

UNIVERSITY OF ARIZONA
AGRICULTURAL EXPERIMENT STATION.

TIMELY HINTS FOR FARMERS. No. 80.

MAY 20, 1909.

PIN MONEY FROM HENS.

In Arizona the products of the poultry industry cannot supply the demand. During the winter months in some localities the price of eggs often reaches 60 to 75 cents per dozen, and fresh eggs are scarce at that. This necessitates the importation of eggs from the East. Thus, two grades of eggs usually occur on the market—ranch, and storage or Eastern eggs. The difference in price is generally from 5 to 5 cents per dozen. Moreover, many storage eggs are sold for fresh eggs. This aids in keeping down the price of fresh ranch eggs, thereby working an injury to the producer as well as frequently furnishing the consumer with an inferior article. Live and dressed poultry always command a good price and the market is never fully supplied.

Many people keep a few chickens to furnish the table with fresh meat and eggs. This is necessary in those cases where fresh eggs and table chickens are desired regularly, since they cannot be obtained on the market at all times. Many invalids live for the most part on a diet of eggs and milk, and therefore must have a reliable supply of fresh eggs. To meet this need several associations have been formed in the Territory for the production of certified eggs. Each association stamps its eggs with the name of the firm and the date the eggs are laid. The consumer is then reasonably sure of the exact age of the

eggs During the summer months when the supply and price of eggs are such that it is practicable, they may be preserved for winter use, as explained in Timely Hint No 71.

Breeds of chickens: Most of the leading breeds of chickens are to be found in the Territory—in fact the general class of chickens is above the average. The most popular breeds are White Leghorns, Brown Leghorns, Barred Plymouth Rocks, Black Minorcas, and others. About eighty-nine varieties of chickens are recognized, which, for convenience, may be divided into four classes, as follows:

1. General purpose breeds—American class.
2. Meat or table breeds—Asiatic class.
3. Egg producing breeds—Mediterranean class.
4. Ornamental breeds—Polish, Exhibition Games, Miscellaneous, and Bantam classes.

The selection of a breed: In selecting a breed of chickens it is well to have a definite idea in mind as to the purpose for which the breed is to be used, whether for meat or egg production. When once this selection is made it is well not to cross-breed or change varieties, since little can be gained in so doing.

Feeds and feeding: Change of feed and variety are two essentials. A straight ration of any one feed is not conducive to egg production. If it is necessary to keep the chickens in small runs, it is advisable to provide clean litter in which to feed whole grain. This gives the exercise so necessary to birds confined in small enclosures. In addition they should receive green feed at stated periods. Gravel, ground bone, and scraps of meat or blood meal should also be provided. If space permits it is a good plan to plant the runs with alfalfa. They may also be sown in the fall to small grain as an interculture, thereby insuring a supply of green feed the year round. When placed in small pens in the city, scraps from the table are relished by chickens and also serve to secure variety in diet.

Houses and pens: In our warm southern climate little shelter is needed. However, it is well to provide a small house for shelter during the rainy winter season, and also plenty of shade and fresh water. The partly open house, with a raised floor, is cleanly and to be recommended, as it provides a cool roost at night, while the ground beneath serves as a shady dusting place during the day. Such a house may be built of metal provided the nests are not placed in it. After

sunset it cools rapidly. During the heat of summer it is a good plan to throw water on loose ground in some shady corner of the yard. The fowls scratch and wallow in this cool, moist earth, which aids in reducing the temperature, assists in keeping parasites in check, and adds greatly to their comfort. During the winter months a wind break should be provided, since chickens do not like heavy winds. A clump of canes serves the purpose very well and grows with little water. An efficient summer shade and wind-break may also be provided by planting Virginia creeper or the native wild grape. The latter may be grown easily from seeds, cuttings, or roots, and when established requires very little water, especially if the runoff from a few feet around be directed to its roots. Summer roosts may be constructed beneath such shelter. Chickens that roost in the open during summer are believed to do better than those roosting in houses.

A FEW DISEASES AND THEIR REMEDIES.

Good, pure drinking water, a sufficient variety of wholesome food, and clean quarters are the principal points to be considered by the poultryman for the prevention of disease.

