enthusiasm engendered at their poultry meetings be carried on to a degree of success otherwise impossible to one all alone. A community of poultry raisers located on rich soil with plenty of cheap water for irrigation and a home market makes ideal conditions for the amateur. The very air is permeated with poultry enthusiasm which carries a man on to far greater success than he is ever able to accomplish in an isolated district.

A community located on a poor soil with no cheap water for irrigation and far away from market will never succeed as a whole, and only tends to leave an impression of poverty. You must have these
Water flowing from four-inch centrifugal pump on Weeks Farm. Five hundred gallons per minute.

three essentials—rich soil, cheap water and home market. Any community of poultry raisers that has not these three essentials must tolerate a large number of failures. There are so many locations with these three essentials that it seems folly to locate without them.

In making my start twelve years ago I looked long and faithfully for that much talked of "light, sandy soil" which was thought so necessary for healthy fowls, and finally chose what I thought to be an ideal soil with plenty of sand and gravel, little dreaming that it is only what the soil produces in the way of green feed for poultry that makes it a good poultry soil. What a mistake I made! The soil was too poor to grow anything but trees, being in the fruit section, and as the hens could not eat the soil and lay eggs, it was absolutely worthless as a poultry proposition. Then I had to lift my water fifty feet for irrigation, and only a little stream at that, and any practical man knows that it is impossible to lift water over thirty feet and make it pay in producing vegetables.

Five long, hard years I toiled and labored on this unproductive soil with little water and barely earned a subsistence. The trials and tribulations and worries and heartaches of these first five years are only a repetition of the experience of hundreds of others who are so unfortunate as to locate on an unproductive soil with no water for irrigation.

I had set out to make poultry raising my life work. I had dreams. To be balked in the line I had chosen and loved this early in the game was more than I could bear, and I was determined to solve the problem of how to make hens pay. That the equipment was wrong was what I
thought. I built new houses, only to tear them down and build over again next year, and so on for several years.

I finally discovered that it was only at those brief seasons of the year when I could have succulent green feed that my hens paid. Then common sense began to assert itself and I began to reason that it is impossible to have the hens lay eggs without she has what nature intended.

As Springtime conditions always brought eggs, it behooves us to give the hens Springtime conditions all the year around.

These Springtime conditions can be had the year around here in California if you have fertile soil and cheap water for irrigation. When I made this important discovery that hens must have all the fresh succulent green feed they can eat every day in the year, I saw very plainly that my location was absolutely worthless as a poultry ranch.

In these five years of endeavor I learned that a rich soil well watered and near a good market are the necessary attributes to any feasible location for poultry raising. I saw that it was imperative to choose a new location, and this I did, choosing five acres of rich, well-watered soil here near Palo Alto, and the seven years on this rich soil have been as prosperous as the first five years were a failure. If you have not these three essentials, sell out at once.

You cannot afford to waste a single day without these necessary conditions, and the sooner the change is made the better. All the successful poultrymen that I know have these essentials and the more quality these essentials have the better the success.

Green beets, green kale, green chard, green barley, green rape, green alfalfa, green, green, green every day in the year, cries the hen, and without this fresh green feed it is absolutely impossible to produce eggs at a profit. To grow these green feeds you must have a large flow of cheap water. You must have at least 200 or 300 gallons per minute to be able to irrigate without too much loss of time. I have a centrifugal pump that throws 600 gallons per minute, 36,000 gallons per hour, 360,000 gallons in ten hours, and at a cost of twenty cents per hour. My water lift from water level is only ten feet. With my rich soil and
this river of water from my sixty-foot well, I can raise tons and tons of beets and kale and alfalfa at a minimum cost. A large variety of green feed before the hens every day in the year is the secret of my success in poultry farming. Anyone can duplicate my success with my environments. A pumping plant, well, motor, pump and all need not cost over $500. With your own pumping plant and motor, you are independent for water and can use the motor to run the green feed cutter, grind grain, mix feed, run the washing machine, emery wheel, etc. The very first essential on a successful

You cannot succeed in California without plenty of irrigating water, and be absolutely sure you have plenty of water before you locate. I feel like shouting these truths from the housetop after my ordeal of five years’ useless labor in the wrong place, and if I can save my fellow poultrymen from making the same mistake I will be glad.

There are three distinct profits derived from feeding a succulent variety of green feed to hens. First, tender, succulent greens keep the hens toned up and in a healthy condition so that a great saving is made in loss of hens, which adds materially to the profits in large flocks. Second, there is a great saving in grain and mill feeds, for the hen will not only assimilate better what she does eat, but will eat much less, for the green feed is nature’s best food.

Many times a hen will eat more of one kind of grain than her system needs in order to get a little of a certain element craved. With plenty of greens this craving is satisfied and the hen makes use of all the grain or mill feed instead of passing it off half digested. In fattening any kind of stock on one kind of grain it will be noticed that after the system is full of that particular element much is passed off half digested. This is a waste that will not occur with plenty of green feed.
Kale produces as high as 300 tons per acre. It is one of the most extraordinary green foods for poultry and rabbits. It grows the year round in California.

Third, the hen produces far more eggs on green feed; in fact, all the profitable eggs produced are made from the green feed. We are working for the eggs produced over and above the maintenance of the hen, and it is absolutely impossible for the hen to lay enough without green feed to more than pay her keep. This is a settled fact. With these three profits to the credit of green feed, you can see how essential it is and that success cannot be attained without it.
VIEW OF WEEKS POULTRY RANCH

One of the largest and most intensive poultry farms in the world. Weeks System of Poultry Houses.
CHAPTER V.

THE MOST INTENSIVE EGG FARM IN THE WORLD

Some years ago a man by the name of Philo, Elmira, N. Y., startled the world by a new and unheard-of system of keeping poultry in small pens with no outside runs. He wrote a little pamphlet telling of this new and wonderful system of poultry raising whereby one could earn $4,500 from a town lot in one year. The whole world went to raising poultry in the back yard. Philo, it is said, made $100,000 from this little pamphlet in one year. Old poultrymen smiled and said that it could never be done. Nevertheless, Philo coops sprang up in the back yards the world over and sometimes on the roofs of tall buildings in large cities.

The old poultrymen began to sit up and take notice when the tales of wonderful egg production came pouring in from all directions. They began to wonder what there was in this system of keeping six hens in a pen 4 by 6 feet that causes such an amazing increase in the eggs. They began to experiment with this new plan. They tested it alongside their large flock, free range systems and found out that Philo had only emphasized a natural and primary truth and that this truth or law holds good in the production of all kinds of live stock.

Segregation is the whole secret of Philo's success.
Small flocks, well fed and kept in close quarters in a sanitary way, brought unbelievable results. Philo was the pioneer of this new movement toward smaller flocks in close quarters. But his system partially failed. Soon the back yards of the whole world were piled full of empty Philo coops, big piles of junk marked with memories of long days of routine in carrying heavy pails of water from coop to coop, lugging pails of feed down long rows of tiny houses, lifting roofs and scraping dropping boards from coop to coop, reaching into a hundred pens to gather eggs. True, you got the eggs, but oh, the detail! Yes, this was the way to produce eggs, but could any mortal stand the strain of this terrific detail and attain the degree of happiness to which he aspired? Philo was on the right track; he found out the secret of producing the maximum number of eggs from a given feed.

Philo's system was weak in one point. It was cumbersome in detail. The detail was so great that the day's routine was slavery for one who performed his own work, and unprofitable for one who hired it done.

Soon after the Philo system there came another known as the Corning system. This filled all the poultry journals of the land with printed matter and illustrations of wonderful long houses whereby one thousand hens were kept in one long house without outside runs, thus eliminating with one stroke the awful detail in the Philo system.

The whole poultry world erected long houses. Small houses were sledged to the corners of the yards and fields or split up into kindling. Miles and miles of long houses, with their flat shed roofs, stretched out on every horizon. What a terrific waste of energy, lumber and capital! The Corning book is a thing of the past. The Corning system failed.

It was against all reason to put one thousand hens in one long house, compelling them to breathe the dust kicked up from the straw-covered floor and to roost at night fifteen or twenty feet back from the fresh air, crowded up against the low roof, with the stench from fresh droppings arising from the dropping board just below, filling their nostrils till morning. I say this is against all human reason and the Corning system is a failure. True, there are some yet today that will not admit it, but they are only young in the game and time will correct the error.

One thousand hens packed in between dropping boards and low roof at night with the awful stench from below and the foul air from one thousand pairs of lungs to breathe and re-breathe through the long, uncomfortable night, is it any wonder that the hens come down from their clammy quarters in the morning with watery eyes, and running noses, and swelled head, and roup, and canker, and chicken pox? It is no wonder that the hens get the tubercular germs and waste away and drop off, day after day. It is a mystery how they can exist so long as they do and be able to even pay their feed in eggs.

It is producing eggs at a tremendous loss of hen flesh. One by one the hens drop off, and at the end of the year when the final reckoning is made the balance is not what we expected.

The pendulum had swung from the detail extreme to the other extreme.
The Philo system and the Corning system are the two widely exploited systems that have cost the world a mint of money. They have added to the progress of the poultry industry in that they have provoked thought and experimentation along new lines. Both the colony system, with its small houses on runners, and the yarding system, with its foul runs, have been used for years and each has its deficiencies.

The colony plan, with its small houses on runners which are dragged from place to place, necessitates a large acreage and is prohibitive to the man of modest means. It is essential in this system to change the houses to new ground at least once a year. This system, perhaps, necessitates the greatest amount of heavy labor because of the distance to be traversed each day in hauling feed and water.

It is sloppy and muddy in the winter season and all the eggs require washing. Besides the fowls are most uncomfortable. This system may make a profit of 25, 50, 75 cents or in rare instances one dollar per hen. It is a cumbersome system with heaviest drudgery and far from the best.

The double yarding system with medium sized flocks is, perhaps, the most universal system in use, and if yards are kept pure by growing crops, it gives results. But this system requires a lot of labor in keeping the yards free from disease germs. It is also expensive in ground, wire fencing and posts. Besides, it presents an unkempt appearance that always looks ragged. It entails an endless amount of detail in opening and closing gates and much retracing of steps. Canker and pox usually come from filthy yards, and it is a hard task to keep them pure. The routine of this system, like the Philo, becomes irksome and wearing, and, although better than the other systems just mentioned, it has not given the results compared with the one about which I am to tell you.

After twelve years of handling poultry in large numbers and many varieties, making this my exclusive business and working out every detail with my own two hands, spending my whole thought upon this line, and continuously carrying on experiments, I have at last evolved a system of intensified poultry keeping that gets the results of the Philo system with the detail eliminated.

I have proven beyond the shadow of a doubt that the diseases of poultry come from filthy yards and the dust-laden foul air inside. The foul yards I have eliminated at one stroke by dispensing with them after years of careful experimenting.

Yards are absolutely unnecessary in getting the greatest profit from fowls, and in fact are a detriment, even if they could be kept free from harmful germs. All poultrymen mean to keep their yards pure, but they never do it. Yards are in the way of maximum results and only a nuisance. The yard has no place in my system of poultry keeping, the ground being worth far more for producing greens.

The less space a fowl can be kept on and yet insure health, the less space there will be to disinfect and keep free from disease germs.

It has been proven beyond argument that egg production increases as the size of the flock decreases. That happy point, where egg production reached its maximum with a given number of fowls, has taken years of experimenting with all sizes of flocks and all systems of
housing and yarding to discover. After many years of detailed results, the best percentage of eggs from a practical number of hens was had, in flocks of twenty in open front 8 by 8 pens, with three-foot projection over open front to keep out rain. Less than twenty hens in one open pen requires more detail and too much cost in housing. More than twenty hens curtails egg production.

Twenty hens, therefore, is the unit for best results. To house these twenty hens so that they would be free from dust-laden air, so that they would have air as pure as outside air, so that they would still be protected from rains, and winds, and cold drafts; in short, so that their bodily comfort would be the best possible at all times, to house these hens so that all these points would be taken care of is the problem. After trying all the designs of houses ever seen or read of, and after trying many patterns of my own, I at last evolved a house that gives all this bodily comfort and entails the least lost motion in care of fowls.

These pens are eight feet square, five feet high behind, and seven and one-half feet high at the comb, open front to the east, over which is a three-foot projection to keep out rain and under which the attendant walks to care for fowls. These pens are built side by side into long houses, there being no limit to the length. Between each two pens is the feed hopper built into the partition and feeding both sides, holding one sack of dry mash and one of mixed grains in its respective compartments. Full length along the outside is the green feed trough, from which the hens eat through the opening. The water buckets are also on the outside. Thus all the hens are fed greens and watered without opening a single gate or door. The hoppers inside are filled once in about two weeks. The dropping boards and ground floor are cleaned once per week by simply raking the filth from the top of the sand which covers the floors. Sand is the only material to use on the floors of poultry houses.

Twenty hens, well-bred, well-fed, and quarters kept sanitary in this little pen, are good for at least $2.00 each per year net profit above feed expense. These twenty hens have clean, sharp sand upon the ground floor and roosting boards, which is raked clean regularly. They have dry mash and mixed grain by them continually; they can stick their heads through to the green feed trough outside and eat green feed every hour during the day; they drink water from clean galvanized buckets on the outside; they dust in the sand; they jump up to the feed hopper; they jump down again to the green feed trough; they run to the water; they hop up to the nest boxes (which, by the way, is the most important move of the day), and after depositing their board bill and rent, plus the extra profit, they jump down and up again to the perches for an afternoon rest, or stretch out into the afternoon sunshine, which comes in through the western window. Their whole day is given up to their own individual care, and with all the necessaries before them, all the time is available for making eggs, and with their morning sun bath, and afternoon sun bath and free from draft or foul, dusty air, with all these ideal conditions, they have either got to "lay or bust."

One acre of good fertile soil with plenty of cheap water for irrigation is all that any one family can handle without hiring help. This is one
of the most intensive poultry systems in the world and makes it possible for people of small means to make a luxurious living on a little land with health and independence. With this system it is possible to keep one thousand hens on one acre and produce all the greens which they can consume and still have room for home garden of vegetables, fruit and berries.

With rich soil and plenty of cheap water, fresh, crisp, succulent green feed in the way of beets, kale, alfalfa, chard, cabbage and barley can be grown luxuriantly, and the tonnage produced on one intensified acre is almost beyond belief. One thousand well-bred hens on one acre, handled on this intensive plan, can be made to net above feed expenses $2.00 each, or $2000 per year. If more income is wanted, develop a second acre and double the income.

Fresh, crisp, succulent green feed is the secret of success in egg production, and if your acre is not fertile, and if there is no water for irrigation, success can never be attained. Any ambitious, industrious person need have no fears if located on fertile soil with plenty of cheap water and home market, for these are the essentials of success.

It remains to add that my system is by no means experimental. It has passed that stage and stands today as a matter of absolute demonstration, and as such freely acknowledged by thousands who have investigated it on the spot as all are invited to do.

I have tried it out for ten years, side by side with other systems, and am satisfied that it has been my good fortune to attain the desired result—the largest and steadiest egg production from the smallest area consistent with sanitary conditions and healthy fowls.

The green feed that makes eggs
CHAPTER VI.

INCUBATION

INCUBATION is as old as history. The ancient Egyptians knew how to hatch eggs by using artificial heat and the secret of incubation was handed down from father to son. The general public were ignorant of the laws of incubation and brought all their eggs to men who were professionals in incubation. The secret was guarded very carefully. So long did the Egyptians hatch eggs artificially that the little brown Egyptian hen lost her instinct to set on eggs, and to this day the Egyptian hen is a non-setter.

The Chinese have also practiced incubation for ages. Their methods are very crude as compared to the modern self-regulating machines.

They have large, thick-walled ovens in which they build a fire, similar to the old bake oven of our forefathers. When the walls are well heated the fire is taken out and the temperature allowed to cool down to the correct degree. The attendant crawls into the oven through the low, narrow door and places the eggs around the floors of the oven in baskets. They have no thermometers and tell the right temperature by long practice. The caretaker turns the eggs in this large oven, enduring the 103 degrees of heat while he works. When the temperature falls too low the eggs are wrapped up and taken out while another fire is kindled and the heat brought back up to the right point.

Today we have the modern self-regulating machine that makes it possible for anyone to hatch eggs. The instructions for operating and adjusting the machine come with each incubator, and it is needless to take space for further directions. The best place to run an incubator is in a cellar or basement in which the temperature may be kept very regular. Do not attempt to run the machine in a room that is hot in the day and cool at night.

Incubation is simply a mechanical process and the machine that is nicely adjusted and keeps an even temperature and ventilates without a draft will hatch good eggs if the attendant will do his part.

The first requisite in successful incubation is a good egg. The best incubators made will not succeed in hatching eggs from inferior stock. Too many poultrymen make the mistake of hatching from immature hens. The hens intended for breeders should be selected from the earliest maturing pullets from the first hatches after the molting season.

Poultrymen are learning by costly experience that "any old egg" will not do for the incubator. If you have an egg with strong vitality and generations of hens behind that egg that have a superabundance of energy, then more than half of the incubator troubles are over, and I might add that nine-tenths of the brooder troubles are also over.

The egg should be placed in the machine as soon after laying as possible. The sooner the better. It is possible to hatch chicks from eggs one week, two weeks or three weeks old, but the older the egg the less chance of hatching a strong, sturdy chick. The germ in the egg
grows weaker as the egg ages, and the food elements which are to
nourish the germ become stale and unfit for food.

The yolk of the egg is enclosed in the body of the developing chick
and is connected with its digestive system by a small duct which allows
the yolk to be absorbed into the alimentary canal, and thus the chick
is nourished for the first three days after leaving the shell. If this yolk
is over-heated in incubation it is hardened so that it cannot be assim-
ilated and the chick dies in from six to ten days from the poison of this
decaying yolk. If the egg is kept too long before incubation the yolk
decomposes and the chick is doomed to an early death from poison.
Chicks from immature stock have not the vitality to digest even a good
yolk, much less the chick feeds.

Place the eggs on the tray with the small end down, leaning them
so that the large end is the higher, keeping them in this position during
the incubation period.

After the machine is warmed up and regulated to 102 degrees or
thereabouts, place the eggs in and do not turn for three days. Then
they can be turned twice each day, being careful to get them into the
machine quickly up to the seventh day. After the first week let them
air a little at first and increase the time of airing up to the time they
begin to pip. At no time let them cool below 80 degrees, and only once
each day. I have had excellent hatches turning the eggs once per day,
but I think results warrant turning twice per day. The eggs should be
tested on the seventh day and all the infertile ones taken out. Some
test on the fourth or fifth day, but it is hard on the tender germ to
remain out of the machine.

The temperature should be kept between 102 and 103 degrees, and
the steadier the better the hatch and stronger the chicks. Good eggs
can very easily be spoiled by irregular temperatures. It requires
exactness to incubate successfully. No careless person will ever
succeed in incubation. The incubator should be placed in a basement
or cellar where the outside temperature is very even. Never under any
circumstances allow the temperature to go above 103 degrees, for every
time it does the vitality of the chicks is weakened. One of the greatest
faults with our modern machines is that they are slow in bringing the
temperature back to 103 degrees after eggs have been aired. The
temperature should arise quickly to 103 degrees after eggs are placed
in the machines.

It cannot be impressed too strongly upon the amateur that an even,
steady temperature brings best results. I do not believe in cooling the
eggs till germ is chilled, for this daily chilling of the germ is bound
to weaken it. A slight airing may be beneficial and the cooling of the
shell and the heating again may cause a contraction and relaxation of
the fibrous tissue of the shell until the chick is more easily able to
break through, because the shell becomes more brittle by this action.
I know that it has been advocated that plenty of cooling enables the
chick to hatch easier, but then if the after life of the chick is harmed by
too much cooling it would be better that it never came out. There is
still considerable difference of opinion in cooling eggs, some saying
that extra cooling enables chicks to hatch easier and also makes them
sturdy, but when we stop to consider that in no other instance is the
foetal life of the germ allowed to vary in temperature during develop-
Fifteen years' breeding behind these large, lusty, vigorous males

ment, it seems unreasonable. Wild birds exchange places in keeping the eggs warm continually. Also pigeons alternate their work during incubation period, not allowing eggs to get cool. The hen under domestication has no mate to help her out and is forced to do the incubation alone, while her polygamous husband takes care of the harem. This necessitates that the hen either starve or go off the nest at periods for food, taking a chance that the tiny germ will stand the exposure until her return. The germ may suffer some from this exposure, and on the other hand may also get used to this periodic cooling until it becomes a law in its development. Evolution is a wonderful thing and adaptation plays a great part in the unfolding of life.

