

from ancestry which was solid colored for generations. This led to some wonder as to whether the broken color was in the nature of a recessive characteristic, or one that might be carried by several generations of animals, in a latent condition, simply because it had been submerged by a more dominant characteristic such as solid color. Prof. Hooper decided to investigate this matter in connection with the Mendelian theory of inheritance, which establishes the fact that when two recessives are bred together, the progeny will also show the recessive characteristics; in other words, if broken color in Jerseys is a recessive characteristic, two broken-colored animals bred together should produce broken-colored progeny.

The registry book of the American Jersey Cattle Club was studied and the color markings of 1,175 calves, and their 2,250 sires and dams, were tabulated. Prof. Hooper found that the mating together of two broken-colored ancestors was almost certain to result in a broken-colored calf. Out of 209 matings of broken-colored bulls on broken-colored cows, only 15 solid-colored calves were produced, and among these 15, 7 had a white or mottled tongue or a white or mixed switch. In view of these facts, Prof. Hooper is led to wonder whether the entire 15 did not actually carry white markings that may have developed after the calf was registered as of solid color. In support of this belief he states that he finds it best to wait until the calf is several weeks old before registering its color markings, since it frequently happens that white markings develop that were not evident or noticeable at birth.

The next tabulation was with regard to 436 matings of broken-colored bulls on solid-colored cows, and these matings produced 257 solid-colored calves and 179 broken-colored calves. Only 75 broken-colored calves were produced when 500 solid-colored cows were mated with solid-colored bulls, while 425 of the progeny were solid-colored. It was found that certain sires bred uniformly solid-colored calves, no matter what the color of the dam. One bull produced 88 solid-colored calves, four of them from broken-colored cows. Two of these calves did have two small white spots on the body and one had also a white ring around the tail. Another bull produced 81 solid-colored calves, two of which were from broken-colored cows. Other bulls sired both solid and broken-colored offspring; one, for instance, produced 6 broken-colored calves from 14 broken-colored cows, and 14 broken-colored offspring from 58 solid-colored cows. Thus it seems, according to Prof. Hooper, that some individuals of both bulls and cows carry the solid coloring as a pure dominant characteristic, so that their offspring will be solid in color, even if mated with animals that are pure for the broken color. One such bull sired 14 broken-colored calves from 14 broken-colored cows, and 17 broken-colored calves out of 33 whose dams were solid-colored.

A study was also made of the inheritance of tongue and switch color, and it was found that again, apparently, the white coloring is recessive. Sixty-six per cent. of 1,000 individuals tabulated are solid and have black tongues and switches; 12 per cent. are broken and have white tongues and switches. The other 22 per cent. vary widely so far as the combination of white and black is concerned with regard to body color, tongue and switch color. It is stated that out of 100 solid-colored Jerseys 89 will carry black tongues, and 91 will have black switches. The mating of white-tongued parents produces 71 per cent. white-tongued calves, according to the Kentucky studies, while the mating of white-switched parents produces 91 per cent. of calves having white switches. Prof. Hooper states that he is confident that the 9 per cent. of mixed and black switches found, are errors on the part of people registering the calves and believes it best to defer registering color until the calf has reached the age of two months. It is further added that apparently the old roan color of years ago was dominant, it having dropped out, never to reappear again. When once lost it is apparently gone forever, like the roan and gray of horses.

HORTICULTURE.

Growing Cauliflower

Immediately after setting cauliflower plants in the field, cultivation should be commenced in order to maintain a steady, vigorous growth. It is true with cauliflower, as with most other plants, that a check in growth is very injurious and, in fact, such a check is perhaps more injurious with this crop than with most others, in that the plants are very often induced to form buttons, which are very small, miniature heads, or else to continue their growth so late in the fall as to leave no time for the formation of a head at all. The formation of buttons marks the end of the period of usefulness of the plant, since buttoning is a premature heading-up and may occur when the plant is only a few weeks in the field.

