

BIRDS AND THE FARMER.

Why They Should Be the Very Best of Friends.

Relations of Feathered Insect Eaters to Agriculture Discussed by Prof. Beal, of the Biological Survey.

[Special Washington Letter.] Assistant Ornithologist Beal, of the biological survey, has prepared a bulletin for the department of agriculture about common birds and their relation to agriculture. It is a very interesting official document. Prof. Beal says: "It has long been known that birds play an important part in relation to



KINGBIRD.

agriculture, but there seems to be a tendency to dwell on the harm they do, rather than on the good. Whether a bird is injurious or helpful depends almost entirely upon what it eats; and in the case of unusually abundant species of birds the character of the food becomes a very practical question."

Farmers of experience have long since concluded that the big flocks of blackbirds, woodpeckers and other common birds are not present to commit depredations, but to help the farmer by destroying noxious insects. Nearly all land birds subsist principally on insects, and during the breeding season they rear their young exclusively on this sort of food. When farmers discover an unusually large flock of birds they may well be assured that there is an unusually large crop of insects. They are luscious, and whoever believes that common birds are not epicures has not studied birds. They not only eat insects, but some of them are very choice of their selections. The common birds discover the presence of insects when human eyes would never even suspect their presence.

Attention is called by Prof. Beal to the fact that during the recent plague of locusts in the western states they were eaten by every common bird in that section, and they formed the principal food of the birds during that entire season. Before the locusts came from the Rocky mountains and descended upon the prairies the farmers complained of the unusual numbers of common birds. By prophetic instinct the birds knew that the locusts were coming, and they were there to receive them. The birds were, in some occult manner, advised of the immediate future, while the farmers were wholly unaware of the plague which was to come. Thus it appears that Providence is all-wise and all-seeing; or as the old hymn hath it: "He moves in a mysterious way His wonders to perform."

Insectivorous birds feed upon that food which is most accessible and which is most palatable. Some birds pass by certain kinds of insects. They will not touch them, unless the birds are on short rations and ready to take any sort of food which will ward off the pangs of hunger. But the insects which are disdained by some birds are sought by other common birds as their chief dainties.

It is explained by the professor that ground-feeding birds will seek for insects in grass and dead leaves, or about the trunks of trees. Those insects are the most easily accessible; and the birds are like men, in that they are looking always for the easiest method of making a living. They will not fly as long as they can walk or waddle. No wise bird will make any effort to secure prey in the mountain tops when he can live like a prince in the valley. These common birds toil not, nor do they spin. They just take life as it comes, and live in clover if they can. They take no thought of the morrow, believing that sufficient unto the day is the evil thereof. The common birds are wise fellows.

The fly-catching birds have an easy time of it. They do not live in hotels, and order their meals sent to their rooms. On the contrary, they simply sit and wait for their opportunities. They know that there are lots of flies in the world; millions of them; and that flies constantly fly. They know that by sitting on their limbs, and patiently waiting the course of events, there will be enough flies every day coming their way to meet the requirements of their appetites. They simply open their little bills, give a peck at the passing fly, and swallow him. If it is a common fly, well and good. If it is a fat horse fly, so much the better. The birds know their business. After

reading the professor's story about birds, the writer is convinced that there are plenty of men who have much less sense, and who might well study the common birds and their methods of getting on in the world.

In the scientific study of common birds there has been many a murder committed. Field observation is not sufficient for man, because he cannot discern the details of the workings of the birds. In order to obtain accurate and reliable information, man loads his shot gun, goes out into the field and shoots down a number of these innocent cannibals. For what purpose? Simply to take each dead bird and examine his stomach. The scientist can then learn what food the birds subsist upon, and hence can determine whether or not they are friends or foes of the husbandman. It is generally discovered that the common birds are the friends of the farmers, and are destroying his insectivorous enemies. This discovery having been made in each case, the farmers are informed of the result of the investigation, and thereafter the shotgun is dispensed with. So the killing of a few birds results in saving the lives of thousands of others.