The question of moisture is also a problem in artificial incubation. The egg contains enough moisture to carry it through the incubation period if we could get our mechanical heating devices so perfected that the egg would have practically the same conditions that it does under the hen. But it is hard to adjust the ventilation so as to get enough air and yet not dry the egg too much. An egg loses weight in the open air very fast. The ideal incubator would have an egress for the carbon dioxide thrown off by the egg and yet have no draft. These conditions are hard to adjust. The egg wants a dead air space for incubation and yet have some way to get rid of the gases thrown off. In most of our artificial incubation moisture is supplied especially at
hatching time. There should be enough moisture at hatching time to collect on the glass on the front of the machine.

Incubation is, perhaps, the most unpoetic and monotonous work on the poultry ranch, yet it has its fascination at the hatching period when the chicks begin to kick out. It requires very patient, methodical work, with extreme care in regulating temperatures.

Filling the lamps, trimming the wicks, cleaning the burners, regulating the flame, is detail work that requires care. Turning the eggs carefully twice every day is a light task, but takes time, and it is a routine that leaves the mind free for thought. Your hands do the work while the mind is at liberty to solve the many daily problems.

To sum up incubation: place only good, uniform eggs from mature stock in the machines, little end lowest. The temperature should be regulated to about 102 when eggs are placed in the machine, and run steadily between 102 and 103 degrees during the whole period.

Turn the eggs twice daily after third day and air slightly after first week, increasing time as germ grows older, but never let them cool below 80 degrees. On the eighteenth day put moisture in the moisture pan. This should be steaming water so that the humidity is brought up in the machine.

A steady temperature is the prime factor in bringing out a good hatch. Eggs from sturdy stock of mature age, with males and females unrelated, will give best results. As the success of the egg-farmer depends upon the vitality and laying qualities of the pullets, it is imperative that these conditions be adhered to.

INCUBATION AND INCUBATORS

To get the best results in incubation is a problem that has always bothered poultrymen. To get the best results the eggs must be incubated in a machine that keeps an even temperature. The many makes of incubators on the market require an expensive cellar of even temperature in order to approach the requirements. The greatest fault in all makes is that of not being able to bring the temperature up quickly after eggs are turned. To have the eggs take one, two, three, and four hours to come back to the proper temperature after being turned was a serious handicap. To get a machine that would bring this temperature back quickly without danger of overheating and hold it steady as a clock, was the task that I wished to accomplish. I tried almost every make on the market. I tried many designs of my own. Something was wrong. I could not strike upon the right principle. I wanted a machine that would bring the temperature up quickly and hold it steadily, regardless of outside temperature, and also have correct ventilation and moisture device, I tried for years to find the perfect machine. I dreaded to start the incubators year after year, for I knew that it meant the closest attention to regulation, which continuous strain gets on the nerves. Filling lamps and trimming wicks and adjusting the regulator on many machines in a poorly ventilated cellar every day was an ordeal that I was sure could be remedied. I saw a chance for progress and I was to find or evolve a machine that would do the work. It seemed that of all the inventions in the world the incubator was the most sadly neglected. Inventors
had put their attention to every other piece of machinery in the world and left the incubator to speculators.

Millions of weak chicks are put on the market each year that never grow to maturity, all for want of correct incubation. An incubator that has to be adjusted every day or twice a day, and then, in spite of attention, runs above or below 103, is a poor piece of mechanism in this day and age of inventions. I felt sure that some day a machine would be invented that would take care of the ventilation and moisture problem and hold an even temperature, whether run in the cellar, in the barn, in an open shed or out of doors. A cellar is a damp, foul place for a human being to work in, and I wanted a machine that did not require these expensive, even temperatured cellars and thick wall houses. Poultrymen in the past have had to spend as much on the house for their incubators as on the incubators themselves, and then the ventilation was bad.

Surely a reformation was needed along this line.

A Wonderful Discovery

While wrestling with this incubator problem a wonderful discovery was made. This was that a regulator should be attached to the outside of the machine as well as the inside, in order to anticipate any change of temperature on the inside. This outside regulator works in conjunction with the one on the inside and the two keep an absolutely even temperature.

You see, all the other inventors of incubators have been trying to regulate their machines from the inside and anyone can see that it is the outside temperature that causes variations. So I put my regulator on the outside. The inside temperature of a machine does not change as the outside temperature changes. If the machine is to be regulated from a thermostat on the outside, then the temperature must vary before the regulator can work. The inside of a machine is a poor place for a thermostat, for it cannot work with accuracy. Anyone can see that the inside temperature only changes with that outside.

I also have a thermostat inside to take care of the animal heat that arises from the eggs as incubation proceeds. This is connected with the one on the outside and the two work in conjunction on the flame at the lamp. If the outside temperature lowers the least the flame is increased to take care of it. If the inside temperature tends to raise from the animal heat the flame is lowered accordingly. Only just so much flame as is needed is used. The gates on the flame open and shut with the variations of temperature and can never clog up as those sleeve devices sometimes do. These gates tend to create a gas from the oil so that the wick is not consumed and complete combustion and a very hot flame are secured. So absolutely delicate is this regulating device that when once set the thermometer can be taken out and the hatch run through successfully. When the doors of the machine are opened to turn the eggs the flame immediately comes up to take care of this variation so that in a very few minutes after eggs are turned the temperature is back to normal.
Automatic Turning Egg-trays

For years I have been trying to invent some mechanical device for turning hatching eggs. All the devices on the market seemed too expensive and complicated. After fifteen years experimenting I have at last invented a tray that will turn all the eggs even better than by hand, and the mechanism is cheap and simple. All the eggs on each tray are turned by simply pulling a string. One man can turn more eggs than ten men can by hand. Turning eggs has always been a tedious process, but now we make easy, pleasant work of it.

Incubator Lamps

Our incubator lamps hold enough oil to do one week, thus eliminating the tremendous detail of trimming and filling lamps each day.

Chick Trays

Our machine is also equipped with chick trays which catch the chicks as they drop from the egg tray. This eliminates the ordeal of reaching into the machine and taking the chicks out one by one.

We have installed every device for making our machine labor-saving and efficient. Our mammoth incubator room has capacity for one hundred of these 500-egg machines. Perhaps this is the first machine manufactured by a poultryman.
THE ART OF BROODING CHICKS

PRODUCING high-grade poultry and eggs is fast growing to be a science, and the knowledge of how to apply this science is an art.

A scholarly, scientific knowledge of poultry raising does not always make an artist in poultry production. Doing is the art. Science is the accumulated truths that bear upon a subject. All the truths of poultry raising can be committed to memory, and yet this will not make a successful poultryman. We need practice which makes the poultry artist and which is the art of poultry raising.

Each department of poultry keeping has its art. One may be proficient in the feeding and care of laying hens and get a high percentage of eggs with low death rate and yet be a failure in brooding chicks.

Brooding chicks is an art which no careless person will ever learn. Successful brooding depends upon three things being correct to start with. First, that the parent stock of the chick shall have generations of careful breeding for vigor behind it. This parent stock must be in the pink of condition at the time the eggs are to be incubated. This parent stock must be at least two years old, with every condition for health.

Second, the incubation of this egg from correct stock must be done exactly right or no brooder on earth will make a good chick from this egg. The temperature should be held as steady as a clock between 102 and 103 degrees. If it runs above this or below the chick will never be as good as it might be.

Third, the construction of the brooder must give natural comfort to the chick with plenty of fresh air and no dust. Right here is where
too many fall down in brooding. A well-bred chick correctly incubated placed in a diabolical brooder is certain failure. True, many good chicks squeeze through to maturity in spite of the crowded brooder conditions. The brooder season is so short as compared to the success or failure of the balance of the season that one cannot afford to neglect the slightest detail. Good pullets at the beginning of the laying season is the end in view, and no stone should be left unturned to make them the best possible. You can well afford to put much stress on this short six weeks brooding period, for does not your whole year's profit depend upon the kind of pullets that come from this brooder? How many extra good pullets would it take to pay the hire of an extra man during this short breeding period? The hardest part of the poultryman is to reproduce productive hens in large numbers.

The man who advocates placing a thousand chicks in a low, tight-sealed room, with hardly a ray of sunlight, with a stove in the center that squanders heat in every way except in the exact spot where it is most needed, heat in the top of the room till it makes you dizzy, heat going out of the chimney trying to warm up all outdoors and a thousand little chicks walking over each other trying to find the correct heat, first too hot on inside, then too cold on outside of this circle, and all the clammy, dusty, rotten air drawn over their little backs continually toward the stove—I say that the man who advocates this inferno for baby chicks should be made to pass just one week in this tuberculosis factory and he would never live to tell the tale. It will take us too many centuries to make moles and bats out of chicks, so why not give them their natural conditions of sunshine and fresh air and work along the lines of least resistance? Success is always easy along nature's way. If we work with nature we cannot make a mistake, for she has been so long at the game. Every time a chick sticks its head from under the brooder it should have pure air free from dust to breathe. It should have heat enough in the brooder to keep the body warm while its head is outside breathing air that had never been in a pair of lungs before. A thousand pairs of lungs in one hermetically sealed room pumping the air over and over again until there is hardly enough oxygen left
to keep the fire burning, with only a shaft or two to grudgingly let in a little of all the great ocean of fresh air on the outside—free air, too. If we had to pay for it, we would fight for it. Plants and animals need sunlight and fresh air and will not reach their full stature without it. Why are we so slow to learn the value of fresh air in our poultry keeping?

I admit there are many thousand chicks raised by the stove system, or rather in spite of it; for from all the thousands and thousands dumped around the stoves many are raised, but of this number how many contract tubercular germs that make them one by one fall by the wayside during their laying career? The loss among laying hens on egg farms is terrific on account of bad ventilation all along the line.

The baby chick needs a high degree of heat during the first week. It should have a brooder with parts as high as 100 degrees in heat down to 90, so that a comfortable temperature can be chosen. The temperature must be high enough so that the chicks will not need to huddle to keep warm. Neither must they be so crowded that they cannot find comfort without too much bunching. Nature never intended that chicks should be raised in large flocks. It is against all reason. Simply a survival of the fittest and these fittest are often ruined for a profitable career. From seventy to one hundred and fifty chicks to each flock is enough. Probably one hundred is a good average. The fewer together the better the results. These should have enough heat so that they will be perfectly comfortable without huddling, and the brooder must be so constructed that they can stick their heads out to the fresh air and still be warm. This brooder should be in an open front pen which allows the healthful sunlight to warm it up first thing in the early morning, so that the chicks can have an early sun bath without having to hang around artificial heat all day. Sunlight, fresh air and no dust and a comfortable hover to rest under, and the chick has ideal conditions to grow into a vigorous, productive fowl.

As I sit and write this article on brooding chicks, the early morning sunlight is pouring directly into fifty open front pens eight feet square, warming and cheering the six thousand comfortable chicks which are taking their morning sun bath. I have just been “the rounds,” and to see them disporting themselves in fresh air and sunlight with no dust certainly is a cheerful prospect after twelve years of searching after the natural way. And not one of these six thousand chicks will have to be taught “to roost.” They have the going up habit from the very first day. Their brooder is a fourteen-inch board eight feet long over two hot water pipes upon the dropping board, which is two feet from the ground floor and three feet wide. On this floor is their feed and water and comfortable hover. They are already “up” where they are soon expected to perch, and as a chick seldom forgets what he learns, it behooves us to form the right habits from the start.

They have a ten-inch board running from this floor to the ground floor, which they slowly learn to run up and down. This gives them exercise as well as entertainment, and forms the “going up” habit.

On the brooder floor they have fine cut straw or alfalfa, and scratch for chick feed in this. They also have troughs of dry mash by them all the time. As soon as they will take to green feed they have all they will clean up twice per day. On the ground floor they have clean, sharp
sand, and here they take their baths in the warm sun and as they must always run "up" to eat and drink, they never forget their true home.

I keep plenty of good, sharp sand by them all the time, with charcoal and oyster shell. A well-bred chick, well incubated and brooded, and the feeding question is very simple. Give them all they will eat of any good, clean, wholesome feed and they will thrive. I do not feed wet mash at all. I have tried it off and on for years, and have at last decided that a wet mash creates too many bacteria.

As the chicks grow older they need less and less heat and the hover board is raised accordingly. They soon have enough animal heat to almost keep them warm. By thus gradually raising the hover board as they require less and less artificial heat, they become accustomed to rely on their own body heat, and it is only a simple thing to move them into another pen exactly the same except it is without heating pipes. I have a little coop that I drive them into, all at one time, and they are carried around to their new quarters and hardly know the change. They are changed to these quarters without heat at between three and four weeks old, depending upon the weather. Here the cockerels are placed in one pen, and the pullets in another, thus making about fifty chicks to the pen. Between eight and twelve weeks the cockerels are sent to market and the pullets again are divided, making about twenty-five to the pen. This is their last move and their permanent quarters for the first laying year. As they have had the "going up" habit from their first day, they naturally take to the perches which they have played on so many days.

One of the greatest problems of the poultryman has been to get the chick from the brooder to the perches. Many a promising lot of chicks have been ruined at this particular stage. By dividing them up into lots of fifty at this stage there is no loss whatever and they grow into vigorous birds that show stamina.

It must not be forgotten that cleanliness is next to godliness in brooding chicks as in all other things, and with the help of fresh air and sunshine these pens are kept clean enough for a man to sleep in.

The gravest danger in brooding in large flocks comes when they must be taken from this close, hot room to which they have so long been accustomed to their perching quarters. Here they are at a loss to know what to do because all is so strange, and consequently they huddle and crowd to death at night in the corners, and the chickens, the boss and all, sweat, and the man himself sweats blood, too, before he gets them all to perch.

Sooner or later you must divide them into small flocks to get many raised, so why not do it on the start and teach the baby chicks while they are at the learning age? You cannot tell an old hen anything.

To sum up the brooder proposition:

Chicks must be from vigorous, well-mated breeding stock of mature age. Eggs must be incubated correctly, to make strong chicks. Brooder must have plenty of heat with fresh air conditions. Do not run too many chicks in one flock. Feed good, wholesome dry feeds in large variety as possible. A good variety of succulent green feed is imperatively necessary. If all these conditions, along with cleanliness, are adhered to, there should be no trouble in raising almost all the
chicks hatched. Attention to cleanliness and bodily comfort of chicks is absolutely necessary, and bear in mind that first, last and always sunshine and fresh air are the freest and most necessary things to chick life.

Gathering beet-tops for greens on Weeks Ranch
Developing pullets for heavy layers in Weeks System

CHAPTER VIII

DEVELOPING PULLETS FOR HEAVY LAYERS

To make each year's pullets better than the parent stock is a difficult task. To do so requires the most exact selection of the parent stock for vigor and prepotency with due regard to maturity and prime condition. Pullets must excel parent stock in order to make progress in developing a strain. This parent stock must be correctly mated with long years of breeding behind both male and female, and the matings must not be closely related and should be of mature age. To make a correct mating excel itself in progeny requires a condition in this parent stock that is the very best possible. The parent stock must be at the zenith in condition, at the climax of the highest moment of their existence, in order to stamp superiority in the young.

Sunshine, fresh air, plenty of exercise, clean quarters free from dust, and pure, wholesome feed constitute the environment that will be conducive for best results from well-mated birds. Do not feed wet mashers or sloppy feeds to breeding stock. Selection and conditioning of breeding stock is the first essential toward producing better pullets.
So much for the starting of this well-bred pullet. The egg from which the well-bred pullet comes must be very carefully and exactly incubated or the pullet will be handicapped for life. Here is where the very finest adjustment and care is necessary or that strong germ in the egg will meet obstacles in the way of its development that will hinder natural progress. The temperature should be kept as regular as a clock, between 102 and 103 degrees. The egg must not be chilled in cooling nor over-heated one single time during incubation. Too little moisture weakens the germ and too much makes the chick too large to get out of the egg. Incubation requires the closest attention and exactness. Anyone can hatch chicks. It is very easy to hatch chicks. But to do it without injury to that tiny, tender, growing germ or embryo is a very difficult and careful piece of work.

No careless person can afford to attempt incubation. A well-bred chick correctly hatched and you have a good foundation upon which to build a profitable layer.

Thus if this well-bred chick is naturally brooded with plenty of sunshine and fresh air during the period it needs artificial heat, with clean quarters free from dust, then it has a good start in life and can be grown into a profitable hen.

At three or four weeks of age the chicks should be taken away from artificial heat and divided into smaller flocks, the cockerels and pullets being separated. Right here is where my small pen system proves its superiority. We move them from the heated pens into pens exactly the same in every detail except they are without heat. The chicks climb up, always up, for they have the climbing up habit from the start, to the roosting platform as usual, and being divided into smaller flocks are in no danger of piling and sweating, for we never place more than fifty together into one compartment. These have a clean bed of straw to snuggle in, and if the weather is too cold we throw some sacks over the two perches above them and let them hang down over the chicks. Fifty chicks in a clean bed of straw up on this dropping board two feet from the ground floor will snuggle together with each little head out to the fresh air and will seldom, if ever, smother a single one.

The sooner the chicks can do without artificial heat the better, for artificial heat after a certain age tends to weaken and lessen the vigor.

One by one they take to the perches of their own accord, for the perches are right above them as they huddle in the clean straw, and it is surprising how quickly they line up. I have six thousand this year taking to the perches with no trouble at all. When I look over the worry and loss of previous years in trying to get chicks to the perches, I draw a long sigh of relief to think that I have at last solved that hardest of problems for the poultryman, the getting of young stock to take to the perches. As soon as young stock takes the perches we usually think they are just as good as gold. Of all the inventions that have been tried to get young stock on the perches this scheme of teaching the baby chick right from the start the going up habit beats all that I have ever tried.

We have followed this well-bred pullet from the parent stock up to three or four weeks of age. If she has had every essential in each department passed through, she now has clear sailing, and it is only a matter of clean quarters, clean water and a wholesome variety of clean
feed, with the emphasis on clean. It is the biggest mistake to take clean feed and throw it into filth for the pullet to eat.

This eight foot square pen is the little world of these fifty pullets until they are ten or twelve weeks old, when they fill the two perches and must again have more room and are divided into two pens, making twenty-five to the pen. On the outside of this pen is a feed trough under the projecting roof which extends over three feet and keeps out the rain from blowing too much into the open front. The pullets eat from this trough by sticking their heads through an opening. Thus they cannot get into the feed with their feet and must take it in the cleanest way possible. They also have a feed hopper upon the side of the wall that holds a sack full of dry mill feed in one compartment and a sack of mixed grains in the other. The platform to this hopper is eighteen inches from the floor, so they must jump up to feed. They must also jump up to the perches above the dropping board, and this continual jumping up and down gives them exercise as well as entertainment. The water bucket sets on the outside with the feed trough, so that no doors need be opened in feeding and watering.

The dry mash is composed of four parts ground wheat, one part ground corn, one part ground oats with hull sifted out, (when not too high) one part beef cracklings, half part soy bean meal, half part linseed meal, half part charcoal. Many would say that this is too rich for young growing pullets, but where they have a mixture of grains in the compartment of the hopper adjoining they will eat only enough of this dry mash to balance their ration. The feed trough on the outside is filled twice daily with fresh, crisp green feed. This can be alfalfa, kale, green barley, beets, cabbage, chard or rape, and the greater the variety the better. Be sure they have this green feed 365 days in the year, including the fourth of a day. Don’t under any circumstances attempt to keep hens without plenty of green feed. To have that in California means that you must irrigate. And you must have your poultry ranch located where water is cheap or you can never succeed. If you have no water for irrigation, and plenty of it, sell out and I will tell you where you can get as good land as lays out of doors with all the cheap water that is needed for irrigation. Too many fail for want of the right location. For goodness sake, do not attempt to raise poultry on a dry, poor, barren place, for it cannot be done. I know, for I tried it early. You must have plenty of water or the time using it will not pay for the results. There is plenty of good cheap water near good markets if you will find the right locality.

This little eight foot square pen with open front forms the little world for these growing pullets and here they stay during their first laying year. They have everything before them to eat all the time and all the fresh air and sunshine and a deep sandy ground floor to roll and dust in, and are absolutely better off than any hen that ever roamed the wide world outside. They eat, drink and grow, and when they arrive at the laying age it is simply a sociological principle; their mind is on their business—eat, drink and lay; that’s their daily routine. They have no other amusement and can specialize. They eat to digest, and digest to lay, and as their parents were heavy eaters before them and made eggs out of their food, they have that tendency and have it
accelerated. Each year the tendency to digest and lay grows, because habits make tendencies and tendencies in time become traits.

We must remove every obstacle that would hinder the development of this well-bred pullet from the breeding stock to the day the first egg is laid. System, method, exactment and a fine adjustment pay in the breeding of heavy-laying hens.

We have made wonderful progress in developing heavy layers in all parts of the world in the last ten years. The 200-egg hen is no longer a marvel. We are already to the 300 mark and still progressing. Will there be a limit? When we cease to wonder at the 300 hen, will there be a 400-egg hen to create new sensations? I believe there is no bounds in development. Evolution is a wonderful process and with the plastic White Leghorn hen man can have an absorbing game in watching the advance from year to year.
CHAPTER IX.