Level cultivation is usually practiced where cauliflower is grown as a field crop. The stirring of the soil should be fairly deep at first, gradually becoming shallower and narrower until the leaves are so large that they are likely to be broken off by the horse or cultivator, or until some signs of heading are noticeable. The experience of growers has shown that the crop may be injured or delayed by cultivation continued after heading has once begun. At this time the roots should occupy the entire space and the plants left with as little disturbance as possible. A rather compact soil and dry weather after the plants have ceased growing prevents a resumption of growth and permits the full effectiveness of the root system to be devoted to the formation of the head. Cauliflower for market must be white

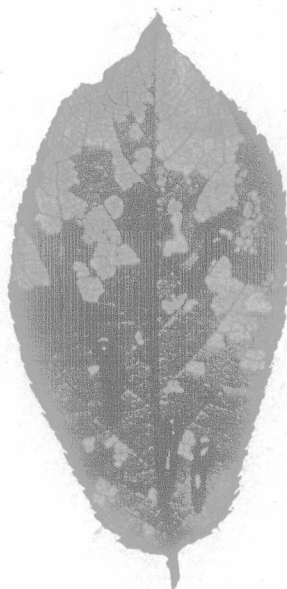
and tender. As with other plants, this whiteness can only be secured by protecting it from the sun. Very hot rays of the sun if allowed to reach the head will cause it to turn yellowish, or dirty purple color, and coincidentally the head will acquire so strong and disagreeable a flavor as to become unsalable. There are various ways of covering the heads, but the usual way is to use the leaves of the plant for protection from the sun. The practice in use in Ontario is described as follows in Bulletin 203 of the Ontario Department of Agriculture:

"When the heads are about the size of a coffee cup, they are tied with twine or wire, bent so as to form a loop on one end and a hook on the other end, the leaves are all gathered up and the wire placed around then hooking the one end into the loop, thus holding the leaves in an upright position and covering the head proper from the rays of the sun. The tying should be done when the plants are dry and during the warm part of the day when the leaves are supple. Some growers prefer to tie their plants up tight, while others like to leave the top of the plant as open as possible so long as the sun does not spot them. By leaving the top slightly open the pressure of the leaf on the head is decreased, thus allowing it to broaden out more than where the plant is tied up tight. This artificial blanching of the head is most important early in the season while the sun is hot. The field should then be gone over every other day. Another object gained by tying late in the season is to protect the heads from frost. A frosted cauliflower is practically worthless for market, as it is nearly certain to turn black after one or two days' exposure. Heads which are well covered will usually stand ten or twelve degrees of frost without injury, depending on the amount of cloudiness or moisture present."

Pear and Cherry Slug.

EDITOR "THE FARMER'S ADVOCATE":

During June and July, cherry, pear and plum trees in various parts of the Province were seriously damaged by a leaf-feeding, blackish, slug-like insect (see illustration), called the pear and cherry slug. In many orchards, the foliage, particularly of sour cherry trees, was almost wholly destroyed. As there are two broods of this insect and as the second brood is liable to be as destructive as the first, we would strongly advise fruitgrowers



Pear and Cherry Slug at Work.

to keep a watchful eye on their cherry, pear and plum trees during August and September. If the slug threatens to again become injurious, a spray of arsenate of lead (2½ lbs. to 40 gallons of water) should be applied. In instances where there are only a few trees, the slugs may be destroyed by dusting slacked air lime or fine road dust on the foliage.

W. A. Ross,
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POULTRY.

Popular Breeds of Utility Fowl.

Some very interesting remarks regarding changes that have come about in popular fancy regarding the various poultry breeds recently came to our attention in the "Farmer and Stockbreeder," and it will be interesting for those who are admirers of the utility breeds to know what has transpired in England during the past few years. Popular fancy in farm flocks in Canada still runs strongly to White Leghorns for egg production and Plymouth Rocks, Wyandottes or Rhode Island Reds for general purpose breeds. Some of the bred-to-lay strains of Plymouth Rocks having made exceedingly good records in egg production, and having accompanied these large yields with profitable meat production. This English writer says when speaking of years ago, "The greatest layers were speckled on a buff or gray ground, showing that they were derived from the different colored Hamburgs. The farmers who went in for table fowl used Old English game cocks on Dorking type hens. First the Cochin and then the Brahma came from the East to revolutionize poultry keeping. One of my earliest poultry recollections is a Brahma cock that could pick off the kitchen table, by which one can realize how that leggy type differed from the

present bird. The heavy breeds had a great influence upon the farm poultry and crosses from them were to be found everywhere. The heavy breeds made a great mark as all the Rocks, Wyandottes, Orpingtons, Sussex and Rhode Island Reds have been made from them. Breeding for exaggerated fancy points as the result of a craze for something rich and strange did so much harm that the inevitable reaction was bound to come."