The professor says that cuckoos are much given to eating caterpillars, and do not object to their hair, as many birds do. On the contrary cuckoos eat so many hairy caterpillars that the hairs pierce the inner linings of their stomachs; and when they are opened and turned inside out, the cuckoo stomachs seem to be lined with a thin coating of fur, which appears to be a part of the stomach itself. Nature provides for continued digestion, just the same.

While the scientific slaughter of cuckoos was going on, 16 of the birds were examined, and the result shows that they had all been diligently engaged in helping the farmers of their neighborhood. The 16 stomachs showed the remains of 323 caterpillars, 11 beetles, 15 grasshoppers, 63 saw flies, four spiders, and three stink bugs. Those were industrious birds, and they were doing their best for their farmer friends, when they were ruthlessly shot down for scientific investigation. Just think of it! There were 323 caterpillars, many of them in the larva stage. But for those cuckoos all of those caterpillars would have been working on the leaves of trees; and they prefer apple trees. Of the 63 saw flies, 60 were in the larva stage.

Investigation demonstrates that farmers should do their best to cultivate woodpeckers. They leave no marks on healthy trees. On the contrary they unerringly trail down the wood-boring larva, and dislodge and devour them. The official bulletin has a good word also for the red-headed woodpecker. It is admitted that this bird is guilty of tapping trees and drinking the sap. It has been discovered, however, that very few trees are seriously injured; although some have died within a year or two, after being sapped by these red-headed fellows. The professor says, however, that "the bird captures millions of insects which are attracted by the sweet sap, and the tree tapping



HAIRY WOODPECKER.

is largely for the purpose of catching insects. It is probable that the red-head fully compensates for the damage done by sapsucking, in consuming so many insects."

The kingbird comes in for a word of praise. He is distinctly a fly catcher and takes a large portion of his food on the wing. The kingbird also watches the trees closely, and gathers in all sorts of insects. This bird has been suspected of catching honey bees; but an Iowa farmer says that he shot a dozen kingbirds near his hives, and found not a single bee in any one of their stomachs. Therefore he concludes that the kingbird is guiltless of this charge; modified by the fact that in various parts of the country 14 kingbirds were killed, and 40 drone bees were found in their stomachs. Isn't that wonderful? How in the realm of intelligence could those birds know that the drones were proper prey, while the working bees and queens must be spared?

The meadow lark is complimented because of the fact that it feeds almost wholly upon insects. In 233 stomachs examined, it was discovered that 73 per cent. of the food of the birds consisted of insects alone. It nests on the ground, and walks about with dainty step, knowing that it is a welcome visitor and therefore not in fear of human assault. The meadow lark is wholly beneficial, and is not guilty of the common charge of pulling sprouting grain. It loves fat bugs and beetles, and takes grasshoppers and caterpillars also, whenever they can be found. Even when the ground is covered with snow, this bird finds insects somehow, and does not seek the granaries. It is a very skillful insect catcher.

SMITH D. FRY.

THE FARMING WORLD.

FATTENING FOWLS.

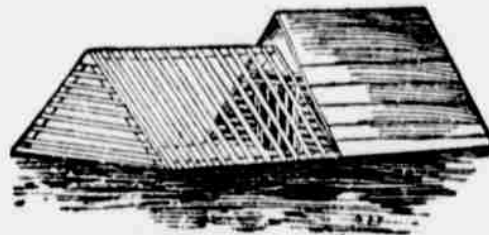
They Should Be Separated and Put by Themselves.