FEEDING HENS FOR EGG PRODUCTION

The very first essential in feeding for eggs is heavy feeding. Too many poultrymen feed only a maintenance ration instead of a producing ration. The laying hen should never become hungry, consequently she will never be overfed, for it is the hungry hen that overeats.

It takes a wonderful digestive machine to turn out an egg every two days in the year, for the egg is highly concentrated raw feeds, and without an abundance of large variety of feeds the hen cannot produce.

An egg is a marvelous production of rich food content manufactured from the raw foods that the hen had before her. It behooves us to make sure the hen has every essential for making that egg and the hen knows much better than we what kind of food to select to produce that egg, and only wants a chance to choose from a large enough variety to be able to supply all the constituents of the egg. If a single element is lacking in the feed, then egg production is not maximum. The hen may have everything before her with which to make an egg and lack only lime for the shell, and is thus hindered. If there is one element lacking in the ration, the hen will have to carry the egg over to another day in order to have that egg completed. If the egg is finished in due time, the hen is compelled to eat more of one kind of food than is necessary in order to make up for the lacking parts, and thus part of
the food is not wholly assimilated. When part of the food passes through the hen unassimilated, as we sometimes see from the droppings, then the ration is not a balanced one and food is wasted. A wise feeder will keep as many varieties before the hen as possible so that she may choose the constituents for the egg. The most successful egg farmers keep feed in hoppers before the hens all the time. That day is past when we measure feeds out to the hens. If the grain is measured out at stated periods, the hen invariably eats more than is good for her to eat at one time.

Nature intended the crop of the hen to act as a receptacle into which the food for a day can be dumped as the hen in her wild state found it. Thus, being slowly filled, no ill effects resulted. Nature never intended that the crop of a hen should be filled in a few minutes, as is the case when hens are fed wet mash or grains at stated intervals.

A hungry hen will always fill the crop too full, and if dry grains are eaten they swell and soon sour before they are taken into the gizzard, and indigestion and bowel trouble result. Likewise, in feeding wet mashes at stated periods, the hens will gorge and the crop will be packed, and before this bulk can get into the gizzard, fermentation sets in and sour crop is the result, with all its digestive troubles. The gizzard has not its normal work to do in the grinding of wet mashes, and consequently degenerates where wet mashes are constantly fed.

In many years experience in butchering hens, we have discovered many truths in regard to feeding. The digestive organs of hens that have been fed wet mash are much more inclined to disease than those fed dry feeds. Small, wasted gizzards, ulcers, tumors and many inflammations arise from feeding wet mashes. After wet mashes have lain in the feed trough for a time it soon sour and trouble sets in. Bacterial conditions also arise in the feed troughs. Then the extra slavery of carting around wet mash each day is a burden to any poultryman.

**Dry Feeds Most Healthful**

If the right kinds of dry feeds are kept before poultry all the time, they will never overeat and digestive troubles will be lessened. With the right kind of feeds before them all the time they will never fill the crop too full and sour crops are eliminated and better assimilation takes place because the food is eaten as nature intended.

In preparing dry mashes, it is well to cater to the tastes of the hen. Hens do not like finely ground mashes, nor will they eat them until starved to it. They always pick out the coarser particles first and leave the finer. This is a suggestion that we should not overlook. Middlings, shorts, flour, bran, or other finely ground grains are too fine and are not relished in the dry mash. This fact is easily determined by placing hoppers of different grades of mash before the hens. It will be found that no fine mashes will be eaten as long as the coarser can be had.

Did you ever stand and watch hens try to gulp down finely ground mashes as though they were so many children being forced to take medicine?

Give the hen a chance to select what she likes.
Freshly Ground Grains the Best

As soon as the grain is broken it begins to deteriorate in food value. The longer grains have been ground, the less the food value and less palatable. Newly ground grain is much more palatable. For best results dry mashes should be made from freshly ground grains. Then these grains should be coarsely ground, for hens naturally like the larger particles and the finer it is ground the quicker it deteriorates. I would have no grains ground into a flour. I would not have wheat and corn broken any finer than we usually make it for chick feeds, and then you can be sure it will be relished and eaten clean. Ready mixed dry mashes that are mixed months in advance are the most useless of poultry feeds. The food value deteriorates and the palatability is much lessened, and besides, that mixed with beef scrap becomes more or less rancid until ptomaine poisoning oftentimes happens. I think there is more trouble from dry mashes that have been mixed for a long period than from any other cause, for the hens do not like them. They are the least savory. Grind some fresh feed and see how the hens go for it. I would prefer grains ground not more than three weeks. The dry feed hoppers can be filled once in three or four weeks from new grindings. The fresher the better. Nature placed a hull around the grain kernel to preserve it, and as soon as that is broken oxidation sets in. The volatile parts escape and it is less savory and the appetite is a good indicator of food values.

Each poultryman can have his own grinder and thus be able to have newly ground feeds at any time. Better still, each community of poultrymen could have its own warehouse for poultry supplies and have its own grinder and mixer. It is obvious that the poor quality of grains go to make up the so-called poultry feeds that are ready mixed. By grinding your own grains, good quality is assured. A community of poultrymen organized in a way to buy grain in quantity and mix their own feed are in a position to get maximum results. In my neighborhood, we have organized a warehouse association and will build our own warehouse and install a grinder and mixer. Any person in the association can have freshly ground grains in the dry mash at all times.

This will insure a better quality of feed at a minimum cost.

Composition of a Good Dry Mash

The dry mash that has given me best results after fourteen years experimenting, is as follows:
Four parts medium cracked wheat.
One part medium cracked corn (Indian corn or maize.)
One part good quality dried beef scrap.
One-fourth part soy bean meal (coarse ground).
One-fourth part oil cake meal (linseed).
One-fourth part charcoal.

The hens relish this mixture and will eat it up clean and will eat almost the same proportion as of the mixed grains if kept before them. This mixture will feed down any good dry feed hopper, without clogging or caking. It is essential to have a good pattern hopper for dry feed, for it saves much labor and serves the hens.
I have little use for bran. The little food value that it contains is obtained at tremendous exertion of the digestive organs. The hull of any kernel is made for the protection of the inside contents and not for nourishment. In oats and barley the husk hull serves almost the same purpose as the bran hull in wheat, for when that is removed the grain has scarcely any other covering. I have long ago learned that it is not wise to feed oats or barley with the hulls left on. The irritation caused by so much tough hull causes endless losses. Remove the hull from oats and barley and these grains make a very good feed in the grain mixture. Whole wheat ground gives as much bran as the organs can handle.

**Grain Mixtures**

A safe grain mixture is that composed of three parts whole wheat and one part Egyptian corn. If hulled oats and barley are added to this in same proportions as Egyptian corn it will add variety. I get better results to keep this grain by them as the dry mash. My hopper has two compartments of equal size and one is filled with this grain mixture and the other with the above dry mash. I never, under any circumstances, throw the grain on the floor, for the hens will eat more or less filth and kick up a dust, which is much worse than can be offset by any exercise.
Green Feeds Absolutely Necessary

I have written so much and so often on green feed for poultry that this may seem a repetition to my readers, but the truth is so important that I wish continual suggestion to convert all.

You may have every condition for hens and if you lack green feed you will not make them pay. It is an impossibility, and the greater the variety of green feed the better the results. It takes fertile soil and plenty of water to grow good green feeds. Slow-growing greens become bitter and tough and have not the food value and are not palatable. Greens need to be grown quickly and to grow them quickly requires a rich garden loam soil, well watered. A poultry ranch without rich garden soil and plenty of cheap irrigating water is handicapped here in California.

The three best green feeds are kale, mangel wurzel beets, and alfalfa. If your soil is rich and well watered, you can pick a crop of kale leaves and beet tops every three weeks during the warm months. Alfalfa, to be best relished, should be, also, cut every three and not over four weeks, but to do this it must have plenty of poultry manure and water. If you have these three green feeds before the hens as many months in the year as possible, or from May to December, then you can rest assured that hens will pay. From December to May we use the root of the beet and whatever kale is left over at that time, and manage to have a crop of green barley come on in the alfalfa patch for the winter. Barley sown in September or October and cultivated in with a fine alfalfa cultivator will make several crops during the winter. Cabbage is, also, a fine crop to grow in the Fall for winter feed. It should be put in in August or September.

Rape is another good winter crop and can be mowed with the scythe several times. Barley, beets, cabbage, and rape for winter, and kale, beet tops, and alfalfa for summer. These green feeds save hens, save feed, cause better assimilation and produce more eggs.

I am no book farmer, and if you care to visit my ranch here at Palo Alto you will see this system of feeding carried out day after day.
CHAPTER X.

WINTER GREENS FOR POULTRY

EVERY poultryman should have a *Poultry Garden*. This *Poultry Garden* is absolutely necessary in order to get maximum results in the poultry business, whether for eggs or meat. This garden requires careful planning and preparation so that a good variety of green feed can be had every month in the year. It is impossible for the poultryman to make much money with hens by buying only mill feeds and grains.

The dairyman cannot make a profit by buying all the feed his cows consume. He must grow alfalfa and other feeds for the silo.

The profit of the poultryman increases in direct proportion to the tonnage of greens produced and fed.

No poultryman has ever succeeded on a dry, barren place, to any appreciable degree. The most successful have a large variety of green feed.

The very first piece of work on any poultry ranch is to lay out the poultry garden and plan the planting so that a good variety of crisp, tender greens can be had three hundred and sixty-five days in the year. The next order of business is to see that these succulent greens find their way to the feed trough of the hens at least once per day and in sufficient quantities to have some left over at each feeding time.

The more variety the better. The best tonnage is produced from kale, mangel-wurzel (either red or yellow), alfalfa, cabbage, chard and green barley.

In the month of February is the time to start the hot beds for kale plants and cabbage and mangels. These plants should be grown quickly and set out when not too old.

The soil and water conditions for a poultry garden are of first importance. The soil should be a rich sediment loam. Not too sandy, for then it will burn out in hot weather. Not adobe, for then it is hard to work and too cold in early spring.
A pumping plant is better for the poultry garden for then you can turn on the water any time it is needed. Here in California water for irrigation is absolutely necessary.

Plow the sediment loam deep, and have seed bed in fine condition. Set out the early kale and cabbage in March or April. For kale, put in hills three feet each way. Cabbage can be set two feet each way. Use Jersey kale or thousand-headed kale. A good giant cabbage is the Autumn King.

Mangels can be transplanted from beds if allowed to get larger than the finger before transplanting. They need to be well watered until started. The most common way is to drill in rows about two feet apart and thin down to six or eight inches between each plant.

If the soil is rich and well watered, these will grow so fast that they cannot be cultivated except when the leaves are picked off. We make it a rule to run through with the one-horse cultivator as fast as a crop of leaves is stripped off, and follow with the hoe. This makes a complete cultivation every three or four weeks, and it is irrigated just before each cultivation.

It is well to irrigate kale and beets in trenches or furrows, as the tops grow so rank that it is impossible to get through the patches. We pick the tops from the mangels every three or four weeks, just the same as kale; also the under leaves of the cabbage are stripped off, leaving the heads quite bare.

I use a tremendous amount of poultry manure on my kale, mangels, and cabbage. This forces a quick, tender growth when well watered. Kale that is not well watered grows blue and tough, and is too bitter for the hens. I pile on poultry manure from two to six inches deep between the rows, and then turn on the water, and the growth is so luxuriant that the sun hardly ever strikes the ground.

Every three or four weeks during the summer season we have a heavy crop of crisp, succulent, tender tops that are sweet and nourishing, and are eaten with a relish by the hens.

During the summer months we feed kale, mangel tops, and alfalfa. For winter greens we have the roots of the mangels, cabbage, and green barley. Kale runs also well through the winter, but does not grow much after the frosty nights.

Barley is cultivated into our alfalfa patch in September, so that we cut barley all winter where we cut alfalfa all summer. Thus we get twelve cuttings per year from the same ground. We pile on the poultry manure after each cutting of alfalfa during the summer and flood it well. This makes a quick, tender growth that is very sweet and relished by the fowls. It is astonishing what tonnage is produced in this way. Water, soil and plenty of manure will produce as high as three hundred tons per acre in mangels and kale.

The secret in winter greens is to have the tonnage already grown when the frosty nights come.

The climate is such at my place at Palo Alto that we have our beets and cabbage grow in the ground all winter and pull them as we need them.

If you were on my ranch at one o'clock on any day, you could see the red combs of six thousand hens sticking their heads through the opening to the long troughs on the outside of the pens and eating
greens. Not one kind, but three or four kinds well mixed. On this fourth day of February, we feed heavily of shredded mangels, along with green barley and some alfalfa that grows protected up through the barley, and on Saturdays a big head of cabbage to each pen, enough to last over Sunday.

We manage in this way to have greens every day in the fall and winter and our egg yield during November, December, January, and February runs close on to fifty per cent. On some pens as high as sixty-seven per cent during month of December, from late hatched pullets.

In colder places, mangels and cabbage could be pulled and put away in a shed. I have tried carrots, but they do not produce enough tonnage and are rather tedious to raise and gather. I am also trying Giant Marrow cabbage, which bids fair to make as good tonnage as kale and is of a fine sweet flavor, well liked by the hens.

Cabbage for winter feed should be planted out of the hot beds about August or September, so that it will have a good growth before frosty nights.

With a large tonnage of mangels and cabbage on hand when frosty nights set in, with kale to fill in and barley already grown in the alfalfa patch, winter greens can be assured.

Bear in mind that if you have not the conditions for growing greens in large quantities, you might just as well stay out of the poultry business. If you are to succeed, be sure you have the correct conditions to start with. If you have these conditions, fertile, sediment, loam soil, cheap irrigating water in large quantities, and any amount you want, and not too far from a good market, if you have these conditions, with a good climate thrown in, then you can go ahead and be assured of success.

With well-bred hens, housed in small open front houses, well cleaned, with green feed of several varieties before them all the time, and a variety of grains with rich, dry mash, where they can wait upon themselves, and your profits are assured, and if you make less than $2.00 per hen, per year, you are not doing as well as can be done.

In a dairy country where you have plenty of milk, it will add much to your profits to feed a quantity of thick cheese on top of the green feed each day. This will get the highest production of eggs possible.

Another feature that is adding to the success of poultry is that of co-operation. A co-operative community where feeds can be purchased in quantities and produce handled in a block has many advantages, and so many that a poultryman cannot afford to be outside a community of this kind.

The Poultry Producers' Associations of both Central and Southern California, is a movement that will standardize our products and put the business on a stable basis. Have patience with these organizations and stand by them to a man, for they are the greatest movement that has ever been launched for the good of both producer and consumer.

Col. Harris Weinstock has a broad plan that will revolutionize marketing conditions and bring the producer closer to the consumer. Co-operation is the salvation of the poultryman.

There are three distinct results obtained by the liberal use of green feed for poultry:
1st. Green feed keeps the flock healthy, and saves in loss of hens.
2nd. Green feed saves grain and mill feeds, and also causes better assimilation of that eaten.
3d. Green feed stimulates the production of eggs.

Home garden on Weeks Ranch
Hubbard squash on fence
CHAPTER XI.

POULTRY COMBINES WITH RAISING VEGETABLES, BERRIES AND FRUITS

WHERE there is no vision the people perish." First, there must be a vision, a picture in the mind of a better condition before progress is made. Without this stretching of the mind upward and outward toward better things, there would be no change. Our environments would remain the same. From our dreams we see visions of what our environments might become. If our imagination is strong enough, we can build heavenly places from our immediate environments in our dreams.

If we have faith in our dreams, we evolve theories. "Faith without works is dead." Theories without practical demonstration accomplish nothing. The world is full of theories. Schools are founded on theories. Books are printed on theories, and whole libraries are given to theories. But theories alone never changed the face of this old earth in the least. They exist in the mind only. When the hand works with the mind, then visions, dreams, and theories may become truths and take on beautiful forms and shapes in the material world around us. Man can only progress by working along the lines of nature. All unnatural efforts fail. The laws of
nature must be respected, for it takes ages to form these laws and they cannot be changed in a minute. To grow vegetation requires certain conditions (requirements of the many varieties of plant) of soil, water and temperature, and if man knows these conditions and the requirements of the many varieties of plants, he can get maximum results. "By their works ye shall know them." What have you actually done in the world's work, not what have you dreamed or thought, is the question you ask of every man you meet. This is the acid test of a man's ability, to be able to demonstrate in the concrete. All the dreams and theories of Burbank were useless to the world until he could show the wonderful production in reality in berries, fruits, flowers, and vegetables.

A dreary place would be this old earth without plant life. The places devoid of vegetation are called deserts and are the least attractive to man. From the desert to the most luxurious garden, there are many degrees of plant life. And a country is termed beautiful in accordance with its vegetation.

As the vegetation makes a beautiful country, so, likewise, does it make a prosperous country. The profit received from the tillage of a piece of land is in direct proportion to the amount produced on that land.

The greater the production on a given space the greater the profit.

No man has a right to own a second acre until the first reaches maximum production. To get maximum production requires rich soil,
sufficient water for irrigation and correct temperature. To maintain a high production requires constant addition of fertilizers to the soil.

A Paradise on Earth

A home hidden with the growth of a luxuriant vegetation is the dream of all. It is within the power of almost all to possess this garden home. A paradise on earth, a little bit of heaven all your own, built from the sunshine, earth, and water. Sunshine, soil, and water mixed with energy directed by knowledge will produce a wonderland.

Every child should grow up in a garden. It is the natural heritage of the sons of men. The most abundant natural life on earth comes from creating from the soil. All the gold in the world will not buy the health, strength, and peace of mind of the man who loves his garden.

Our schools should be surrounded by beautiful gardens, gardens tilled by the pupils themselves so that a love of this natural way of living may be inherited. Dry, barren school yards are a disgrace to our present state of civilization. Every school should have its garden teachers, and every luxury that grows from the soil should grace the grounds so near our youth. Creating from the soil can be made an interesting game, and how far-reaching! Children that learn to love flowers will never grow to be bad men and women. Boys that learn to grow flowers, berries, fruits and vegetables will never be satisfied with a meaner calling in after life. It matters not what vocation they follow, they will always have the ability to produce a living from the soil, whatever happens. It is an exquisite pleasure to grow the things that are not set before you at your own tables. When you can eat
luscious fruits grown by your own hands, you have a two-fold pleasure. Green corn gathered with your own two hands from your own garden, eaten at your own table, gives a contentment not to be compared.

A rich soil is the first essential to rapid growth, then water and sunlight. Most soils can be made better than they are by fertilizers. All soils that are cropped continually need to be replenished. This is a serious question to those who cultivate the soil. Right here is where poultry raising works hand in hand with the garden home. Poultry manure is the richest of fertilizers, and when mixed with the soil and well watered, will produce astonishing results. Modern methods of egg-farming require very little space. The home garden, with berries, fruits and vegetables, makes the finest combination with laying hens. All the waste green feed can be fed to the hens. It sounds like a fairy story.

The fertilizer from the poultry houses is mixed with the soil, which produces the green feed that makes the eggs, thus making an endless round with an ever increasing production from the soil. The more greens raised for the hens on a given plot of ground the greater the profit.

Far from the noise, uncertainty, and bad air of the restless and relentless city, the family on their own garden home has every luxury that money can buy, and many that money cannot buy. The profit from the eggs from 250 well-bred hens correctly fed along with a home garden will make a very good living for one person. For each member of the family add 250 more hens.

If a bank account is desired above a good living, then increase the number of the hens accordingly.

He is counted a public benefactor, who can make two blades of grass grow where only one grew before. It is safe to say that the average acre can be made to produce ten times as much by heavy fertilizing and correct tillage of soil and by using sufficient water.

A garden home with poultry for income makes the finest combination, for from the poultry there is a constant supply of the richest fertilizer that makes possible the most luxuriant vegetation.

Is it not the greatest folly that nations should perish by violence fighting over boundaries when there is more rich land in the world than the whole population of the globe can possibly till? If every mother could rear her children in a garden, then her sons would see the tragedy of slaying their kind for they would have health and strength and peace of mind that would bring on earth peace and good will to men.
CHAPTER XII.

PROBLEM OF SOLUTION OF THE HIGH COST OF FEED FOR POULTRYMEN

NEVER before in the history of poultry-raising has there been such a golden future. With no eggs in cold storage and thousands of hens going to market, there is bound to be an egg shortage unheard of ever before. But how are we going to carry our hens over till the grain is harvested and prices of feed come down? I have been a poultryman for fifteen years and have studied the feed problem from every angle, and my success as an egg-farmer is evidence that I speak with assurance. I am going to tell you the secret of my success as an egg-farmer, and in it lies the salvation of the poultrymen of today.