Utility poultry keeping has made gigantic strides all over the world. Poultry keeping has grown from a pleasing fancy to a business of varying profits. The numbers who have made money to any extent have been very few but some men have made money quite rapidly. Even at our poultry shows the breeds which appear are quite numerous, but it is probably true, as someone has remarked, that no breed can enjoy a permanent popularity unless it has sound economic qualities as well as appearance. In England there is what is known as the National Utility Poultry Society which naturally has little use for any but the best thing in breeds. It is therefore interesting to know what the members of this Society keep and to what extent the various breeds are represented. Roughly speaking, the popularity of these breeds is as follows: White Leghorns, White Wyandottes and Rhode Island Reds, in the order given, with Anconas, Black Leghorns, Buff Orpingtons, Buff Rocks and Light Sussex all commanding plenty of support. In ducks the Indian Runner is much the most popular utility breed. The writer above referred to believes that after the war is over and grain becomes more plentiful, the great laying ducks will be kept in much larger numbers than at present. Even now, he says, the demand for Runner ducklings is about twenty times the supply.

FARM BULLETIN.

Prospects Brighter in the West.

There is a growing confidence regarding the Western wheat crop that it will yet give something substantial and help to maintain the food supply as well as the financial stability of Canada. The Dominion Bureau of Statistics summarized the reports of crop correspondents at the end of July and published on August 14 the following comment:

"The figures expressing condition for the whole of Canada indicate a total yield in 1918 for wheat of nearly 232 million bushels, as compared with 233,742,850 bushels in 1917, and for oats a total yield of about 416 million bushels as compared with 403 million bushels in 1917. For the three Prairie Provinces the yield indicated by condition is for wheat 216,488,000 bushels, and for oats 254,930,000 bushels."

Later estimates of the Western crop discount considerably the report of the Dominion Bureau, and put the wheat production of the three Prairie Provinces at about 150 million bushels. It is expected that Manitoba will produce about 45 million bushels; Saskatchewan will probably yield in the neighborhood of 75 or 80 million bushels, and Alberta, the greatest sufferer, will have around 30 million bushels. There are even more optimistic reports than these emanating from various sources, but not until cutting becomes general will anything reliable and definite be forthcoming. The feed situation is improving, but the live-stock industry of the Province of Alberta has been struck a severe blow. The three Prairie Provinces are asking for 10,000 harvest laborers from the East; Saskatchewan desires 5,000; Manitoba can use 3,000 for the cutting and 2,000 more for the threshing, while Alberta, at present, fixes its demands at a very considerable figure.

U. S. Modifies Meat Restrictions.

Owing to the fact that the present drought in Texas, Oklahoma and other sections of the Southwest has caused the present cattle runs to be 50% heavier than at this time last year, and because the larger part of this stock is below the most desirable weights, the United States Food Administration is releasing, for the present, the meat restrictions. This is about one month earlier than was contemplated, but it is being urged that economy be continued and that the lighter cattle be used for domestic consumption so that the heavier stock can be released for export and for army use.

According to the Bureau of Statistics the estimated acreages of later-sown cereals and hoed crops, as compared with 1917, are for all Canada as follows: Buckwheat 407,800 as against 395,977, flax 927,300 as against 919,500, corn for husking 213,400 as against 234,339, beans 105,560 as against 92,457, potatoes 686,300 as against 656,958, turnips, etc., 216,970 as against 218,233, sugar beets 13,200 as against 14,000 and corn for fodder 344,700 as against 366,518. The area under beans shows an increase of 14 per cent., and that under potatoes an increase of 4 per cent. The areas sown to both of these crops is the largest on record; the increase of beans is chiefly in Quebec, and of potatoes in Quebec and in Alberta.