Place six or eight together in a close coop without a roost, and just sufficiently large to allow their moving about without crowding each other. The front of the coop or box only needs to be latched open work, and should be arranged so as to make it nearly dark as soon as they are done feeding, since during the balance of their existence the more quietly they can be kept the more they will improve. They need no exercise. It must be borne in mind that fat only is added by this process, the lean or flesh must be made before, and unless the fowl has attained the proper standard in this respect it is almost useless to try to fatten it. Now give them plenty of fresh water and all they will eat for two or three weeks in this kind of coop, and at the end of that period they will be better fit for the butcher than they will ever be after that period. The manner of feeding and keeping the fowls in this confinement is a very simple affair, and we have found it efficacious as well as feasible. Cooked food, and all they will devour morning and night, with cracked corn and wheat at noon, will fatten healthy poultry in less time than any other feed that we have ever experimented with. The mash should be composed of good corn meal two parts and boiled potatoes one part. Into a pailful of this meal and vegetable food, well mixed, while hot, drop one pound of lard, tallow or pork scraps, and mix this fat substance through the mass. Feed this while warm, and give only what the fowls will eat up clean at a meal.—Western Plowman.

HANDY ARRANGEMENT.

Description of a Combined Chicken Coop and Pen.

The coop and pen illustrated below have been in use on my farm several years. The coop is made perfectly tight except at one end. The lower two-thirds of this end is slatted and contains a slat door. This coop is intended for the hen and her brood at night or during wet days. A pen which will allow the hen considerable exercise and sunshine on pleasant days is shown adjoining the coop. The three pieces running horizontally are three feet long and two



CHICKEN COOP AND PEN.

inches square. It is slatted with common lath placed far enough apart to allow the chicks to get out of the pen. Only one end of the pen is closed, the other being placed over the door of the larger coop. The pen and coop are fastened together by means of small chains. Set the coop upon wide boards and have it so situated that the pen will cover a nice grass plot. A number of these pens will be found handy, as they can be joined to almost any small coop.—Marie A. Rigg, in Farm and Home.

How to Encourage the Boys.

Every boy on the farm should be given a young animal to raise for himself, he to attend to it and be induced to take an interest in its progress. He will thus early become fond of animals and of farming, and will be more reconciled to farm life when he is grown. The boy who leaves the farm for the city is the one who has never had any opportunities and looks upon farming as drudgery. Labor becomes a pleasure when there is something to strive for, and the early education of the boy on the farm should be by giving him an interest in something. All children love young stock and pet them.

The Fancy Farmer's Mission.

"Fancy farmers," or the owners of "fancy" stock, are frequently ridiculed, but it is due to their willingness to improve stock and their persistency in adhering to their belief in something better than scrubs that the farmer is benefited. The man of capital goes on with his improvement of stock and may suffer loss at first, but after awhile he begins to make profits, the farmers being lifted up with him, as the farm on which improved breeds are specialties becomes a fountain source from which superior animals are distributed in all directions.

Use Only Level Roosts.

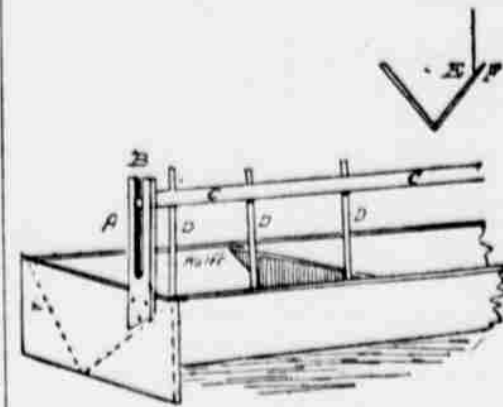
The old-time step-ladder roost, with one round four or five feet from the floor and the others lower until the lowest is near the floor, takes up a large share of space in the poultry-house, and is unserviceable, as the hens will instinctively go upon the high roosts in preference to the lower ones, some of the fowls being forced down while others are injured by jumping off in the morning. It is to high roosts that bumble-foot and lameness may be attributed, and it is cheaper to have low roosts, all on the same level, than to doctor fowls for lameness.—Farm and Fireside.

Keeping fowls on a hard floor will frequently cause swollen feet and legs.

CLEAN FEED FOR HOGS.

An Adjustable Rack Which Accomplishes Its Purpose.