As I write this article, from my study window, I can look out over my little poultry ranch and see thrifty rows of kale growing in the rich, mellow loam, and sturdy cabbage plants spreading under the warm sun, and tender, succulent alfalfa like a green sea waving in the breeze, and mangel-wurzel beets spewing out of the ground, and stock carrots and Essex rape and green barley; and as I gaze on this abundance of nourishment growing out of the soil I have no fear of high prices of grain, for I know that if the worst comes and I am unable to get grain at all, I can still carry my hens through the crisis, and the poultryman with hens when grain comes back to normal will make big money.
I can hear the hens cackling and singing up and down the long rows of poultry houses, with their feed troughs filled with this nourishing variety of green feed, and I know that greens cause the hens to sing, and I know that singing hens are healthy, and I know that healthy hens produce the eggs, and I know that eggs produced under these conditions sell at a profit even today with feed prices more than double and eggs at 35 cents per dozen.

A feeling of comfort and satisfaction comes over me as I watch the eight-inch stream of water running from my centrifugal pump down between the luxuriant rows of vegetation, making everything grow so crisp and succulent. To gather cart loads of this green feed and run it through the cutter and feed it to choice, well-bred hens with combs as red as blood, is an exquisite pleasure that only a poultryman can appreciate.

As I pause in my writing and gaze out through the open window, I see John in the vegetable garden, with a large pan of lettuce, and onions, and peas, and radishes, and turnips, and beets; and I see contentment on his face as he sorts through the garden selecting materials for our midday meal, pausing here to see how the beans are filling, or looking longingly at the strawberry bed just beginning to be specked with red, or meditating on the rows of corn, thinking of juicy ears of corn on the cob; and as he turns and crosses the lawn, bringing this wealth of the garden to the kitchen, my heart is filled with thanksgiving and gratitude, for I know that, no matter how high food supplies soar, that my family will have luxuries that money cannot buy. A fragrance from the blossoms of the blackberry vine comes in through the open door and the bees are busy gathering honey and storing it in the hives along the fence from which we get golden sweets for the table, and the cow is knee-deep in alfalfa from which she makes rich milk to go with the honey, and the hens are laying eggs, and it is no wonder that I have peace of mind, and steady nerves, and health of body, for it is the natural life. Fresh air for the lungs, cheerful sunlight, good food and calm, sleep, and the wealth of the world could buy no more.

This is the critical time for poultrymen, and they should make every effort to hold all their best producing young hens, and the only way to get them through is to raise many varieties of green feeds and stuff them until they consume little grain. I have proven that with several varieties of succulent greens it is possible to not only keep hens healthy but laying with very little grain. You cannot do it on one or two kinds of green, but with many the hen will consume enough to get along beyond expectations.

Plant kale, beets, chard, barley, alfalfa, carrots, rape and cabbage, and with these eight varieties fed in abundance there need be no fear of grain prices. To grow these crops in California requires plenty of irrigating water. In these critical times the poultryman without irrigating water is absolutely up against it, for without greens with the cheapest grains, it is impossible to make a profit. It is the spring-time conditions kept before the hens all the time that makes eggs at a profit. There are four distinct profits to the credit of a large variety of green feed. First, there is a great saving in loss of hens, for hens with greens are kept in better health than without; second, with a large variety of green feed only about half the grain need be used; third, with plenty of
greens there is better assimilation of what grain is used; fourth, green feeds cause an increased production in eggs. These four immediate effects of green feeds make the difference between success and failure in the poultry business.

In these strenuous times it behooves poultrymen to stand together. My ranch is a concrete demonstration of what is being done with green feed for poultry, and all visitors who wish to inspect the system and methods used on the Weeks Poultry Ranch are welcome.

These times should teach the poultrymen that they need co-operation. The Central California Poultry Producers' Association is a move in the right direction. If this Association had laid in its grain supplies for the year right from the thrashing machine, there would be no worry today among poultrymen. We need to stand by this Association until it is strong enough to buy feed for all the producers as well as market its products direct to consumer. If every poultryman would join the Association and lend support, feed problems and marketing problems could be finely adjusted and both the producer and the consumer would be benefited.
SELECTING THE HEAVY LAYERS AND CULLING THE DRONES

GOOD layers are so common that no egg-farmer can afford to waste one single minute on the inferior layers. Better keep half the number of hens and have all choice heavy layers. It is needless to say that, to start with, the egg farmer should have the best-bred hens for egg production that can be found. The S. C. White Leghorn are perhaps the best for egg production and small broilers.

Culling should begin the moment the young stock is old enough for market. Separate the cockerels from the pullets as soon as they can be designated, and put them on the market just as soon as the market will take them. As the young pullets develop, weed out those that are too slow in growth and place them in a pen alone. If your stock is prime you will have an even lot of pullets with no culls.

At six months of age every pullet should be laying or show early signs of laying. All that have small, undeveloped combs at that age are as a rule inferior layers. The first to develop are the choicest layers. These should be set aside for future breeders. Perhaps there is no better way of accelerating the laying propensity than by carefully selecting these early maturing pullets for future breeders.
The small-combed, slim-beaked pullets, with pinched abdominal region, should be sent to market at six months of age. It is useless to bother with them. At six months of age the combs should show red, and the flock should be even in size, with long bodies, wide behind, forming the ideal wedge shape heavy egg type. From six to eighteen months constitutes the heaviest laying period and very little culling needs to be done during that period except for those that rupture themselves laying or get indigestion.

Culling from disease should never take place on the highest type egg farm, for it is unnecessary to have any contagious disease if clean open front houses are used with no outside runs. Worms, canker, roup, and chicken pox cause unlimited culling where conditions are not ideal. Get stock and conditions right and these four dread diseases need not trouble the egg farmer.

The first decided culling takes place at about six months of age. The second culling begins at the end of the first laying year, or between sixteen and eighteen months of age. At this time the culling should not be too severe, for good hens might be sent to market that would pay the second season. The very first hens to molt and cease laying at this period are the poorest layers and can be either marketed or separated in order not to breed from them. All crooked backs and bony tails and undersized hens should be marketed at this period, for they should never be allowed in the breeding flock. These may make paying layers the first year, but should never be tolerated the second season.

The so-called systems are unreliable in selecting the heavy layers, and cannot be depended upon. Thousands of good hens have been thrown out by that test. There is only one thing that these systems are absolutely sure of, and that is whether the hen is laying today or not. This fact is easily determined by placing three fingers between the two pelvic bones that protrude behind. If they are thin and pliable and far apart, the hen is now laying. The point of the breast bone will also be dropped lower, making more capacity between the pelvic bones and point of breast. When the hen is not laying these pelvic bones lay on fat and become stiff, and draw so close together that there is room for only one finger. Also the abdominal capacity shrinks. A good heavy laying hen will measure three fingers between the pelvic bones and four to five fingers between the two pelvic bones and the point of the breast bone below, during the laying period. The comb will be bright red and large and full during this laying season. The heaviest layers will be thin, with scarcely any fat whatever.

As soon as the molting season begins the red comb begins to shrivel and grow pale. This is the most significant way of telling the non-layers without handling the hens. The best layers will keep on laying till late in the fall, and even lay till almost naked, but must stop as soon as the new feathers begin to grow, for then it takes all the nourishment to build feathers. Also the hen begins to take on fat and increases in weight during the molt.

A very few of the earliest molters can be culled out at the end of the first laying year, especially all those with small, straight combs. A large, full comb is invariably a sign of heavy laying capacity. Once in a while, however, a hen will be sterile and still have all the indications of a heavy layer from general appearance, and it is only by a close
examination that she is detected. Hermaphrodites are half-sexed birds that are sometimes hard to detect. They always have bright red combs, but their masculine look and air enables the skillful poultryman to detect them.

By culling out the very earliest molters and those that are not up to type at the end of the first year, you will have a very respectable flock for the second year’s laying. It is a mistake to dispose of all the hens at the end of the first year, because it takes less time, trouble, and feed to carry them through the molt than to replace them with a new lot of pullets. Also the eggs from second year hens run larger and bring an extra price. An additional profit can also be secured by mating the second year hens and hatching the eggs or selling the eggs for hatching. Custom prices for hatching eggs for hatcheries run 10 cents per dozen above market quotations.

The best plan is to have half pullets and half second year hens. Then each year the old hens are disposed of as fast as they go into the molt and replaced by young hens. Thus you can readily see that an egg farm is not on the highest producing basis until the end of the second laying year. When once stocked up an egg farm is almost able to keep stocked up with little extra expense, for the sale of old hens each year should bring in enough capital to rear the pullets. If an egg farmer can make money the first and second year, he is sure of easier profits thereafter. It takes initial capital to build houses and put in stock, but after that is in it does not have to be repeated.

The third culling begins when the second year hens start in to molt, which a few will do in July. During July and August these second year hens should be sold just as fast as they cease laying. I have a net attached to a heavy band at the end of a long handle, and with this I can catch up any hen just as soon as her comb begins to shrivel.

Also her legs will grow more yellow, for during the heavy laying period they bleach out white. As soon as egg production ceases the fat accumulates and the legs grow yellow. In walking through a large flock during July and August, you can easily detect the non-layers by shriveled combs and yellow legs, and more or less ragged appearance from loss of feathers. All these second year non-layers should be sent to market just as soon as detected. Each day’s feed on them lessens profit.

By keeping the first year hens over to the second year, you have a much larger and heavier hen for the market, as they grow considerably. Even third year hens are heavier than second. All the second year hens that keep laying steadily up into September without showing signs of molting are undoubtedly the cream of the flock and well worth keeping the third year as breeders. These third year hens will produce the male birds for the general flock of next year second season breeders, and these males will be the very best possible, because from the insistent layers of mature age. In this way heavy laying propensities can be established in a flock without losing any vigor whatever.

It is a very few hens that will get through for the third year laying, but these few will be choice. A very small number might even get through the fourth culling, and so be carried over the fourth year.

By this breeding from the earliest maturing pullets from second and third year hens, and culling these at six months for early maturing, and
again at eighteen months for late molters, and again at thirty months for securing the late molters, a heavy laying strain can be established and retain and even accelerate vigor.

By mating the choicest hens with one year old cockerels whose mothers had the propensity for continuous laying, you get progressive results that are astonishing.
CHAPTER XIV.

SANITATION IN POULTRY HOUSES—SPRAYING AND DISINFECTING POULTRY HOUSES

HENS have their enemies. These parasites must be controlled if highest results are obtained. To control these pests requires certain systematic efforts which are not difficult if followed. Woe to the poultryman that neglects these precautions. An ounce of prevention is better than a pound of cure. It is better to see that these enemies never start than to keep them down when once established.

Blood-sucking Mites

Perhaps the worst enemy the hen has to contend with is the little red mite or spider lice that lives in the cracks and walls of the poultry house and harbors in clusters under the perches. These breed very quickly and soon infest all the cracks and even crawl up into the roof and breed by the millions. Sometimes the nests and even the soil on the ground floor becomes alive with these terrible parasites. They can live for long periods on filth if the hens are not accessible. They do their bloody work at night when the hens are on the perches, crawling from long distances to the perches. There have been many inventions to keep them from reaching the perches, such as little oil cups at the end of each perch so that they must pass through the oil before reaching the hen. Perches swung on wire is a common way. But with all these precautions none is better than a complete spraying of the whole house with strong solutions that penetrate every crack and crevice. Perhaps the best solution known to poultrymen is that composed of crude oil and crude carbolic acid thinned down with stove oil so that it will spray easily.

About one part crude carbolic acid to ten parts of crude oil and stove oil. The proportions of stove oil and crude oil can vary, even to using all stove oil without any crude oil. Crude oil is heavy and hard to spray without thinning with stove oil, and also tends to soil the feathers of the hens more or less. It makes a better body for the spray and lasts longer when applied. The oftener a house is sprayed with this strong spray the less liable it is to become infected. After a few sprayings the cracks are filled with crude carbolic acid and this is the part that is the most deadly. It is a good plan to paint the perches with a brush with crude carbolic acid undiluted at different periods, say twice per year.

If the poultry house is thoroughly sprayed with this solution about three or four times during the warm months of the year, there will be no trouble for mites. If the houses are not sprayed the mites will simply eat the hens alive and egg production will be impossible.

The hens will also become more liable to disease from the weakened condition caused from loss of blood. Many a would-be poultryman has gone on the rocks from a little neglect in spraying the poultry houses.
My system of small pens without yards is the easiest system to keep free from mites, because each unit can be thoroughly disinfected, and as the hens in each unit are separate from every other unit, the system can be worked step by step very thoroughly. It is possible to keep each eight foot square pen absolutely free from disease germs and lice. This gives the hen perfect freedom to perform the duties of egg production.

There are many good kinds of spray pumps on the market. The best pump for oils and acids is one with metal valves. A small hand-pump that sets in a bucket is sufficient for individual ranches. The oil should be purchased in large drums so that when spraying is needed there will always be a quantity on hand. In a thickly-settled poultry community like Runnymede at Palo Alto, the oils and acids can be purchased in large quantities same as the feed. If crude carbolic acid cannot be obtained, creolium or creosote is next best. There are many other kinds of spray, but I will not confuse by giving too many. The one given will get sure results, and thus no chances are taken.

Body Lice on Hens

The body lice that continually live under the feathers on the hen are not quite so disastrous as the little red mites that live in the cracks and crawl onto the hen at night and suck the blood. The body lice live largely upon scales and feathers and only torment the hen by making them uncomfortable with their crawling. These inhabit the feathers around the vent and on the thighs and under the wings.

Head lice and ticks are more dangerous, as they sap the blood. Ticks usually appear in the feathers on the back and look like the ticks on sheep or like bed bugs. They have a large round body and small head, resembling the shape of a turtle. The head lice are long and fasten themselves upon the top of the head. They are very disastrous to chicks.

Chicks hatched in the incubator and brooded in brooders away from mature hens should never have body lice if kept in clean quarters. It is the biggest mistake to allow young chicks to mingle with older stock.

It is almost impossible to keep old hens from having body lice, and if the young stock run near them they will be certain to get lousy, and this is where the trouble starts. When young pullets get lousy they never come into full laying very early. One or two old hens in among a thousand pullets will sometimes be the whole cause of failure. It is absolute folly to ever under any circumstance allow old hens to come near young stock. This is another feature of my small pen system, making it possible to keep the young stock entirely separate from the old stock.

By keeping the pullets separate they will have their first year laying without being bothered with any body lice. And if they have a good place to dust in for their second year they will keep clean to the end. Some hens are too lazy to dust themselves and may become lousy, but these can sometimes be detected by their rough feathers and culled out. The breeding cocks are also very prone to be lousy. They do not take the trouble to bathe in the dust and are usually more lousy than the hens. They should be gotten rid of at the moment
the hatching season is over. For egg farming, it hardly pays to keep a cock bird over the second year. One-year-old cockerels with two-year-old hens is ideal, and they may be kept pretty free from lice this first year.

There are many ways of getting rid of body lice on hens. Lice powders are very common, but a slow process and not thorough. To take one hen at a time and dust her with lice powder is a slow process for an egg farmer that has several thousand hens. With a few hens, lice powder can be sifted through the feathers, and if repeated about three times at intervals of six days the lice may be gotten rid of. The young lice mature and begin to breed in about six days.

The method of dipping the hens in a tub of sheep dip is crude and hard on laying hens. No successful egg farmer will attempt this method.

If clean sand is kept on the floor of the poultry house and if this sand is lightly sprayed at times of spraying the walls, the hens will wallow in this sprayed sand and will be kept as free from vermin as is possible.

Lice powders can also be sprinkled in their dusting places. If clean sand floors are accessible to second year hens they may be as free from lice as the first year hens. Painting the perches in the evening with crude carbolic acid will disconcert the lice also.

Crude carbolic acid on the perches occasionally is, perhaps, the speediest way to keep down the body lice on the hens as well as the mites.

Every obstacle in the way of complete comfort for the hen must be removed if the maximum results are to be obtained.

**Fleas in Poultry Houses**

The hen flea is another pest that worries the flock if allowed to get started. They inhabit the nest boxes particularly, and the litter on the floor. These are best controlled by spraying the nest boxes thoroughly with the above spray and filling with clean straw.

Clean, sharp sand should be used on the floors, and this can be sprayed lightly when the walls are sprayed, and thus the fleas have no show whatever. The oil on the floor tends to keep the dust down also, which is a necessary duty.

**Bacteria Which Causes Canker, Roup, and Chicken Pox**

With my *system of small eight foot square pens* it is possible to eliminate all canker, roup and chicken pox and worms. These are the four dread diseases of poultry, and any system that will control them is a boon to poultrymen. Canker is a cheesy substance that forms in cakes on the mouth and tongue and too often over the opening or in the opening of the windpipe, when it proves fatal by choking the fowl to death. The bacteria that causes canker breeds in moist, damp, filthy places, especially around watering places. It is prevalent in all outside runs, especially in rainy weather. This is why canker is prevalent at the rainy periods. We can eliminate canker by cutting out the open runs.

Chicken pox comes also from damp, filthy places and when the rain falls on yards and the hens drink from the filthy pools, chicken pox is
almost certain. Clean sand on the floor and clean water to drink, with
no puddles, and you prevent the bacteria from growing that causes
these diseases.

Roup may be started from a cold that comes from damp, drafty
houses, and is a swelling of the head and eyes, and becomes very foul
and filthy.

Deep, dusty houses with little sunlight is the cause of roup. The
small open front pens with hens always near the fresh air, with no dust,
are best, and roup will not be prevalent, will be absolutely controlled.

The loss from canker, roup and chicken pox is terrible in systems
with outside yards.

**Worms in Poultry**

There are two kinds of worms that infest the intestines of poultry. These are the small pinworms and the tapeworm. When a flock of
fowls becomes affected with these worms, there is no chance of profit
whatever until the worms are eliminated. There is no more disastrous
condition for poultry than that of being infected with intestinal worms.

These worms also come from filth like canker, chicken pox and
rop. Where hens run on the same ground for a period there is always
danger of worms. If hens are allowed an outside run they must have
new ground each year. This makes yards expensive, and since the
highest egg-production is obtained without yards, why take a chance
with all the dread diseases that come from yards? Wet mash mixed
with tobacco tea will expel worms from poultry.

Small flocks in open front pens with clean, sharp sand on the floor
will give the best quarters possible in which to keep hens free from
diseases. Clean, dry sand prevents any bacteria from starting. This
sand should be renewed at least once each year and twice is better.
It is cheaper and cleaner than straw.

**Going Light**

This is a disease which is like consumption in people. It is tuber-
culosis. It is caused principally by too much dust in the poultry
houses. Where large numbers of hens are kept together there is nearly
always a cloud of dust. Breathing this continually causes the lungs to
become diseased. Dust also irritates the lining passages of the nostrils
and causes colds, which are the direct cause of roup. The worst thing
that can be put on a poultry house floor is straw or litter of any kind.
It gathers moisture easily and soon becomes foul. It breaks up into
small pieces and a very disagreeable dust is thrown off when the hens
scratch in it. This dust is ruinous to hens. Clean, sharp sand is the
freest from dust and easy to keep clean, as the droppings lay on the top
and are easily lifted off.

With my system of small open front pens the hens are freer from dust
than under any other system, and going light is reduced to a minimum.

**Rupture from Heavy Egg Production**

During the first year of laying many young hens burst blood vessels
in laying, and if not taken immediately from the other hens they will
be torn so that they bleed to death. These hens are perfectly healthy
and good for market if caught in time, and as there is no help for it,
that is the best thing to do.
POULTRY KEEPING IN THE BACK YARD

All the money of all the world will not keep humanity from famine. All the saving of all the world on all the foods is wise, but without increased production the people will starve.

Never before in all the history of all the ages of the human race was there so much danger of a world famine as today. When all the people of all the liberty-loving nations are expending all their resources on wiping from the earth this Militarism, we must not forget that producing food in gigantic quantities will furnish the power, and the strength, and the endurance that in the end will win out in this gigantic struggle. Today we need another army behind that great army made up of the nation’s best manhood. We need an army that will include in its ranks not only men of all ages, but women and boys and girls. We need this second army organized and drilled, and educated in the art and science of producing food products from the soil.

At this critical time when the foundations of our very institutions are shaken, when the church and the school and the State are in a state of tension, we must not forget the very essentials of life, and must not let one single foot of earth lie idle that we can till. The institution of the family must not become paralyzed because some of its members are called, but must go on producing twice as much food.

If it were possible to turn the peoples of the over-crowded cities back to nature and the soil, and teach them how to produce every good
thing to eat, prove to them what joy and health are to be found out in the pure air under the open sky, then the nation would be well fed, and being well fed would bring contentment, and money would hardly be needed; and by all producing a little, much time would be saved and thus allow the tired nerves to relax.

We are rushing on and on and on, with never a pause to whiff the fragrance of the rose or listen to a song bird. We arise by the alarm clock, rush off without breakfast, hurry forth in crowded and stuffy cars, sit in musty, dusty, dull offices all day, only to return in the same monotonous jam and hasten to bed that we may be able to arise by the clock tomorrow morning. When the alarm rings the next morning we yawn and say, in the words of Arnold Bennett, "O Lord! Another day! What a grind!"