Cholera: Cholera is a disease dreaded by all poultry growers because it is very hard to check when once it gains a foothold. It often carries away a large part of the flock in a single week. The symptoms are dumpiness accompanied by diarrhea, the excrement being greenish yellow in color. The bird loses flesh rapidly and dies in a few days unless treated. The disease is very contagious and is easily transmitted. All sick birds should be removed at once and the pens and houses thoroughly disinfected with five per cent carbolic acid solution, chlorinated lime, or some other disinfectant. Whitewashing with a mixture containing 1-2 pounds of lime and 4 or 5 ounces of crude carbolic acid to the gallon is very beneficial and will aid in keeping lice and other parasites in check. The droppings should be destroyed. The treatment is to feed the ailing birds with a bran mash mixed with hot milk and thickened with a little flour so as to make the mash somewhat crumbly rather than sloppy. To this mash add a tablespoonful each of well mixed, powdered sulphur, copperas, red pepper (capsicum), and alum for each dozen birds. If they do not recover in 48 hours, kill the sick birds and burn the carcasses.

Roup: Roup is perhaps the most dreaded disease known to poultrymen. The symptoms are sneezing and a slight discharge from

the nostrils. Unless immediate steps are taken to check this discharge, the head and face become badly swollen and the comb turns black. The bird has no appetite and dies in a few days unless relieved. The disease is contagious and spreads very rapidly. Infected birds should be isolated, and if recovery does not come soon they should be destroyed and the carcasses burned. The pens and houses should be thoroughly disinfected. There are a number of good roup remedies on the market; however, a very simple one within reach of all is a few drops of kerosene injected by means of a sewing machine oiler into the nostrils. This will often prove sufficient.

Bowel trouble or ordinary diarrhea, may result from a variety of causes, such as excessive green or soft feed, unclean feed or water, or exposure to drafts and dampness. As the excrement is soft and greenish the trouble is apt to be mistaken for cholera. When it appears the affected birds should be removed and all green or soft feed cut off for several days. A tablespoonful of limewater added to each pint of drinking water is a good remedy. The bowels should be cleared of all irritating matter by giving a tablespoonful of sweet oil or a teaspoonful of castor oil.

Pip is a hard scaly condition of the tip of the tongue, caused by breathing through the mouth. Fowls affected with it lose appetite and fall off in flesh and egg production. In extreme cases death may result. It may be removed by carefully loosening the edge with a blunt knife and stripping it off, or the tongue may be wet several times a day with a mixture of equal parts of glycerine and water.

Gapeworms or *the gapes*. Gapeworms sometimes lodge in the windpipe of small chickens and choke them to death unless removed. These are small worms hardly visible to the unaided eye. They multiply very rapidly until the chicken chokes to death. Gapeworms may usually be removed by placing the chicks under a cheesecloth covering over which air-slacked lime is sprinkled. This will cause the birds to sneeze violently and dislodge the worms; but care should be taken not to overdo the treatment. Twisted horsehairs or feathers moistened with kerosene are sometimes used to remove the worms from the windpipe; but this is a long, tedious task.

EXTERNAL PARASITES.

Chickens in the Southwest are apt to be infested not only with lice which eat the feathers, but also with several obnoxious blood-

sucking parasites, chicken fleas and chicken ticks. Lack of thrift in stock is frequently attributable to one or all three of these pests combined. A careful watch should be kept, and when discovered, energetic means adopted to hold them in check.

Lice, Menopon pallidum and Lipurus heterographus: In this region one of the commonest troubles with chickens, especially with young chickens, is lice. They frequently attack chicks as soon as hatched, and if not held in check will do serious damage. Grease is fatal to lice, since it stops up their breathing pores. It is easily applied by rubbing on the breast and beneath the wings of the hens. A few drops of turpentine in the grease is believed to increase its efficiency. Insect powder (pyrethrum) is an excellent remedy and may be applied to older chickens by dusting into their feathers from a pepper box. If provided with good nesting material, such as air-slacked lime or ashes, chickens will usually keep themselves fairly free from lice.