The old notion that a hog prefers to wallow in the mire is a great mistake. The hog prefers clean water and food the same as any animal, but his style of getting it is at fault. This difficulty is easily remedied by some such plan as illustrated below, where an adjustable rack can be fixed for any sized pig or hog so it cannot get into the feed trough. The trough is made of two-inch plank, one plank seven inches the other nine inches, and instead of being nailed at right angles they are 1 1/2 inch-



ADJUSTABLE HOG TROUGH.

es or so off the square. At each end, after the main ends of the trough are nailed in place, another piece of plank, a, is nailed to it with a slot, cut in it for a 3x4-inch scantling, c, or a round straight pole four inches through. This pole or scantling should have a hole bored in each end so a pin may slide through it and the upright plank, a, to keep the pole, c, in place. The pole can then be raised or lowered to suit the size of a hog. In the pole five-eighths-inch holes should be bored 7, 8 1/2, 10 and 11 1/2 inches apart, in which is placed a one-half-inch iron rod (d), two feet long, pointed and driven slightly in the plank on the front side of the trough. These rods never become loose in my trough, but when they are to be shifted, as the hog's size requires, two or three slight taps with a hammer loosen them and they can be driven into the next width of place. My trough is 16 feet long. About 30 inches of one end is partitioned off and kept filled with water, but has the rods in front so the hogs cannot get into it in hot weather. The rods are driven into the trough about one inch from the edge as at e and are pointed from 1 1/2 inches back. The front edge of the trough, f, is rounded so that it will not chafe the hogs.—Marsden Smith, in Farm and Home.

RATIONS FOR HORSES.

Starvation Always Spoils the Shape of a Growing Animal.

We talk about the loss of the horse business from one cause or another, but the most mischief comes from the want of proper food, says an exchange. This means loss to the horse and greater loss to the farmer. A good percent of the horses seen on the streets of any town show insufficient or unbalanced food supply. Horses that have been ill-fed when young are almost invariably small, long-legged, light-carcassed and narrow-chested. Some of them have a great deal of energy, but all are soon exhausted, unfit for protracted exertion. Grown-up horses, when much reduced by deficient nourishment, require more food to put them into working order than would have kept them for two or three months in the condition they require to possess when going into work. When a horse is starved, besides losing strength and flesh, his bowels get full of worms and his skin covered with lice. Very often he takes mange, and sometimes he does not moult, or the hair falls out suddenly and entirely off, leaving the skin nearly bald for a long time. The skin of an ill-fed horse is always rigid, sticking to the ribs, and their hair dull, staring, soft, dead-like. If not famished to death they recover strength and animation with good and sufficient feeding, but starvation always spoils the shape of a growing horse.

POINTS FOR STOCKMEN.

Don't keep more horses than you need.

The offspring from a mature sow is stronger than from a young one.

Swine need bulk in their feed. Don't feed on concentrated foods alone.

Pork is one of the very best of meats if swine are properly fed and cared for.

The selection and steady use of the best of even common scrub stock will lead to improvement.

Sows eat their pigs because their systems are out of condition, the result of improper feeding and bad management.

It is dangerous to inbreed swine. If there are family defects they will appear in the offspring in an exaggerated form.

On the whole, the horses would be better off, and so would the owner, if the whip-making industry were abolished.

There is too much talk and not enough action in the matter of reviving interest in the Morgan horse. The Morgan will revive itself if given half a chance.

Sell half the scrub herd, if necessary, and buy a thoroughbred bull. If cattle must rough it take the Hereford, Polled Angus or Galloway. If well cared for the shorthorn is a prize.—Western Plowman.

HUMOROUS.

—Hicks—"Have a good time out riding this evening?" Wicks (neophyte) —"Not so good a time as the people who were watching me."—Boston Transcript.

—"He is one of the leading lawyers of the town." "Gets pretty big fees, eh?" "I should say so. Why, it is almost as cheap to buy the grand jury as to hire him."—Truth.