We work long hours in unhealthy places day after day, year in and year out, and what is our recompense? Merely enough food of the customary mixtures to satisfy our hunger, enough clothes of various hues to cover our bodies, and a bed under a roof too seldom our own. What do we know of freedom? What do we know of the inspiration from the early morning air as we behold the birth of a new day in the rising sun? The green trees are full of song birds, but are we thrilled by their music? We read of the fragrance of flowers in novels, but too seldom perceive with our own nostrils the sweet perfumes.

It only takes a small plot of very fertile soil mixed with water and sunshine on which to produce a little paradise. The imagination can hardly picture the luxuries that can be produced in the little back yards. If I should place in your hand a magic wand, and you waft this wand over your back yard and there springs up good things to eat in the way of crisp, tender vegetables, strawberries, raspberries, blackberries, fruits, etc., you would be filled with wonder.

I am going to tell you of a power, and this power is not a wand, not a dream, but a power that will make each a creator; and from the soil lying idle in the back yard you will mold delicious things to eat and beautiful flowers to behold, and shapely trees for shade, and fruit. And what is this wonderful leaven for the soil that will make every clod feel a stir of might, an instinct within it that reaches and towers, and, grooping blindly above it for light, climbs to a soul in grass and flowers? It is nothing more or less than fertilizer, common ordinary fertilizer. But where will you get this fertilizer? From your own fertilizer factory.

On the back of each small town lot miniature farm should be a fertilizer factory. In this fertilizer factory you produce all the rich fertilizer needed for the garden, and more too. What do you manufacture this fertilizer out of? Out of cabbage, beets, kale, alfalfa, cauliflower. But you say these things are expensive and tedious to grow, and too valuable to use as fertilizer. But when I tell you that these little machines in your fertilizer factory will take these raw vegetables and extract every ounce of nourishment from them, and will condense them into small, neat packages nicely wrapped in white, round shells, and that the contents of these little white shells contain the very most nourishing food, exceedingly palatable, then you can begin to realize what a wonderful little factory this is.
Keeping hens for fertilizer! That's a new business. Who ever heard of keeping hens for fertilizer? Why not? Every Italian gardener knows that you cannot grow a garden without fertilizer. It is the one essential along with soil and water and sunshine that makes success.

If you can produce your own fertilizer right at home, you are assured of a good garden. With a good garden you can live well and cheaply. If you can produce a by-product along with this fertilizer in the way of eggs, you have that much gilt. What a wonderful routine! Green feeds fed to hens produce fertilizer with which to grow more green feeds, and the good hens deposit golden nuggets as recompense for your trouble of growing these green feeds and seeing that they get all they can eat. Also these hens delight in making eggs out of waste table scraps, peelings and leaves from lettuce, etc. Of course, to furnish them all of the elements from which to make eggs in large quantities, requires by-products from the grain mills to be fed along with the green feeds. It is best to feed these grains and mill feeds in hoppers so that they cannot waste them and can always have what they want and in a clean manner. It is best to keep feed by your laying hen at all times, and she will never over-eat. To produce her best she must have a large variety of succulent, tender greens in the way of cabbage, kale, mangel-wurzel beets, alfalfa, and green barley.

With poultry manure as fertilizer, it is astonishing how many tons of green feed can be produced from a small plot. I have produced as high as 300 tons per acre on my poultry ranch at Palo Alto, California.

How many hens can you keep on your back lot and raise all the greens they will consume? With the highest cultivation of the soil, you may be able to grow green feed for as high as two thousand to the acre, but to play safe we put the figure at one thousand, which is a perfectly safe estimate. With my system of eight foot square pens for twenty-five hens each, with no yards, very little room is needed for a large flock. Enough room should be left on each back lot for the customary fresh vegetables for the table, from which much green can be had for the hens also.

Also some trees can be grown on trellises, as in the old country, and a few varieties of berries. With poultry fertilizer and water you can produce quantities of the most delicious fruits and berries in a very small space. There is no normal person but what takes a delight in creating plants from the soil, and much joy as well as profit can be had.

With expensive city water for irrigation, it will require more cultivation of the soil to conserve the moisture. The poultry manure will also tend to hold moisture when used for any length of time. With the hens producing a steady supply of fertilizer, the garden can grow richer and richer. Less than a quarter of an acre will produce greens for 250 hens. Never put in more hens than you can raise green feed for. It is the green feed that takes all the profit.

There is no keener pleasure than that of growing vegetables in rich, loose, well-watered soil. Then the table that can be supplied from a well-managed garden makes life worth living. The average back lot, if it is accessible to sunlight, can grow enough vegetables for a family, and have room enough for poultry houses for more hens than they can use the eggs from; thus being able to help with the grocery bill.
Other things that are profitable toward a living on the back lot are rabbits, bees, and goats. Each back lot should have two or more stands of bees, and produce the sweets for the family. Honey is delicious and wholesome. The bees cost nothing after they are established, and will help fertilize the fruits and berries. Anyone can soon learn to handle bees with ease. They are harmless when handled right. Rabbits can be fed from the lawn and small alfalfa patch, along with rolled barley, and will furnish the most nutritious and delicious meat.

With all the vegetables from the garden, fruits and berries from wall trees and trellises of vines, poultry and eggs, rabbits, honey from the bees for sweets, milk from the goat, and a family will be pretty independent on a good-sized town lot. An eighth of an acre will do wonders toward a living. A half acre with poultry for income, and rabbits, bees, fruits, berries, and vegetables intensively produced, will make a living for a family of three or four. An acre with one thousand hens intensively cultivated will make a good living, with money in the bank for a rainy day. Back to nature, close to the soil, is the natural way of living. It will insure plenty to eat, peace of mind, health, and a keen appreciation.
CHAPTER XVI.

THE SANEST OF ARTS, THE ART OF MAKING A LIVING ON A LITTLE LAND

Life may be compared to a game of chess, and we the chessmen. Some unseen power seems to move us to our positions on the field of life, be these positions good or bad. The greater part of this unseen power lies in the will power of individuals. Our will power has much to do in making us strong players in this game of life.

The chessmen on the board have different values; some have power to move in all directions as far as the board is clear; others have limited directions in which to move, and the pawns can move only one spot forward at a time. So many of us are simply pawns in this game of life, only being able to see just a little way in front of us, while stronger wills with better trained minds pass us by on the many different lines with long, definite strides.

The strong players in this game of life move swiftly and with keen foresight to the vantage points on the field of life, leaving all the weak players all the minor positions.

How can we all become proficient players in this game of life?

Too many of us are deceived as to the real intrinsic value of the so-called vantage points in life.

To become proficient in the art of living well, we must lose no time in acting as pawns for stronger individuals, but must work around into the position where we will be master of ourselves and not forced to come and go at the beck and call of another. In other words, we must be exploiters of our own time instead of selling our time to another. If we only knew in the beginning what is the best thing for us to do all the days of our life, how much more real living we might have for our three score years and ten!

False ideals, false standards, and false positions in life sidetrack from the sanest existence.

This is the essence of the sanest existence—"a healthful body, a mind at ease, and simple pleasures that always please." If our vocation in life does not tend toward this it is radically wrong.

The highest degree of bodily health is obtained from vocations that take us into the fresh air. Perfect poise and ease of mind depends much upon our bodily health.

All that is really worth while in life can be had on a very small plot of land if the art of living on a little land is mastered. It would seem folly for a human being to be bothered and encumbered with ten, or one hundred, or one thousand acres of land, when all the sunshine and fresh air and all the nourishment that the human body can possibly assimilate can be had from one or two acres. If a man has more land than it takes to support him, he only wastes time developing this extra land when he should be developing himself instead. At the end of life's journey what matters it if we have one acre or one thousand acres?

Would it not be better to say that one acre ministered to us all the days of our life, instead of giving the whole of our lives to the care and
development of one thousand acres? The man with one or two acres can be richer in flowers and birds and fruit and the love of nature than the man with a thousand. The man with one acre comes in closer harmony with the birds, and bees, and flowers, and all nature, because these very things are his business, while the large landholder overlooks all these finer things of life.

It is folly to expect to bring forth a sustenance from a little land without first having some training in this sanest of arts. You could not go instantly into an artist's studio and paint pictures for a living, or teach music without due preparation. You can learn the art of living well on a little land in much less time than it takes to learn the other arts, because it is the natural life of man, and what is natural is easily learned. And one beauty about learning this art of living well on a little land is that we are living in the fullest sense all the time we are learning this art, instead of long, weary preparation as other arts require.

The most absorbing, the most interesting occupation in life is that of building a home among trees, and flowers, and fresh vegetables out under the open sky with sunshine poured over all. Whether you do it directly with your own two hands or indirectly by earning money and hiring it done, it is always the keenest of pleasures.

To own a plot of land, to build a home with a fireside all your own, to plant trees and flowers, and grow fresh vegetables, and feed hens, and gather eggs, this in the end is the dream of men, whether rich or poor. A quiet corner by a cheerful fireside with nature's beauty and abundance all around.

How can we make these dreams come true? We have become so accustomed to the artificial life of cities, with its hustle and bustle, excitement and entertainment, glare and people, that we have overlooked the quiet, even, peaceful, natural existence on the land, and have failed to become proficient in this natural way of living out under the open sky in the healthful fresh air.

I speak from experience. I was born and raised on a sequestered farm back in Indiana and grew up amid quiet, peaceful, natural surroundings among poultry and pigeons, horses and cows, sheep and hogs. I was on intimate terms with the cherry trees, apple trees and pear trees. I reveled in strawberries, raspberries and blackberries. I joyed in what mother called a "good garden," with its cabbage and turnips, beets and radishes, onions and lettuce, and watermelons and muskmelons, rich and juicy, and all the good things that go to produce that good dinner that mother used to make. I loved this free, natural life. I was healthy, and buoyant, and glad.

Then there came a time when I must go "off" to school and become educated, so they said. Then after a few years of college life there came a state of restlessness so different from the natural even tenor of farm life. I went to Chicago for a year, then to New York for two years, and then across the continent to your own city of San Francisco for a year, when I began to see the fallacy of an entire existence in the city.

I very soon learned that all the city people who could afford it spent the finest part of each year in the country and spent some of the
balance of the year telling what a good time they had while in the country.

My heart yearned for those old peaceful sunny days out under the open sky where I could lay my ear close to nature and list to her symphonies. After four years of municipal life I forsook the city and went back to the country, and you will find me today on my five-acre ranch near Palo Alto, reveling in the choice products of my land and enjoying the really good things of life.

I have learned that most men who live in the city dream of the time when they can have a country home all their own. Most men tolerate the city because they think they can make more money there and thus be able to sooner own that sunny country home. Most men who have their business in the city, and can afford it, have country homes. We only rush to the city to make money faster so we may the sooner realize our dream of a country home. Instead of going through all this agony and travail of earning money with which to buy a country home, why in the world don't someone teach us how to earn and make this dream home of ours right in the country and thus begin to live in the fullest sense right from the start?

I have tried both lives, and I believe I have chosen the true. I have been practicing this art of living on a little land here in California for fifteen years, and today I am so enthusiastic over the possibilities from a little land that I am only too glad to run and tell the story.

There should be a way whereby those with little means can secure a home in the country without waiting until the best part of life is spent trying to pile up money enough to purchase it. If a country home is good for the rich, it should be a blessing to the poor. I believe that some scheme can be worked out where those with a little money can make a beginning in the country and evolve this country home and thus secure all its blessings at once.

There is an art of living well on a little land, and I know, for I am doing it every day, and my life work is to do it so well that he who runs may read.

I not only want to do it well for my family's sake, but I want to do it so well that I may be able to help those who wish to learn this sanest of all arts.

I sometimes dream of a colony of little country homes where even those with small means can vie with the rich in their country homes in all the luxuries and opulence of choice products produced on a little land. Where this art of living is taught as carefully and thoroughly as all the other arts, and where we can have poetry every day instead of all prose.

That's my dream! A colony of little, neat, country homes filled with sincere, earnest, sober people, all formed into one school—the school of life, where you don't prepare to live, but live while you are preparing; where all instruction is not theory, but practice; and where the necessaries of life can be produced without long, weary hours, thus leaving enough time for music, and poetry, and social ties, and all that we call culture.

That's my dream! A colony where the art of growing vegetables is made so clear that all good things from the soil await the good housewife in the kitchen, where the art of producing berries and fruits is
taught so exactly that on each colonist's table will be a compote of choice fruits and in the pantry jams and jellies; where the art of producing poultry and eggs, pigeons, geese, turkeys, ducks, pheasants, and rabbits is so apparent that Christmas and Thanksgiving dinners will be very commonplace; where all can gather in a common club-house for social diversion and their own entertainments in music and song and readings and plays, thus living directly and actively instead of passively and indirectly.

Each colonist will produce almost all the necessities of the table, but besides each colonist must have a specialty and produce some one thing perfectly and in quantities for market so that an income may be secured to defray taxes, clothing, payments, etc. On our little ranch we produce all the fresh vegetables for the table, berries and fruit, butter, poultry and eggs, also pork. Our specialty for an income is poultry and eggs. This we believe to be one of the best specialties for the small rancher. Poultry raising admits of many variations and many breeds. I have no doubt that squabs, pheasants, rabbits, ducks, geese, or bees, when done well, will yield an income also.
CHAPTER XVII.

THE PRODUCER THE HERO AND SAVIOR OF THE WAR-MAD WORLD

NEVER before in the history of the world was there such a dire need of soldiers. In this critical time that tries men’s souls we need a huge multitude of soldiers, strong, sturdy and staunch, scientifically trained. A hungry, starving world is crying out for soldiers. Our schools have not produced enough of them. We have neglected to provide soldiers to look after the bread baskets and larders of the world. Hungry mothers and babies are crying for bread all over the land, while broad, fertile acres lie barren and unconquered. We need soldiers of the soil that will conquer the barren wastes and wring from the earth food for the widows and orphans who have been stricken in this horrible tragedy. In this terrible hour when the business of the world is war we need big, broad-minded soldiers, soldiers to make war on famine and who can realize that their first and highest sense of duty is to feed the women and babies dependent upon them. It takes courage of the highest type to stand by the plow and the reaper in these war-mad times. A courage that foresees the greatest needs of a hungry world and dares to do in spite of the whirlwind of patriotism. Our public schools should teach our boys and girls that the noblest calling their country has for them is to till the soil and be a producer. Health and strength and peace of mind and plenty would then be the common possession of every individual. Our schools should teach our boys and girls to be producers, not parasites. Busy, healthy, contented people would never fight over boundary lines. It is only when they are pinched and ground down and discontented with their daily lot that they can be led into war. There is enough fertile land in the world to place every family in a cottage out under the blue sky, surrounded by flowers and vegetables and domestic animals and choice fruits and berries. We need more universities that can teach humanity to produce the luxuries of a good generous living from the soil. This is the natural life for man that brings him close to nature and instills the noblest qualities in peace of mind and love for the beautiful.

Famine, gaunt, hungry, desperate, follows in the wake of war. While the best brawn and muscle of the nations of the world are drilling, drilling, drilling, or living in trenches like moles and rats, or lie rotting upon torn battlefields, while the choicest manhood of the nations are bent upon destruction, who is there to join the army of producers and wage war upon the high cost of living and feed the hungry world?

When humanity has to spend long, weary hours in gaining the bare necessities of life, there is little joy in living and no hope of economical independence, then comes despair, and discontent, and revolutions, and the grossest tragedy, war. The safest education that the schools of the nation can bestow upon its boys and girls is that education that teaches them to produce their own food with their own hands from the mother earth. It is the natural instinct of every child to want to grow things in the soil. Every child should be brought up in a garden.
Paradise is only a dream of a land of gardens. What a heritage to the sons of men to know and have the ability to create a paradise upon a small plot of soil! It should be the natural heritage of every child to have the knowledge of gardening, and this knowledge should come early in life while the child is hungry for this natural existence.

Wouldn't you rather see your child out in a garden in the early sunlight among crisp growing vegetables and beautiful flowers than confined to a crowded, dusty schoolroom poring over dead languages? If every child was brought up in a garden and given the training that would enable him to know how to produce the choicest vegetables and berries and fruits and flowers, the joy of this natural, healthful existence would be so instilled that few would ever leave this abundant existence for the hard pavements and bare walls of cities. It matters not what vocations are chosen in after life, the boy that has the heritage of knowledge of how to grow his own living from the soil will never know famine in the hardest times. He will be fortified against any calamity. He will have an alternative in any walk of life. Strikes, or high cost of living, or old age, will have no terrors to the man who can go back to first principles and create a living from a small plot of land.

And to think that there is enough good rich land in the world so that every son and daughter can have this little self-created paradise is a thought that is full of hope and has in it the healing of the torn and wounded nations. The boy that grows up in a garden, with the fragrance of flowers and the song of birds, has no understanding of grim, ghastly war. He cannot understand why nations should fight over boundary lines to the destruction of the individual.

"Westward the course of empire takes her way." Ancient Babylon arose a mighty nation, reached her zenith and fell. She rose to her mighty strength from her agriculture and well-tilled fields. Her gardens were irrigated in that early date. Today, her fallen gardens lie buried in ruins. Athens takes her place on the stage of time, plays her part before the world with its sculpture and architecture and philosophy, and the curtain is lowered and posterity retains only fragments of the beauty that was then created. While the philosophers of Athens were still pacing the corridors of her Capitol expounding truths, there appeared on the western horizon a new city that was destined to rule the world. Rome rose to a world power, then forgot her productive fields and squandered her strength on soldiers and high living and fell. Then the stream of humanity grew into a mighty river that flowed over into France and Germany and England, and all the European nations grew and waxed strong. Ever and anon there was "war and rumors of war" as these growing nations began to covet more power. England terms herself mistress of the seas, and Germany goes to seed on militarism. It is the old story as old as history, the Rise and Fall of Nations. Today, dynasties are crumbling and democracy may have its birth in this fiery ordeal. The river of humanity of all nations has continued to flow toward the west until the two Americas are filled with people. Only yesterday our forefathers landed upon Plymouth Rock, then our grandfathers headed their teams toward the Middle West, traveling in covered wagons, and our fathers can remember when Indiana was a frontier forest. On and on across the Mississippi and up the slope of the Rockies moved this human stream, and
we ourselves remember the days when it poured over the tops of the Sierras down into the gold fields of the Sacramento Valley.

The current of this stream grows swifter and mightier each year, westward, ever westward, until the mountains and dells and larger valleys of the whole Pacific Coast are filled with people, and still they come. We are in grave danger of being buried alive in this human river, for the stream must stop with the mighty Pacific, for there is no more West. The Pacific Coast is destined to become the most densely populated area in the world. It is high time that we were learning how to produce the largest crops from the smallest area. Intensified farming is one of the most important economical questions of the day.
CHAPTER XVIII.

THE PLEASURES OF EGG FARMING

Much has been written on the profits of the poultry business from a financial standpoint, and little of the pleasures, health and happiness derived from keeping fowls. Blessed is the man whose choicest pleasure is his work. And how much more satisfactory is that work when we realize that it gives all that this world has to give, health of body and peace of mind and room to exercise all our faculties. Someone has said: "Get your pleasure out of your work or you will never know what real pleasure is." To the man who loves animal and plant life, who revels in the sunshine out under the open sky, who is intoxicated with the fresh air and the vigor of an outdoor life, to this man the poultry business is an ideal business. To the man who loves close rooms and musty volumes there is little for him in the poultry business. But if you love freedom, love independence, and like to be your own master, then go out on a little poultry ranch and live the natural life. The man who gets out of bed in the morning with a dread in his heart of the day's work before him has sadly missed his calling. Life is short, and the first thing we know we are shuffled off without ever tasting of the natural joys of living. Your work should be so wholesome, so interesting, that you would spring from the restful night's slumber to meet it. If you have found your calling, your work will be one long holiday. But work to be a pleasure must be well done and bring results. Those who fail in the poultry business get no pleasure out of it from the simple fact that their work is not well done. Order, system and a fine adjustment bring satisfaction in the poultry work as in other work. There is no work which responds as quickly to thoroughness and order as the work on an egg farm. Hens are such sensitive creatures, they respond so quickly to good attention, that the pleasure of seeing results is unlimited.

"Better than grandeur, better than gold,
Better than wealth a hundred fold,
Are a healthful body, a mind at ease,
And simple pleasures that always please."

The man is to be pitied who never sees the sun rise, who does not know what it is to arise early in the morning and walk out among the growing vegetables and grasp a hoe with a strong pair of arms and feel life pulsating in every part of his body.

The artificial pleasures of the cities cannot be compared to the natural pleasures where the red-combed hens are singing and cackling.