Chicken fleas, Sarcopsylla gallinacea: These are perhaps the most disgusting of all chicken parasites, since when abundant they not only sap the vitality of the fowl but render the dressed carcass very unpalatable. Some people have been known to throw away chickens, otherwise in excellent order, on account of this unsightliness. Chicken fleas do not crawl about or hop, but burrow at once into the skin, where they appear like shot. They can be removed only with great difficulty. The chicken flea was first found in Ceylon, but is now very generally distributed across the southern United States, being reported from Florida, Mississippi, Texas, and Arizona. It is said to infest chickens, turkeys, kittens, puppies, calves, colts, and even children. A remedy is suggested by the fact that fowls which frequent wet places are free from it. Dusty, shady places where the rain never strikes, such as old adobes and beneath floors, are particularly favorable to this pest. Mr. A. —, Douglas, Arizona, reported that his chicken houses and pens were badly infested with this flea, but after drenching them with water night and morning for one week, as suggested by Professor Cockerell, no trace of the flea could be found. We believe that this treatment, if persisted in, will effectively rid any flock of the flea. Insect powders are not apt to prove as valuable in combating this pest as they are against lice and ordinary fleas.

Chicken tick, Argas miniatus: This very troublesome parasite is widely distributed throughout the Southwest and is said to be spread-

ing northward. It is very flat, oval in form, and one quarter to three-eighths inch in length. The pitted back, which projects entirely over the four pairs of legs and the head, has a light colored margin. In the young but three pairs of legs are present and the head is not covered. They attack the fowls only at night, getting themselves with blood and retiring to some crevice or beneath the perches. The most effective treatment is to remove their hiding places. All cracks and crevices should be plastered over with a thick coating of white wash, prepared as directed above. Many poultry raisers suspend the perches on wire so that the fowls do not touch the sidewalls. The raised house built of metal is said to be free from parasites, the intense heat of such a building during the day being fatal to all vermin.

The Mexican chicken bug or "Coruco," Acanthia nodosa. This is a species of bedbug which infests poultry and often enters dwellings. It specks eggs black with its excrement. The *Coruco* is known to be widely distributed throughout northern Mexico and the southwestern United States. It is easily distinguished from the tick, as it has but three pairs of legs and the head and legs are not covered by the back as in the tick. The body is also segmented like the common bedbug. Since their habits are similar to those of the ticks, the remedy suggested for ticks will probably suffice to hold these bugs in check.

FINANCIAL STATEMENT.

In February, 1907, the writer purchased a few chickens to supply the housewife with fresh eggs. In a short time it was brought very forcibly to his mind that he had made a good investment. A strict account was kept of the expenditures and proceeds other than for eggs and chickens used for the table.

Expenses.

February 1, 1907, 14 brown Leghorn hens and a rooster	\$ 7.00
October 1, 1907, 23 white Plymouth Rock hens and a rooster	20.00
October 18, 1907, 1 doz. nest eggs	.30
October 19, 1907, 2 sacks of wheat	3.70
October 20, 1907, 1 sack of bran	1.20
November 15, 1907, 2 sacks of wheat	5.00
November 19, 1907, 3 dead hens	1.50
Total expenses other than dead hens	37.20
Total cash loss by dead chickens	1.50
Total expense	\$8.70

Proceeds.

March, 1907, eggs.....	\$ 3.30
April, 1907, eggs.....	6.70
May, 1907, eggs.....	4.20
September, 1907, eggs.....	5.60
October, 1907, eggs.....	3.45
November, 1907, eggs.....	6.55
December, 1907, eggs.....	5.20
December, 1907, 14 chickens.....	6.00
January, 1908, eggs.....	4.20
Total.....	45.20

Inventory Taken Feb. 1, 1908.

13 brown Leghorn hens and 1 rooster.....	7.00
23 white Plymouth Rock hens and 1 rooster.....	20.00
1 dozen nest eggs.....	.30
1 sack of wheat.....	2.50
1 sack of bran.....	1.20
Total.....	31.00
Total expenses for the year, including purchase price for chickens and dead chickens.....	\$38.70
Total receipts for the year.....	45.20
Balance.....	6.50
Present worth.....	31.00

A very conservative estimate of the eggs and chickens used for the table would be \$30.00 for the year.

A great deal of feed was saved by allowing the chickens to forage. They had the run of the barn and feed yards and picked up much waste material.

SUMMARY.

Arizona does not produce enough poultry products to supply the demand at any time.

Southern Arizona is able to supply green feed the year round.

Nearly all varieties of chickens do well in Arizona.

No expensive houses are needed for chickens.

Our chickens in Arizona are as free from disease as those of any country except for so-called wind passage disease. This is not so fatal as many other diseases that are common to Eastern chickens.

From the experience of the writer a small flock of chickens is very profitable.

F. W. WILSON.