—"Are you one of the striking miners?" asked the woman at the door. "Yes, mum. I'm what dey call a pioneer. I struck 30 years ago and I've never give in yet."—Detroit Free Press.

—"Not Spiritual Methods."—"Even a fly can do good by getting a man awake in time to attend church." "Yes, but it doesn't put him in the proper frame of mind to go there."—Chicago Record.

—"They say people in this country spend more money on bicycles than on bread." "That's queer; bicycles can't be eaten." "I know; but then people can't show off with a loaf of bread."—Chicago Record.

—"A Consistent Woman."—Mrs. Gilfoyle—"Mrs. Bargain Hunter is a thoroughly consistent woman." Mrs. Kilduff—"Is she?" Mrs. Gilfoyle—"Yes; she is. She has marked her five o'clock teas down to 4:57."—Puck.

—"Do you always say your prayers at bedtime, Mary?" asked the Sunday-school teacher affectionately. "No, miss, not regular, I don't," was the reply. "Why, Mary, are you not afraid to go to sleep at night without asking a blessing?" "Not when I sleep in the middle I ain't, miss."—Household Words.

CONVICT'S SELF-DENIAL.

Saved Tobacco He Received in Prison to Sell for His Family.

Deputy Collector of Internal Revenue Ryan had a queer caller the other day. He was a middle-aged man and carried a heavy valise. He said the valise contained tobacco, which he was anxious to sell, so he could give the money to his family. He was afraid he might be breaking the law and asked Mr. Ryan for advice. The latter asked his caller where he got the tobacco, and the man said:

"For several years I have been a convict in the penitentiary at Michigan City. I was sent up from Indianapolis, and my wife and children still live here. My wife—poor woman—is in poverty, and my children are not big enough to do for themselves. I have been looking out for over a year to this trip home. I knew that my family had no money and that they were suffering, so I just thought of a plan to help them out when I got home. You know that every convict is allowed tobacco at regular times. If I do say it myself—and it has caused me an awful lot of sufferin'—I have denied myself my tobacco and hid away the plugs as they came into me, so that I could sell them when I got out to relieve my wife and little ones. The tobacco that I have been saving so long is in that valise. There is not a plug in there that isn't as good as the day I got it. I have wrapped them up in tin-foil, so they have kept moist and preserved their flavor. Now, I want to be a law-abiding man from this day on, and I want to know how I can sell this tobacco without violatin' the law, just for the benefit of my wife and children, who need it so bad, the Lord knows, after these years of neglect."

There were tears in the man's eyes when he had concluded his story, and there was a suspicious moisture about the deputy's eyes.

"Before you can sell this tobacco," said the deputy, "you will have to give a bond with acceptable surety for \$2,000, and you will have to put a six-cent government stamp on each plug."

The man's head drooped and he looked sick at heart. That would mean the failure of his merciful enterprise.

"Ordinarily that would be the case," said Mr. Ryan, "but I tell you, my man, I don't think that the government would get after you if you would dispose of this to your friends."

A great weight seemed lifted off of the man's mind as he dried his eyes, lifted his valise and trudged off with it down the stairs into the street.—Indianapolis News.

Not in Good Form.

A couple of stylishly-dressed young women met on Market street yesterday, shook hands, kissed, inquired after each other's health and proceeded to gossip. Suddenly one paused, and, staring at the other in surprise, asked:

"What in the world makes you look so thin?"

"Thin? Why, I weigh more than I ever did."

"But you look as slim as a rail."

The slender girl reflected a moment, then blushed furiously.

"Oh, let me get off the street. I must be a fright," she exclaimed. "I left my hips at home on a chair."—San Francisco Post.

Natural Advantages.

Teacher—What kind of a bird did Noah send out of the ark?

Small Boy—A dove.

"I am surprised to find that the smallest boy in the class is the only one to know."

"Please, teacher, his father keeps a bird store."—N. Y. World.

Home Again.

Gavin—Hello! Back from the seashore so soon?

Bailey—Yes, I want to get a little rest before returning to work.—Up-to-Date.