The question is, are you satisfied with your present vocation, or are you forever dreaming of an afterlife when you will be doing what your heart so much desires? Are you tired of office work, of stupid inside grinding, of being an automaton? Let me tell you there is room for a good living, and all that this old mother earth ever gives to any man right on one acre of California soil. The only question is, can you so manipulate this one acre that your table will be spread with the choicest products of the soil and the purest food from cow and
hen? There is a way to do it, and why not learn this fine art of living the simple life, when it brings all that is worth while. Of course it takes time and study to systematize one acre into a profitable business the same as any other business. Too many attempt it without any preparation at all.

Many start out with an end in view and get mixed up with the details and lose sight of the end. When I first started out in the poultry business fifteen years ago, I thought I must work sixteen hours per day in order to make it go. No doubt this helped, and by sheer force my business was established. Today I can turn off more work in eight hours than I could ten years ago in sixteen. System and order and machinery gets results with more satisfaction and less wear. Too tired to enjoy, we often hear the rancher say. Let us stop, get a good perspective of our ranch, and sit down and think out the daily details and cut out the things then and there that are lost motion. Move directly, efficiently, and thoroughly.

It does not pay to wear yourself out physically so that you drive yourself and are too tired to think. Each poultryman needs to set apart two hours at least each day for study and thinking upon the problems of his ranch. By concentration, two hours each day upon the business of the ranch, things will assume order and steps be saved. When you are tired, rest; then work twice as fast and with more pleasure. By moving fast and with decision, one will assume the routine work of the ranch with much more ease and will accomplish in one hour what it takes undirected two hours to accomplish. Go at your task fresh and rested and make a record for speed and skill and the task will be amusing and entertaining, instead of wearing. It is a fine art to learn how to work hard and effectively and rest well. Keep up your physical buoyancy if you would have the keenest joy on a poultry ranch. Physical buoyancy is killed by dragging, plugging, grinding all day when the same work could be done in half the time with alertness and decision. If a man on a poultry ranch would try to move just twice as fast as he usually does and take the half of the time thus saved for studying and planning how to cut short the details, he will catch up with himself and also catch up with his work. The work on a poultry ranch is so varied that it need not pall. Each day and each season brings its new tasks that add change to the daily routine. To go from one piece of work to another with the least lost motion and to keep several pieces of work going in their due season requires thought and precision and affords mental drill as well as healthy exercise.

Can you imagine a line of work more interesting than to take a line of birds and breed them year after year for vigor and egg production?

These two things you must have—vigor and egg production—if you get satisfaction and pleasure from keeping hens. You cannot have egg production without vigor, but you may have vigor without egg production, and the problem is to keep both vigor and egg production.

The inventor has been pictured as the happiest of mortals because almost oblivious of self. The poultry man has many problems that can engross a lifetime in experimenting, making poultry raising one of the most scientific as well as absorbing occupations that can be found.

One of our keenest pleasures is to select a pen of egg type hens and record them. We look forward to some wonderful things in egg pro-
duction in the course of time. The general average of a flock can be increased year by year by selection. Is there any limit? In time will we have the 300-egg hen?

Work on a poultry ranch is healthy, problems absorbing, profits sufficient and pleasures equal to the best.

**BARNYARD MEDITATION**

"I think I could turn and live with animals, they are so placid and
self-contained,
I stand and look at them long and long.
They do not sweat and whine about their condition,
They do not lie awake in the dark and weep for their sins,
They do not make me sick discussing their duty to God,
Not one is dissatisfied, not one is demented with the mania of owning
things,
Not one kneels to another, nor to his kin that lived a thousand years
ago,
Not one is respectable or unhappy over the whole earth."

—Walt Whitman.

Our cow has a new-born calf. What a thrill of pleasure to go out to
the barnyard early some morning and find the long-expected already
arrived. There is a keen sense of joy in the first discovery of the young
of all farm animals. There lies the tiny little thing by the side of its
contented mother, and as you approach she looks up at you with a
solicitude and look of confidence that makes you sympathize and love
them.

What a satisfaction it is to sit on the milk stool at break of day and
draw the rich, warm milk from the full udder, while the cow stands
contentedly chewing her cud. What a seat for meditation! Her large,
round, liquid eyes follow the gambols of the calf in its morning frolic,
and as you note her motherly oversight you cannot help but wonder
how man could be so cruel as to deny the mother cow the pleasure of
her own young. She is so contented and happy. All the world is new
to the little calf and it is amusing to see how it gets acquainted with
the inhabitants of the barnyard.

The calf being a male, you cannot help feeling sorry for it, for you
know the male calves are not long for this world, they must die so very
young. How terrible it is to bring a thing of life into the world and
right in the midst of such ecstacy of living to have its young life cut
short. Its sisters usually fare better and are not sent to be slaughtered.

As you sit there squeezing the sweet streams of liquid into the
foaming pail, many thoughts come to you and you have a feeling of
security and stability as you look around you and enjoy nature so
fresh in the morning. The old sow comes strolling out of the shed with
her little chubby pigs, and as the warm rays of the morning sun strike
them they too seem to revel in mere existence and are so happy.

Sausage and ham and eggs and roast pork never throw a single
cloud over the joys of their present fullness of life.

The old black mare munches hay at the rack, and so fat that she
is full of dimples. She enjoys her freedom in the barnyard after hauling
green feed to the hens and plowing the garden. She, too, is a picture
of contentment. Even the pussy cat comes from under the barn with the kittens trailing after her, and she purrs and rubs up against the legs of the cow trying to demonstrate her affection and work on your sympathies until you are tempted to treat her with a cup of milk. Up above you in the walnut tree the birds are singing, and in your own happy heart there is a song also. You feel sort of a fatherly pride as you look upon your happy family, and as you leave the barnyard with a bucket of rich milk for the strawberries, and peaches, and blackberries, and honey, you have also a feeling of gratitude for such providence. You have also carried away with you from that contented barnyard scene a lesson in serenity that will give you poise and equanimity for the arduous duties of the day.
CHAPTER XIX.

MARKETING PROBLEMS OF POULTRYMEN

The highest efficiency comes through co-operation. The big work of the world is done by co-operation. Tunneling the mountains, digging canals, building cities, can never be done by the individual. The individual is only a cog in the economic machinery of the world. Alone, the individual has little force, but united with a definite purpose, order and system spring from chaos. It is only by joining our energies with our fellow men that big movements are possible. It is absolutely impossible to attain the highest independence alone. We need our neighbors; we need our social life; we need the economic division of labor; and above all, we need the strong co-operation of our fellow poultrymen who are all producing the same thing. We must realize here and now that the poultry producers will never reach the highest market efficiency except through co-operation. Every line of production in the United States is more or less organized, and the more thorough the organization the less economic waste. Without co-operation, the citrus growers would have been out of business long ago. The raisin growers are putting a standard product on the market in an efficient way that makes prosperity.

The manufacturer of any article names the selling price of that article, and it must sell for more than cost of production or the maker goes out of business. Henry Ford does not turn his machines over to a merchants' exchange for them to gamble with and fix the prices.

The commercial world is coming to a one-priced system and it will not be long till the price of eggs will not be a gamble, running up and down a sliding scale at the whims of a few men. Only a few years ago and there was no fixed price for any article on the market.

The dealer paid as little as possible and sold for as much as the buyer could be coaxed into paying. I can even remember when we used to come home from the store and talk over the bargains that we had made on goods that were marked so much and we jeweled him down to what we were pleased to call the right price. That day is almost over. We buy today and pay the price asked without questioning the honesty of the seller. There is a certain sense of business honor that belongs to the highest type of business man.

What a jumble of things if all the produce were sold through a merchants' exchange! The man that produces the goods should be able to dictate the price, and so he does, in most productions. What an absurd thing it is that the men who produce the eggs have not the least power to fix the selling price of these eggs. Is it not the height of folly for eggs to soar to 60 or 75 cents at a certain season of the year, thus being unjust to the consumer, and then have them drop below cost of production at the season of the year when the producer might make some profit, thus being unjust to the producer? Under the existing system there is an injustice to both consumer and producer.

We are producers of eggs. We know how much it costs to produce them. Do we know that we will be able to sell them at a profit? Is there any way by which we can say what we can afford to take for our
eggs and give them to the consumer accordingly? One of the largest bankers and financiers of San Francisco says that we have absolute control of our own produce if we will only get together.

This is our problem—getting together. We are all so busy producing our eggs that we seem to have little time to put much thought on plans of co-operation. Some of us are afraid that we will not help matters, and might make them worse. Some of us hate to give up that little private trade we have been working years to build up. Why, bless you, don't you realize that even your private trade prices are governed by the daily quotations? What a relief it would be to have this mill-wheel of private customers from your neck! Our great question is, what power will bring all the poultrymen into this Central California Poultry Producers' Association?

Every poultryman realizes that we should get together. He knows this, but the task rather staggers him and he does not have confidence that makes for the strongest co-operation. Now, what one thing would make you, my fellow poultryman, join this association? Here is my own private opinion. If, on a certain day, an auto truck would pull alongside my egg room, load on all my eggs and give me due credit for same, and if I knew that on that same day next week and week after this same truck would call in, and that I would form the habit of looking for the truck with the big letters, "Central California Poultry Producers' Association," do you think that I would trouble myself to try to sell my own eggs? Instead of you and I and all the poultrymen losing time to deliver our eggs, one truck for the purpose would make the rounds. What a saving in time and energy! This comes home to every rancher. If some ranchers lived off the truck route, it would be a small matter for each neighborhood to have a central collecting place.

This would enable all the farmers who raise only a few hens to also co-operate and join in the work of making a fresh standard product. An instructor would go into each neighborhood and give directions for grading and packing the eggs so that they would be absolutely reliable. The system would be so perfect that any unreliable shipper could instantly be located.

When this truck with the big letters, "Poultry Producers of Central California, Inc.," had made its rounds, where would it take its load of eggs and live poultry? It has reached the producers directly, and there is not a producer along the line who will stand back and haul his own eggs to town. The eggs being on our own truck, it behooves us to have a place to drive to in order to begin proper distribution. We must have a central packing house in each district. This branch packing house should be modern and up to date. It should have cold storage room enough to hold at least what cold storage eggs are needed for home consumption. It is absurd to have the cold storage eggs for Santa Cruz come each year from San Francisco. San Jose, Santa Cruz and almost every outside town depends on San Francisco for its cold storage product. What a loss in freight each way, and time, which makes a poorer quality. Why should not San Francisco call upon our branch houses for its supply? Would not this be true economy? We could then get our eggs into cold storage direct from the nest with least possible delay and ensure a better product.
What would it cost to put up a cold storage plant? I have approximate figures from one who installs cold storage plants. He says that a plant will cost in the neighborhood of one dollar per case of eggs stored. For example, a plant for ten thousand cases would cost ten thousand dollars. The larger the plant, the less per case. If this plant could put out a by-product of ice, it might be able to make operating expenses. Otherwise, the operating expenses during the period of storage would not be more than one-fourth cent per dozen. Some say six cents per case.

I have tried to get exact information as to the total cost of storing eggs. Members of the merchants' exchange say that it costs six cents per dozen to store eggs. For example, if they pay 21 cents, they must sell for 27 cents to come out even. At 28 cents they would make 1 cent per dozen. A private commission man says that it costs him four cents per dozen to store eggs, and that buying for 21 cents and selling for 28 cents leaves him a profit of 3 cents per dozen. A cold storage man says that eggs can be stored for 2 cents per dozen, and that this covers operating expenses, interest on total investment, loss in eggs, etc. If this price of 2 cents per dozen is correct, there is a large margin of profit in cold storage eggs.

Suppose that a district would erect a cold storage plant for ten thousand cases. This would accommodate one hundred poultrymen with an output of one hundred cases each during the four months of cold storage period. Suppose this was erected at a cost of $10,000. Suppose that these eggs were stored at 21 cents per dozen. This year cold storage eggs were contracted for 28 cents. If these ten thousand cases were sold for 28 cents per dozen and it cost 2 cents per dozen for storage, this would leave a profit of 5 cents per dozen, or $1.50 per case, or $15,000 for the 10,000 cases. This would give $150 each to 100 poultrymen for the storage period. Fifteen thousand dollars left each year in your home community would be worth while. This would be pretty good for a ten thousand dollar investment.

What would be the advantages of the local cold storage plant? First, it would save freight rates both ways to the city on all cold storage products for home consumption. Second, it would be cheaper to erect a cold storage plant outside the city where property is less. Third, eggs would reach storage fresher and be better quality. Fourth, and not the least, it would leave your money right at home where it is earned and belongs.

It would also be possible and feasible to have a grain warehouse in conjunction with this packing plant, where feeds could be delivered direct to the poultrymen at bare cost of handling.

This scheme brings the problem home to each rancher, and it is perhaps the only way to get down to possibilities. When the locals are so organized, it will be a simple matter for all the locals to get together and arrange the central clearing house in San Francisco and Oakland, which would receive all the overflow from each district.

How shall we finance this enterprise? It would be a simple matter after the equipment is installed, for the banks will loan as high as 80 per cent on cold storage eggs, and this would carry us over the spring months. How shall we raise the money to build our plant? There are two ways. First way would be to approximate how many eggs each individual would place in storage for the year—this being
done from the number of hens—and have him advance one dollar for each case stored. After canvassing the district and approximating how many cases would go into cold storage for the season and collecting a dollar advance on each case, this would be the necessary capital to erect the plant.

If this could not be done, several poultrymen whose means justified it could go to the bank and get a loan to erect the plant, going security. This, perhaps, would be the most difficult.

I believe each local district will have its own home problem to solve, and the sooner this is done the better. All surplus could then be sent on to our representative in the city.

We have 1230 members already signed up. The property ownings of these 1230 members runs from $2000 to $50,000 each. Perhaps, $5000 would be a fair average. This means, then, that there is already $6,050,000 worth of property behind the members of this organization. Is it not strange that we should be wondering how we shall finance our undertaking? We are trying a big thing, to be sure. Did Phil Armour realize when he was working by day work in the stockyards in Chicago that some day he would have a packing house in nearly every large city in the United States? Did Heinz realize when he was canning pickles in that old shack that some day he would have canneries in every state in the Union, and that his 57 varieties would find the way to the dining tables of the world? Fellow poultrymen, we must get together and standardize our product and sell it ourselves, eliminating as much lost motion as possible between producer and consumer. Co-operation will eliminate lost motion, take up the “economic slack,” and put egg-farming on a stable basis.

REASONS WHY EVERY POULTRYMAN IN THE STATE SHOULD STAND BY THE POULTRY PRODUCERS’ ASSOCIATION AND MARKET THEIR OWN PRODUCTS

Poultrymen are manufacturers of a finished product. It is theirs by right of having produced it. They have produced this product specifically for the consumer. To get this finished product to the consumer with the least loss of motion as quickly and cheaply as possible is the purpose of the Central California Poultry Producers’ Association. The Association must protect the consumer as well as safeguard the interests of the producer. In caring for the producer the Association helps the consumer, for by eliminating the speculative feature, the consumer is bound to get better quality and at just prices. It is decidedly to the consumer’s interest to help the Producers’ Association in every way possible. By buying directly from the producers the consumer will receive a fresher product and will pay only the intrinsic value and not a speculative value. There is no other way to get justice for both producer and consumer except by co-operative selling of the produce by the producers themselves. Every producer knows and admits that co-operation in handling their produce is the only way possible to get the full value of the product. Then why should a producer hold back from co-operating with all the producers? There is only one reason, and that is the prospect of getting a few cents
more on the outside. This is a little, selfish, pin-head, two-by-four reason, and the caliber of a producer that stands out for this reason is not very large. As long as the price for our product is fixed by the middle-men, it cannot always be just. At certain seasons of the year it is much too low for the producer, especially at the season when eggs go into cold storage. At the time when these cold storage eggs are put on the market the price for fresh eggs runs so high that it is unjust to the consumer. It is also a great injustice to the consumer to have eggs held on a rising market, thus forcing the consumer to accept stale eggs. In marketing their own product the producers will be able to eliminate the speculative aspect and the consumer will get better quality. This fact alone should induce every consumer to buy directly from the producer. Why buy produce that has been juggled again and again until it is old and stale? The consumer has long been waiting for an opportunity to buy directly from the producer, and this opportunity will be keenly appreciated.

In the ten months in which the Association has been in business the Poultry Producers have accomplished a very remarkable feat in growing from an unorganized body without capital or credit to a well-organized body with capital and substantial credit. The plan has been successful in the initiative. In no other way could we have established capital, credit and experience. Thanks to Col. Harris Weinstock and the loyal poultrymen who met with him from week to week organizing the plan, we have capital, credit and a measure of experience, and this has been done with only about thirty per cent of the eggs. It has been a difficult task with two-thirds of the eggs on the outside, and could never have been accomplished except for the very loyal few. We need the other two-thirds and can never accomplish a fair measure of justice to both producer and consumer until we get them into the Association. If the outsider could only realize what the Association means to him and the poultry industry as a whole, he would come in quickly.

What does the Association mean to the producer? It means that just as soon as the Association is strong enough to market its own products, it will eliminate the speculative feature and establish more regular prices. There is no reason why the price on eggs could not be set for a week or ten days at a time. The prices of poultry are announced for the week by some of the buyers, and eggs could be announced in the same way and the price would depend upon supply and demand. It means that the producer would receive all that his product is worth and not an inflated price or a depressed price. The Bears and Bulls would have no voice.

It means that the overhead cost of handling the produce would be less through one well-adjusted organization, and that the consumer could even pay less and still leave a living profit to the producer. A large volume of business can be handled on less margin than a small volume. It eliminates the danger of the producer losing on bad accounts, and guarantees regular pay days.

It will get the producer better prices in the spring when prices are depressed for cold storage purposes. It will get the producer a price based on the best grade of eggs instead of the poorest.
In time, when the Association will have grown in capital and experience, it will handle poultry feeds and eliminate speculation on this end of the business as well.

What benefits will the consumer receive from the Association selling their own eggs? The consumer will receive a fresher product direct from the producer. By reason of the Association being able to do a large amount of business at less expense, the consumer should get produce at even less price. The consumer will pay more uniform prices for eggs and not be at the mercy of the speculative element. That is, the price will not be prohibitive a part of the year and too low at other times. This wide difference in price is the result of the speculative forces. There will be an increased consumption of eggs when the consumer can be assured that he is getting a fresh product. Many families forego eggs because at certain seasons it is almost impossible to get fresh goods on account of eggs being held on a rising market.

Poultrymen are learning how to produce more and more fall and winter eggs in this climate, and this factor alone will tend to equalize prices.

The commission men have decided that since the speculative element has been taken from them they will be obliged to charge 8 per cent for doing business. The Poultry Producers’ Association has already proven that it can handle the product for about half that amount. Now is the time for every poultryman to sign up with the Association. Never before in the history of egg production was there a more opportune time for the producer to standardize his business. There is no other way possible except by co-operative selling, and with the start we have every poultryman should have entire confidence in the Association. We must not fail; we cannot fail; we have nothing to lose, for we can get all our eggs are worth by selling them ourselves. We need the support of every poultryman at this particular crisis, and we are absolutely certain that if we can only get together we will succeed not only for ourselves but for the consumer as well.

In some not very far distant day all the producers of all lines will co-operate, and it will then be possible for poultry products and dairy products to be handled under the same roof co-operatively and by the producers themselves. The opportunities along this line are unlimited for both producer and consumer.

PLAN SUBMITTED FOR MARKETING THE EGGS OF THE CALIFORNIA POULTRY PRODUCERS’ ASSOCIATION

The one big problem before the Board of Directors of the Central California Poultry Producers’ Association is the problem of so marketing the eggs of the Association that the producer in the Association will receive as much for his eggs as the producer out of the Association. Just as soon as the Association has the marketing ability to realize for its members current quotations, just that soon will the membership of the Association include every poultryman within reach of the Association. Every poultryman realizes the importance of co-operation, but it is against human nature for any member, however loyal, to see his next-door neighbor receive more for his eggs and still be able to boost
for the Association. To make the Association the success it can be and will be, we must be able to show the producer an advantage in belonging to the Association. As soon as this can be done every poultryman will be a booster.

Today, the Association has the power of showing directly to each member a big advantage in belonging to the Association if this power is duly exercised. Give any one man on the merchants’ exchange all the eggs of the Association and he will make a good profit on them. Every man handling eggs in San Francisco today would jump at the chance of handling the Association eggs. Why? Because with such a block of eggs fresh from the ranches he could fill the orders, and having this definite quantity to depend upon he could organize an advertising campaign that would move the goods. If any individual can take the eggs of the Association and realize upon them, so can the Association.

The Association has the freshest eggs on the San Francisco market, and there is no reason why they should not be the best graded. Having both the quality and the quantity, there is no reason in the world why an advertising campaign could not be launched that would sell our goods to the best advantage. The buying public are only waiting for an opportunity to get eggs direct from the ranch, and when they can be allowed to go direct to our Association and get eggs gathered twice per week from the producer they will do so and will need no urging. Let the other fellow handle the little dribs of eggs gathered up and held by the country grocery stores, but let us give the buying public a chance to get our reliable eggs direct from the ranch and we will then be serving the public through both the producer and consumer. The purpose of this Association is to bring the producer in closer touch with the consumer, and the more directly we can deal with the consumer the better for both. The Association wants to get better goods to the consumer at the least cost possible, and at the same time wants to protect the producer from having his produce gambled with through too many hands before it gets to the consumer. The quicker the produce reaches the consumer, the better quality and the cheaper. Our sales system must find the very shortest road to the consumer before it will have maximum results. If we put on an advertising campaign educating the public as to our reason for existing, we will have the full co-operation from the very first. With the block of eggs already in our control we will be justified in such an advertising campaign which will sell all our eggs and at the same time cause more to be used.

If the consumer felt sure that out of every twelve eggs ordered he would get twelve good fresh eggs, he would call for eggs oftener. Many families forego eggs for the simple reason that the eggs have passed through so many hands that they are stale. With our eggs gathered in from the ranches twice per week, we have the finest opportunity in the world to serve the public.

Here are some self-evident facts. We know that we must meet our competitors in the buying field, in order to satisfy our members and gain strength in new members. We know that we cannot do so under our present sales agreement to the Merchants’ Exchange. We know that we will never be able to do so as long as we allow an individual or a group of individuals to sell our eggs for us. We were organized for the
specific purpose of selling our own eggs, and why should we, at this time, cast about trying to throw the responsibility of getting rid of the eggs on one or more parties? We know full well that we must get as much for our eggs as any of our competitive buyers before we can pay his price to the producer. We know full well that before we can do this we must sell direct to the same distributors as he does. We know full well that there is no other course for us than to organize our own selling force just the same as any other merchant on the exchange. If we keep our seat on the exchange we will be obliged to sell to the legitimate jobbers only.

It may be a question as to whether we want to tie ourselves down to the jobbers only. By selling to the whole world we might even realize more for our producers than our competitors could do. It would also give the buying public a chance to get closer to the producer. This is the fundamental purpose of our organization. We would be blazing new lines in the history of distribution in San Francisco.

We have these two ways open to us for selling the Association eggs: selling to jobbers just the same as any merchant on exchange, or selling to the whole world of buyers, whether retailers, jobbers or wholesalers. Whichever way we sell we do not want to lose the prestige of being able to sell in carloads to the jobbing trade in any part of the world. If our selling to retailers would hurt our standing with the jobbing trade throughout the country, then we could not afford to do it. If the jobbers in all cities are so strongly organized that we would be boycotted by selling to retailers, then there might be some danger in considering this avenue. If, on the other hand, we could get the trade of all the retail grocers for our produce, we would eliminate at one stroke the temptation of our producers to sell to the grocers. This would be a short cut that would remove this very important factor in securing new members. The grocer is the only one able to pay the producer a premium for his eggs. If the retailer could get guaranteed eggs from us direct from the producer he would be glad to do so. Producers are irregular with their shipments and with the supply, and I believe the grocer could be educated to depend upon us for a steady supply of guaranteed eggs.

If we sell to the retailer we cannot hope to sell to private trade such as restaurants and hotels, unless we could be fortunate enough to control enough eggs to force them to buy from us.

I beg to submit this plan for consideration. Secure a convenient warehouse for receiving the eggs both in San Francisco and Oakland. Let this be the center for candling what eggs necessary and recasing eggs in cartons for special fancy trade. Have a conspicuous and interesting brand on the end of each case that goes out. Also open an egg-selling room on the main street of both Oakland and San Francisco and make an interesting and attractive display and sell to all comers for cash.

In this way we would give the public a chance to get our eggs direct and fresh from the ranch. Many wealthy families would buy in half case and case lots. All our cartons would be sealed and guaranteed if seal was unbroken. I have tried this scheme in a small way and found that there was no limit to the eggs that could be placed in retail places all cartoned and sealed with an "ad" ready for the customer. It might
take a little persistence to get the brand on the market, but if we had
our store on a busy street and requested the people through the right
kind of advertisement to ask their grocer for our brand of eggs, we
could then hope to interest the grocer in our brand. We must educate
the people and they will in turn call upon their grocer, who must re-

dpond to the wants of his customers.

It would take time to work up a trade of this kind. It could not be
done quickly. No big business is built up in a minute. But we would
slowly grow in favor and prestige with continual suggestion until we
would have a market that would pay a premium. Educate the people
to know well our brand, and when they call for eggs they will think of
our brand. In each carton of eggs could be some printed matter telling
just how the hens are fed that lay these eggs, and how often they are
gathered in to the markets and just how quickly we get them to the
customer from the nest, etc.

We would need some Ford trucks, two tons each, at each ware-
house. Also some lighter cars for quick delivery. These would have
their routes worked out and would call upon every grocery store,
restaurant and hotel in both cities. With persistence, we would con-
tinue these calls on regular days until one by one we could win their
trade. With an "ad" in the papers occasionally, keeping the fact
before the minds of the people, that they could obtain our brand of eggs
from their own corner grocery by simply requesting that our brand be
handled, and letting them know that if their own grocer did not
proceed to carry our brand that they could get these perfectly fresh
eggs at our own store on Market street, this would get results.

We would want to do a cash business right from the start and have
our delivery men bring in the cash for the eggs. Get them into the
habit of paying cash from the very start. It is human nature to put off
paying the bills of the fellow that is not insistent. Let them know that
we must have cash and they will nine times out of ten admire our
pluck. If our delivery man cannot collect for some reason, let us have
a collector ready with a swift motor to follow up each week all such
accounts. Go after the money from the very start.

I realize that this would necessitate much detail and bookkeeping,
but I can see no other way possible for us to get the prices that will
enable us to compete with other buyers. There is not a bit of doubt
but what we could dispose of our produce in this way so far as these
two cities could use it. Surplus could be sold in carloads as from any
other firm. We could have an advertising campaign that would put us
in touch with buyers all over the country, and the simple fact that we
had the goods would move them.

The strongest feature in handling our own produce would be that
we would get all the profit on storage eggs and here is where we could
show a profit to our members over the non-members. I believe this is
the only chance we have of showing a very great advantage in belong-
ing to the Association. In storing our own eggs we would have to have
a man out all over the country contracting them as fast as we put them
in cold storage at a reasonable profit, thus eliminating the possibility
of being stuck at the end of the season.
Let the people know that we are on the map and out for business and keep right after them till we get it. We have everything our own way if we will just simply do as any other wide-awake man would do who had such a fine block of eggs to work on as we have.

Irrigating on Runnymede intensive farms

The cows help in a good living
RUNNYMEDE, THE CHARLES WEEKS POULTRY COLONY,
is a realization, a material manifestation of practical idealism,
made up of

  *Intellectual People*

who are living close to nature, securing the joys and ecstacies of an existence out under the open sky. Each man a creator of his own poetical paradise, a king over his own little kingdom, his family a royal family surrounded by opulence and luxuries grown from the rich, well-watered soil.

*Cultured People*

who revel in beautiful flowers for the eye, delicious fruits and berries for the palate, sweet song of birds for the ear, and creative, interesting, healthful work for the hand.

*Contented People*

who realize that all that is worth while in life can be secured right in the home garden among growing vegetables, berries, fruits and flowers, out in the fresh air and sunshine.

*Happy People*

who get joy in the freedom out in the fresh air with the blue sky overhead and a “little bit of heaven” around their feet.
Healthy People

who appreciate the buoyancy and exuberance that comes from pure
blood and strong muscles and who find it worth while to obey natural
laws of the physical body, and who have time and the will power to
bathe not only in water, but also in the life-giving sunshine.

Industrious People

who are absorbed in their work because it is the most natural work for
man, and who realize that the work of producing is the highest and
most noble work given to the hands of man to perform, and who
understand that "Man should earn his bread by the sweat of his
brow," before he can truly enjoy it, and who perceive that "he who
does not get pleasure out of his work does not know what real pleasure
is"; who work not alone for dollars, but for self-perfection, for the joy of
activity, and for the beauty and wealth created.

Social People

who love to mingle with their neighbors in the community Club House
and exchange ideas on the best ways of conducting life in order to
obtain the greatest happiness; who love to listen to good music and
readings from the best literature.

Moral People

who are not afraid to worship the good, the true, and the beautiful,
wherever found.

These are some of the virtues of the people that have made Runny-
mede a desirable place in which to dwell, a land that "flows with milk
and honey," a land of peace and prosperity, health and happiness.

We want only the highest type of men and women for Runnymede,
and if you, dear reader, are searching for that promised land, where
peace and plenty, good will, intellectual and social life abound, we
invite you to investigate Runnymede, a place of garden homes with
poultry and rabbits and bees and goats and cows and hogs and all
that pertains to the comfort of man.

"Where There Is No Vision the Nations Perish"

RUNNYMEDE is the realization of a vision that was dreamed by
Charles Weeks more than fifteen years ago. For fifteen years he has
been proving, step by step, on his own little plot of land, the wonderful
possibilities of a little land and a living. He has evolved a system of
poultry raising that is fool proof and so simple and sure that any
intelligent, industrious person can work it. He did not wish to "hide
his light under a bushel," but wanted to show the whole world the
sanity of this natural, peaceful, healthful way of living on a little land;
and so it came to pass that from out the vision of many years before,
RUNNYMEDE, THE CHARLES WEEKS POULTRY COLONY,
was born. On the rich, level, well-watered, garden loam soil, there
sprang up, as if by magic, pretty garden homes with long rows of
poultry houses filled with profitable laying hens. Soon the first
subdivision of 150 acres was well taken up and a second addition of 135 acres was opened. This second addition was well sold out in eight months and beautiful homes sprang up overlooking the blue waters of the bay.

The community has grown so rapidly that a third subdivision has been added to the colony formerly known as WOODLAND PLACE or Ravenswood. This third addition has many beautiful live oak trees and lies just at the end of the University street car line, which makes it doubly desirable for pretty garden homes within easy reach of Palo Alto and Stanford University. This beautiful tract of 130 acres borders San Francisquito Creek, from which, in ages gone by, it has received its rich, sediment loam soil so useful for gardens.

In California, land must have water for irrigation in order to produce maximum results. Underneath Runnymede, at a depth of between thirty and sixty feet, is a gravel bed filled with water from the mountains, from which a superabundance of good irrigating water is pumped in streams from 250 to 500 gallons per minute. When a ten-inch well is put down sixty feet the water rises to within ten to fifteen feet of the surface and is easily lifted by a centrifugal pump and five horsepower motor. WATER IS KING AT RUNNYMEDE.
RUNNYMEDE—A PLACE OF HIGHER INDEPENDENCE FOR MAN IN HIS OWN GARDEN HOME

Men are slaves to men and to themselves. They live in a beautiful world with every natural advantage for a quiet, clean, healthful, natural life out under the open sky, but instead of making use of this rich heritage they bind themselves to perform the most ridiculous tasks during their sojourn on earth. Instead of going to the very fountain-head and source of peace and plenty from the soil, they set themselves disagreeable tasks whereby they may earn a few paltry dollars with which to buy the bare necessities of life. Thus the habit of chasing the dollar is formed, and this habit becomes a mania until the whole world of men become gamblers trying to get as many dollars out of each other as they possibly can. The human race is playing this dollar game until the whole world has become a place of gamble. The dollar was first instituted as a convenience and not an end, but man has forgotten the true end of life and goes on and on, weary and footsore, doing heart-breaking labors for dollars.

He gets mixed up with the means and loses sight of the true end of life. Few men are satisfied with the task they are performing.

If it was not for the dollar held up as the remuneration for this despised task, they would drop it at once. They are unhappy in their work and apologize for having no "better job." Man says that men have the highest intellect of all the animals, yet with all this boasted intellect men live the most unnatural lives of all the animal kingdom. God never intended that human life should be jammed together in masses in large cities, living in little box stalls piled layer on layer, with little sunlight, bad air, eternal noise, no exercise and no definite purpose but to go out among the sea of people and try and pick up a dollar. The first and highest duty that man owes to himself is that of perfecting and preserving his own bodily health.

The body is the temple, the dwelling place of the higher self, and why should men force their physical bodies to dwell in dark places and to breathe air that will in the end wreck their health, and to subject the nerves to severe strains in order to accumulate dollars? Is it because men have not been shown a better way of living? Is it because they are born into this eternal grind of things and cannot extricate themselves?
Man should be as happy and free as the little bird that sings from the topmost bough. Instead, he is a slave to his own appetite, to his own passions, to the world of custom around him. Isn't it a strange and mysterious arrangement of things that forces a man to spend the greater part of his life walking up and down behind a counter delving out wares to his fellow men, with aching feet on hard floors, with foul, dusty air for the lungs, and not one moment during the long day that he can call his own, tired feet, worn nerves, heartache, headache; each day is finished with a sigh, only to be commenced again by the clock tomorrow with dread, and the only hope that keeps him on the job is the hope of some day realizing that ideal which lies back of this make-believe life. Many a man spends his days at the bench doing work with his physical body in unhealthy places while his mind dwells in that ideal world which he builds for himself with flowers and trees and vines and luscious things to eat and peace of mind and health of body and joys untold.

Illusion upon illusion, we are born in illusion and go on deluding ourselves through life that we are doing the thing that brings us the nearer our hearts' desire. Self perfection is the highest duty of man, and the thing for us to do "all the days of our life under the sun" is that work that will give the highest physical development, the broadest mental outlook, the cleanest moral nature and the largest independence.

Manufactured articles and food products are juggled from man to man all over the world for the purpose of the extra gain between trades.

Railroads rumble through every village with materials for barter, and boats sail to every port with materials to satisfy the desires of men, all for the profit reckoned in dollars. Commerce is one huge Herculean task of trading wares to the people of the world, and so busy do men become with this endless task that they have no time or thought for their own personal care or comfort, and their three score years and ten are run without a chance to taste the real joys of living.

Men are only cogs in the great machine that caters to the wants of the world. Some work in leather goods, others with iron all the days of their life. Some produce fruit of various kinds and pass it on to those who do not. Some raise wheat, some corn, or hogs, or cows, or eggs. Each individual settles down to a groove, whether he likes it or not, for he must eat, and if he does not produce his eats he must gather them in from those that do.

This division of labor makes specialists in the many different industries, which insures higher class articles. The great danger lies in the specialist becoming a slave to his specialty. Each specialist is driven to the limit in his production in order that he may keep up with custom and feed, clothe and house himself. A life of sameness also becomes monotonous and one-sided. To grow prunes all the days of life becomes irksome. To make shoes, or watches, or engines every day for years crushes the individual independence out of man. He is no longer a man, but a piece of machinery.

The man that labors for another for wage is not a free man. He has sold his time. Neither is the man that invests his money in another's time a free man, for he is bound to make a profit on that man's time or
PORTABLE POULTRY HOUSES FOR INTENSIVE LITTLE FARMS

PORTABLE RABBIT HUTCHES AND POULTRY HOUSES ON WEEKS RANCH
he cannot pay wages, and this strain of making a business pay enslaves a man.

The highest independence would be that happy state in which a man would neither hire nor be hired. This happy state can only come about where the environment is made to produce the greatest part of the necessaries of life. The first essential of life in the matter of food can be produced from fertile soil intensively cultivated. Here in this favored State of California it is possible to grow almost the entire living from a very little land. With one acre of good fertile well-watered soil in this sunny State of California, a family can have the best living in the world and better than any wages can ever buy.

Besides an abundance of good things to eat, the family will have independence, which is the highest state for man. Any wage earner can take the same number of hours he devotes to earning his wages and make a better living from one acre, if rightly handled. With vegetables and berries and fruits and flowers, life has a fit setting for the best that is in it. Among the growing, natural, living things is the place for the most abundant life. With poultry and rabbits and pigeons for income for clothes, bees to make honey, a goat or cow for milk, with plenty of good rich cream for strawberries, raspberries, blackberries, currants, gooseberries, and all the delicious fruits, with all these luxuries fresh from the garden, a family is a Royal Family and the man King of his own little kingdom. In such a kingdom, man needs but little money, for he has more than money can buy in peace of mind, health of body and the most delicious nourishing food.

RUNNYMEDE is the name of this practical community of associated little farms. It is a visual manifestation of the dreams of men come true in little garden homes with poultry for income. Runnymede is not a real estate proposition. There are no agents. It is a Co-operative Community formed on practical lines, built up on the richest, best-watered soil in the State, near the best schools and with home market. This prosperous community owns its own warehouse and sells its own produce. To all interested in finding a garden home with poultry, rabbits, pigeons, bees, etc., for income, Runnymede offers the best opportunities in the four essentials of soil, water, climate and market. To those weary of working for wages, Runnymede offers a higher independence.

To specialists, tired of monotony, Runnymede offers a life of more variety. Here teachers, ministers, lawyers, doctors find a larger freedom with peace of mind and health of body. To those who have wealth in money, Runnymede offers a new kind of wealth in quiet nerves, rested mind, good digestion and strong muscles.

This Third Addition to Runnymede is especially adapted to people of means who wish a pretty setting for a garden home with every essential in soil and water so that they may make a paradise all their own. The mind cannot picture the possibilities in beautiful homes on this rich, well-watered soil overlooking the bay and surrounded by mountains. We have here a far better setting than even the far-famed Pasadena for beautiful homes. It only requires the magic touch of landscape gardeners to transform this beautiful tract into fairyland. With Stanford University so near that the chimes are heard, with the finest
live oaks in the State, with San Francisco only thirty miles away, Runnymede has a setting that money cannot buy. It was meant for garden homes of rare beauty. This third addition to Runnymede of Woodland Place or Ravenswood will be the setting of beautiful homes of people who wish to make gardening a hobby or pleasure and who wish to keep poultry, rabbits, pigeons and a cow on the side as an aid to the best living.

RUNNYMEDE CLUB
Social life in a co-operative community makes contented people

Intensive production of grapes
VARIED INDUSTRIES SUITABLE TO RUNNYMEDE

While egg-farming is the chief industry in Runnymede and the one that has made Runnymede famous as a poultry center, there are several other industries that go hand-in-hand with that of poultry raising. Intensive production on small acreage admits of several lines being worked simultaneously. A few hutches of rabbits for family meat, a pen of pigeons for squabs, a goat for milk, a hive of bees for honey, a pig to clean up the waste and convert it into bacon, vegetables from the garden, berries from the vine, fruit from the tree, all have their place in making the most abundant living on a small acreage. Money cannot buy better.

Pigeons

Squab raising is one of the most intensive industries and is well adapted to the little farm, as a large production can be obtained on very small area. It is very interesting and healthful work and after the matings are properly housed and yarded the duties are very simple. Every little farm should have at least a pen for adding to the home table.

Runnymede offers every advantage to those interested in producing squabs. Feed can be purchased wholesale at least cost through the Colony Warehouse. Marketing conditions are equal to the best in the state, because of the wealthy homes located within delivery distance on the Peninsula. To those doing a mail order business in Fancy Pigeons, Runnymede offers the widest advertisement because it is becoming known around the world and because thousands of people visit Runnymede annually. It will pay those looking for a location to
visit Runnymede and learn of its many advantages. A community of pigeon fanciers is the place for a pigeon man.

**The Rabbit Industry**

Up to the present time no one has ever made a fortune on rabbits. The United States has not been ready for intensified production of meats because food products have, in the past, been too cheap and plentiful. If a family wanted rabbit for dinner, some member took a gun and went out hunting. Even yet there are big rabbit drives in certain parts of California that bring in tons of rabbit flesh to the city markets. But these conditions are changing. The cities are becoming overcrowded, and meat production in hogs, cows and sheep is falling off or not keeping pace with increase of population.

For many years the rabbit has been one of the chief sources for meat in the overcrowded European countries, especially among the peasant class. There the rabbit has been bred and developed into a wonderful animal that stands close confinement and grows rapidly into a very choice meat. It has proven one of the best industries along the line of intensified farming, and is especially adapted to small places. In the old country the rabbitry is a part of each little farm.

With the scarcity of food in the new world, the rabbit is finding its place. There have been two premature rabbit booms in the past that fell flat simply because the new world was not yet ready for rabbits. But with the change in conditions and increase of population, the rabbit industry is here to stay. It has its place on every little intensified farm, and fits in well with poultry raising, which is the most intensive
One of the first fur-bearing rabbits introduced to the public. The furs from this variety make beautiful garments for children. The mature skins are strong as buckskin. Mature weight about eight pounds.

industry at present in the world. The breeding of high class rabbits is an interesting game because they respond to selection quickly, and produce so rapidly.

Runnymede has every essential for success in breeding all kinds of rabbits. It has a rich, well watered soil for growing all kinds of green feed, especially alfalfa. It has the finest climate in the world for rabbits as it never gets too hot, on account of the bay breezes, and it is also tempered in winter by the bay and does not get so cold as farther inland. Co-operation in buying feeds and selling the produce gives big advantages. Nearness to San Francisco markets is a big feature.
The fur of this variety closely resembles that of the silver fox and is perhaps the most elegant of all. The fur is a silver gray next the skin, shading into solid black, the whole ticked with silver hairs. These make the finest furs, muffs and garments for ladies. Mature weight about nine pounds.

Fur Bearing Rabbits

The field for Fur Bearing Rabbits seems unlimited. The strange and beautiful creations in furs by proper selection is an absorbing game, and one that will pay well when the industry is more developed. There is only one handicap in breeding rabbits for furs, and that is to get enough of them produced so that a tannery can be established for curing the furs, and a tailor shop for making beautiful garments, muffs, etc. If we could have an assured supply so that this unique industry could be established, it would add another co-operative industry to the community that would give both profit and employment.

The scarcity of fur bearing animals in the world today has stimulated breeders to produce fur bearing animals to take the place of the wild ones. Fur farms have been established for rearing foxes, skunks,
This beautiful variety makes fine fur for children. It resembles the Angora, but has fur instead of wool. Mature weight about eight pounds.

raccoons, muskrats, etc. Patient breeders have gathered together the best examples of fur rabbits from the colder countries and by crossing and re-crossing these have developed breeds that produce wonderful furs and do it more cheaply than any other animal.

There is certainly a big future for these fur bearing rabbits. Their beautiful skins of many varieties and colors make up into the richest garments, coats, cloaks, mufffs, caps, and trimmings.

The Black and White English Fur, the Black Long Fur, called the Kai-Gai, and the Himalaya are, perhaps, the most valuable.
These are the daintiest of all rabbits. Their fur resembles that of the ermine. Mature weight about five and one-half pounds.
Breeding milk goats is a new industry in the United States, and one that is becoming very prominent. With the tremendous production of alfalfa in Runnymede it makes an ideal place for a goat ranch. Runnymede is a community of pure-bred stock breeders. To be located in the colony is a broad advertisement. To be able to meet at the Club House with keen men and discuss breeding problems is a wonderful opportunity. Those desiring a location for breeding should visit Runnymede, where more tons of feed grows to the acre than any other place in the United States.

The Family Milk Goat

Isn't it strange how slowly the people of one part of the world will take up and try out the experiences of a people in another part of the world? Ancient civilizations may have their faulty customs, but they may also have learned many truths in ways of living that newer countries might profit by.

The milk goat has been an aid to the family support in the older countries for generations. It has its place among small land owners where a cow could not be kept. In America we have had so many broad acres, and so much feed, that the heavy consuming cow could easily be kept. But as the larger tracts of land near the large cities become subdivided into smaller and smaller holdings, there is created a place for the economical milk goat just the same as in thick settled districts in the older countries. The milk goat is finding its place on the small farms in America just as in European countries.
Switzerland is perhaps the most famous for its well bred high-producing goats. A Swiss family would hardly think of subsisting without its family goat. If a milk goat is an economical feature in such a scant country, why should it not be a blessing in such a productive country as America; thus enabling more families to obtain a good living from less land.

As has been said before, the goat is not subject to tuberculosis, and its milk is considered more wholesome and healthful than that from cows.

On an acre farm one or two goats could be kept to good advantage, consuming what otherwise would be wasted. There is no food more nourishing or wholesome than milk. It takes the place of meat, and eliminates the cruel feature of slaying animals for their flesh.

There are many breeds of goats that have been developed into high standard production. Perhaps the best known is the Toggenburg goat. It has been developed into a heavy milker, producing as much as four to six quarts per day. It is very easy to milk, as the teats are long and large. They are very domestic, making fine pets for children. Other varieties are the Nubian, Saanen, etc.

**Hogs**

While hog raising requires more land than any of the above mentioned industries and cannot be carried on as intensively, yet with the tremendous tonnage of alfalfa grown in Runnymede a five-acre ranch will produce enough feed for quite a herd. It is said that an acre of alfalfa will grow 20 pigs up to 100 or 150 pounds, when they are ready for grain fattening. Of course, a little rolled barley will make them grow faster.

Each little farm in Runnymede has its brood sow to clean up the waste, and these will be registered. At the Runnymede Annual Fair and Sales Day good prices can be obtained for all the surplus stock in the colony.

There is no better climate in the world for raising hogs than at Runnymede, for it never gets too hot, on account of the bay breeze. Co-operatively the colony can have the best males at the head of the community herd.
Chas. Weeks delivering poultry lecture to a group of people gathered at the annual poultrymen's day on Weeks Farm
I have long dreamed of a practical poultry school where those who desired to learn the poultry business could do so by working with poultry. The poultry business can never be learned from books, neither can any other business. If I could have had the opportunity fifteen years ago of taking a course of poultry work on some paying ranch I could have saved myself many years' time and also several dollars.

I have been repeatedly urged, by parties wishing to become accomplished poultrymen, to start an individual ranch poultry school and give amateurs a chance to get a practical working knowledge of how to make hens lay. I have had constantly at my ranch for the last few years parties helping on the ranch who were intending to go into the poultry business. They have expressed themselves as so well pleased with the practical experience obtained that I have been encouraged to prepare to handle more who wished this experience.

As this is to be a school of practical experience I wish to make it free and each student will pay for his course of instruction by doing a certain amount of poultry work each day.

A regular course of work is laid out, each student doing the actual duties in each department. The course will include INCUBATION, BROODING, FEEDING LAYING HENS, GRINDING AND MIXING OF FEEDS, GROWING ALL KINDS OF GREEN FEED FOR POUlTRY, candling and packing eggs for market, dressing poultry for market, delivering poultry to customers, selecting the heavy layers by type, and in fact every detail will be thoroughly
mastered. There will be a course of evening lectures and a reading room with magazines and literature. Each student will be required to write his experiences in each department and read them to the class. There will also be practice in planting and cultivating the home garden, giving experience in vegetables, fruits and berries. This will furnish a golden opportunity for those contemplating starting on a garden home with poultry for income.

Course in Rabbit Culture

This course will take up the study of Breeding, Feeding and Care of Rabbits, with daily practical experience. Dressing rabbits and tanning the skins is a part of the work.

To take a young man away from work, say at 18 years of age, and keep him from useful labor, in the name of education, for four years, will some day be regarded as a most absurd proposition. It is the most gigantic illusion of the age.

A practical farm school where the eye learns to see, the ear to hear, the palate to enjoy, the hand to do and the heart to feel.

"Wisdom is the distilled essence of intuition, corroborated and proved by experience. And wisdom tells us that life, and life in abundance, lies only in work, love and laughter. And when I use the word work, I mean work with head, heart and hand."

STANFORD UNIVERSITY—It is a wonderful privilege to make a garden home right under the shadow of one of the greatest universities of the world.
SCHOOLS

Seldom is there a rural district so fortunately located for schools as Runnymede. A beautiful new, modern $20,000 grammar school is located on the most picturesque site of the colony. This has four well lighted and ventilated recitation rooms. Also large auditorium, with stage setting and modern moving picture arrangements. It also has a kitchen for teaching domestic art science. This school has its own well and centrifugal pumping plant for water supply.

In conjunction with the school is four acres of land donated to the school by Chas. Weeks for the purpose of School Gardening. The School Garden movement is growing over the world and the Runnymede School Garden is expected to be a model along this industrial science which means so much to humanity. We are beginning to see that the highest work of the teacher is to impart to the child that knowledge which will enable it to live well in the natural way, close to the soil, out in the fresh air and sunshine.

Every child instinctively loves nature and craves the opportunity of reveling in the wisdom of plant and animal creation. Every child should be reared in a garden and become a creator of its own earthly paradise. Every child should have its aesthetic tastes developed in the love of plants, flowers, and domestic animals. Pity the poor little starved souls in tenement houses in large cities, shut out from this natural existence.

A school surrounded by a garden with beautiful flowers, luxuriant vegetables, thriving trees, delicious fruits, gives the child a fit environment which will add to a healthy, useful and unselfish life. With soil and water and climate, the best in the world, what a fairyland is possible for our children.

The Runnymede school will be a garden school where the boys and girls will learn how to produce from the soil with their own hands the very choicest things for the table. They will learn to love all growing plants and animals and will be a part of nature itself and will have a keen appreciation of the essentials of life. This school garden will surround the Runnymede school and will be a visual manifestation of the greatest quantities of luxuries that can be produced on the least space of land. This garden will be a continual incentive for every settler of Runnymede and will help all newcomers to learn the art of producing a good living from a little land.

STANFORD UNIVERSITY

Stanford University, founded by Leland Stanford, is one of the richest universities in the world, having an endowment of thirty million dollars. Space is too limited to give an adequate description of this wonderful institution, lying at the base of the foothills overlooking San Francisco Bay, surrounded by its ten thousand acres of picturesque landscape.

Stanford University is three miles from Runnymede, and is directly connected by the University avenue car line and fine macadam road.

What a wonderful privilege it is to build a garden home right under the shadow of one of the greatest universities in the world. What a
CHAPEL AT STANFORD—One of the most beautiful churches in the world. Famed for its wonderful mosaic creations. A continual inspiration to the community.
wonderful privilege it is for the children to dwell under a paternal roof while attending grammar school, high school, and university.

What a wonderful privilege for a family wishing to educate the children, to be able to live in a productive garden home while the children are "going through school," thus keeping the home ties unbroken and at the same time having the most abundant living in a rent-free home, with intensely interesting work. While the boys are going to school, father can raise poultry and rabbits and choice fruits, and vegetables, and who knows but what this natural environment will mean more to the boy than his college career?

While the girls are studying, mother can have a flower garden and song birds and create a fit setting for that romantic period.

Add to these school advantages the finest climate in the world, and it is little wonder that Runnymede is made up of the best families.

Palo Alto

Palo Alto, thirty miles from San Francisco, has become famous as the seat of Leland Stanford Junior University. Built among beautiful live oak trees, its artistic flower-burdened homes attract tourists, who go away with the dream, and who many times return to make their homes in this choice intellectual center. It has the cultured atmosphere common to university towns. There are many pretty churches. Saloons are not tolerated. Many wealthy people build elegant homes in Palo Alto, because of its natural beauty, fine climate, university atmosphere, and proximity to San Francisco. Population 10,000.

Menlo Park is one mile from Palo Alto and is noted for its beautiful homes, surrounded by flowers, shrubbery, and magnificent live oaks.

Runnymede lies one mile and a half from Palo Alto, and about the same distance from Menlo Park.

Palo Alto High School

From the Runnymede Grammar School the student enters the Palo Alto High School. Palo Alto has become famous as a university town, and its beautiful new, modern $200,000 High School is in keeping with its scholastic atmosphere. It is built on artistic lines and has its setting in a beautiful grove of live oak trees, surrounded by spacious grounds. Lucky the boy or girl who has the opportunity of entering this modern, efficient Palo Alto Union High School. It is three miles from Runnymede to this high school, with street car connections and fine macadam roads. Students can live at home in Runnymede and attend high school, which means much to them.
HOME MARKET

In producing fancy poultry there are always many raised that are not show birds and are fit only for market. These find a ready sale to the wealthy residents of Palo Alto, Menlo Park, San Mateo, and Burlingame. The Peninsula, from Palo Alto to San Francisco, 30 miles distant, is a fine market for poultry and eggs and all produce raised.

It means much to the poultryman to have a ready market at top prices for all produce.

The auto-truck which collects the eggs, poultry and rabbits on Tuesdays and Fridays of each week from Runnymede producers

CO-OPERATION IN MARKETING

Instead of each poultryman finding customers for his produce, and losing time delivering, all the products are handled by one salesman, and are collected and sold from one auto-truck. This makes one block of the produce and prevents cutting prices. Orders can be filled from this one block systematically, thus accommodating consumer as well as producer.

Runnymede Poultry Farms, Incorporated, is a company formed by the producers for operating Runnymede Warehouse.
Unloading grain at the Runnymede community warehouse, run by Runnymede Farms, Incorporated

CO-OPERATIVE BUYING OF FEEDS

One of the greatest advantages in being located in a community of thickly settled poultry raisers is that of buying feeds co-operatively, in large quantities, direct from farmers or wholesalers.

The Runnymede poultrymen own their own warehouse, which is situated on the spur track running into the colony, which is also near the bay landing, giving shipping advantages of both water and rail. From this warehouse the grain feeds are delivered by the colony truck to each poultryman at cost. At the season of the year when feeds are cheapest a large supply can be contracted for, thus eliminating the exorbitant middleman’s profits. A grinder and mixer prepares the feeds for the community so that the best materials are guaranteed.

Where the poultrymen can buy and mix their own feeds there is no danger of adulterated or moldy material.

This means a great deal, for much poultry is lost by inferior feeds.

CO-OPERATION IN KNOWLEDGE OF POULTRY PRODUCTION

Perhaps one of the most valuable advantages of being located in a thickly settled community of poultry producers is that of being able to come in contact with the best knowledge of the business. With the central colony Clubhouse for poultry meetings every new truth about the business is quickly disseminated. It would be hard to go wrong in the midst of a successful group of poultrymen.
Enthusiasm runs high in a community of poultry experts and carries a man to far greater accomplishments than if he were alone. At the live poultry meetings inspiration is received that leads to a larger success. Friendly rivalry between breeders adds zest and makes the game interesting.

Every industry that reaches a high place is made so by co-operative communities. It is the gathering together in a favorable location of the accumulated knowledge of poultry raising that makes Runnymede supreme.

WAREHOUSE OWNED BY COLONISTS

The warehouse at Runnymede is owned by the colonists and poultry feeds and supplies are sold at cost. This enables the poultry raisers to get the advantage of buying in large quantities and to buy direct from the farmers. Grinders and mixers prepare the dry mashes for the settlers, so that all have the advantage of getting the very best poultry feeds at minimum cost. Co-operation is the keynote that sounds for a larger success in Runnymede. It is easy to organize a new growing community on the right lines to start with. After a community is crystallized it is hard to change. Runnymede co-operated from the very start, thus forming precedents that are right. The warehouse is located on a spur track that runs into the colony and grain is unloaded from the cars direct. There is also a boat landing from San Francisco Bay on colony lands so that flatboats can unload grain direct from the interior valleys into the Runnymede warehouse. This makes unexcelled shipping facilities. This feature of buying grains in bulk for the whole colony gives a wonderful advantage to all poultrymen in Runnymede.

ANNUAL AGRICULTURAL AND LIVE STOCK EXHIBIT OF RUNNYMEDE

While Runnymede is primarily an egg-producing center yet much attention is being given to the breeding of pure-bred stock. Also gardening and strawberries yield amazing results. To stimulate production of pure-bred stock and choice vegetables an annual fair is held and premiums awarded to winners in the competition.

This annual fair will develop into an annual sale of pure-bred stock, thus making it possible for each small farmer to sell his choice stock to the best advantage. Each little poultry farm will have a goat or cow for family milk. These will be pure-bred and registered. Also each small farm will keep a brood sow, which will be registered, to clean up the waste. The colony of Runnymede will keep the best-blooded males co-operatively, thus making it possible for the small farmers to breed the best.

In such a favored locality, with highest co-operation, the best pure-bred stock can be produced the same as in the small farm districts in the old country. With the annual fair and sales day to stimulate excellence there is no limit to the quality that can be created.

Intensive farming must come in this country, the same as in the European countries. The most favored localities will be subdivided into small farms with intense production.
The highest independence comes from a small plot of ground intensively cultivated and made to minister to the needs of each individual family without hiring help.

The most abundant life comes from living close to nature and producing the necessities with the two hands. No other life gives the health, variety and independence of this life, lived out under the open sky on the soil, close to Mother Nature.

Another strong feature of this co-operative colony is the ideals that are constantly held before the people. To make an ideal community there must be high ideals constantly held before the individuals. Continual suggestion is the force that accomplishes worthy things.

Pure bred, registered stock for every little farmer is one of the ideals that is being worked out. Each little garden home will have a goat or cow for milk. These will be the best blood that can be had, and registered. If 100 families have 100 pure bred Jersey or Guernsey cows this will make a fine large herd to do big business on and the herd male can be as good as the best, and when the settlers have any surplus to sell it will bring extraordinary prices. It will take no more feed to rear choice, well bred stock and while one little farmer alone cannot afford a registered cow, collectively they can have the best blood at the head of a co-operative group of cows.

Each little farmer will keep a registered brood sow and rear pigs that will be an honor to any stock show. With a choice registered boar at the head of a group of sows the best results will be obtained.

Likewise the highest standard will be maintained in goats, rabbits, pigeons, bees and poultry. In time Runnymede will have all the best popular varieties of poultry and will be able to stage its own poultry show in the city. This will enable each producer to get the widest advertisement with the least outlay.

In time Runnymede co-operatively will be able to exhibit at the state fair a full line of registered stock that will enable the producers to profit from the sales of good stock well advertised. What a pleasure for each producer to own the best animals that money can buy, for there is an aesthetic beauty about pure bred animals as well as a commercial value. A community bent on producing the best animals will have a sort of emulation that will invoke the highest efforts. What a wonderful marketing advantage this will give each settler of Runnymede, for there will be enough registered stock produced to make the whole world of stock raisers want to see the intensified little farms at Palo Alto.

Intensified farming on a little land is destined to revolutionize old ways and bring the people back to that natural life that God intended man should live. Children should grow up out under the blue sky and in the open air and sunshine and live close to nature. Man has wandered from his natural life to the artificial life of cities and has suffered therefrom. It takes only a little garden soil to make an abundant living with independence, health and freedom. Why should men work long, weary hours in unhealthy places all the days of their lives for a mere subsistence, when this fuller, more abundant way of living is so natural and practical? The fault lies with our schools of the past. We have not been taught that this simple, natural life on the soil gives
us health and strength and length of days and joys never to be found in any other vocation on earth.

**IDEAL LOCATION FOR BEAUTIFUL HOMES FOR WEALTHY PEOPLE**

Many develop from three to five acres and thus have a fine business above a living. Many have invested as much as $10,000 to $15,000 and have large comfortable homes with beautiful gardens. For this class of people with capital to start with, the poultry business is a profitable as well as a pleasant business. In combination with a vegetable and flower garden, poultry, pigeons, rabbits, bees and other stock it makes an interesting setting for a home, and the manure from the live stock increases the fertility of the soil until tremendous crops are produced. I know of no other way from which so much can be had for the money as by investing it in a garden home with domestic animals as source of income. From fertilizer, water and soil with sunshine over all, a paradise can be made that will get more from a dollar than anything else in the world.

The pleasure and peace of mind of having a profitable business right at home is a great satisfaction. What a sigh of relief to hang up the insistent telephone, lock up the close, stupid office, and cut out the commutation ticket and go out close to nature and earn your living right at home with the most interesting things to work with, and a perfect setting for the best that is in you.
PALO ALTO—Thirty miles from San Francisco on the peninsula between San Francisco Bay and Pacific Ocean. Best all-year-round climate in United States.
SUMMARY OF RUNNYMEDE'S ADVANTAGES

2. Superabundance of irrigating water, which is the first essential in California.
3. The most even all-year temperature in the United States, by government survey.
4. Best home market for choice products, by reason of so many wealthy homes within delivery distance; also thirty miles to San Francisco.
5. Schools unsurpassed. Grammar School, High School, and University, without children leaving the home fireside.
6. Social organization resulting from the high class of settlers, with Club House as center.
7. Co-operative advantages in buying feeds wholesale and selling produce in block.
8. Knowledge of intensive production part of co-operative plan by lectures in Club House.
9. Enthusiastic neighborhood carries to higher success.
10. Varied industries possible in cannery for berries, vegetables, meats, etc.; tannery and tailor shop for rabbit skins.
RUNNYMEDE COLONY IDEALS

Colonies are as old as history. England established colonies all over the world. The United States started from thirteen colonies. Religious organizations have established colonies, as the Puritans, Quakers, Shakers, Mennonites, Mormons, etc.

Authors, writers, men of letters, artists, musicians, etc., have each attempted colonies, as in example, Brookside Farm.

Colonies of “Little Landers” have been attempted by theorists, dreamers, impractical men, in poor soil, without irrigation. Each generation has its Utopian dreams.

Runnymede is a living, breathing, palpitating, organized co-operative community of intellectual American people, earning an honest living by intensive production on small acreage.

Runnymede is pointing the way to a higher independence for all people by intensive production in a practical, common-sense way. It does not promise great wealth in money but it does give more than money can buy in health of body, peace of mind, social environment, independence.

The world is invited to visit Runnymede, the Charles Weeks Poultry Colony, and see what wonderful results have been accomplished along the lines of intensive production in poultry, rabbits, gardening and co-operation, and a personal invitation is extended to all interested in intensive production on small acreage to visit Weeks’ Poultry Ranch, the most intensive poultry farm today, and see what fifteen years’ experience have accomplished along the lines of an abundant living on very little land, and to have a personal talk with Charles Weeks, the promoter and organizer of RUNNYMEDE POULTRY FARMS, INCORPORATED.
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Cheap Water
Home Market