

found in the wing indicates the number of molts that the bird has gone through, according to this author, and these secondaries can, therefore, be used to tell the age of the bird. These feathers are shorter than the rest, more rounded at the extremity, and end in a short, straight point. A comparison between birds of various breeds in which the same peculiarities were found showed that all of the birds were of the same age, and observation on a number of flocks as well as on exhibition birds has shown the same thing to be the case. Space does not permit us to go into the system of age determined completely, but, in general, it may be said that when the wing is spread wide open after the molt is over and all the feathers are fully developed, there are certain markings appearing on some of the secondary feathers which differ with birds of varying ages. Thus, in a fully-feathered pullet from six to fourteen months old, one characteristically marked secondary feather will be noticed. In a hen over eighteen months old, after the fall molt, two secondary feathers would present the characteristic marking, while in the three-year-old hen, and so on up to ten years, if the hen lives that long, an additional specially marked secondary feather will be noticed for each year of age.

FARM BULLETIN.

Farming in Great Britain After the War.

BY OUR ENGLISH CORRESPONDENT.

As I write London is celebrating its first anniversary of the Armistice, but so far as agriculture is concerned, we are practically "controlled" under much the same conditions as those existing during the full four years of war. Fixed prices are still only allowable for cereals and all farm produce. The War Agricultural Committees governing cultivation and the breaking up of land are still in existence, and the Wages Board, an institution created under the Corn Production Act, has not only fixed the hours of work, but the rates of wages for the country. Factory and shop hours never will, and never can, be properly applied to agriculture, and particularly to dairy farming.

Hours of labor on the farm, in summer, are now fixed at 50 per week, and in winter 48 hours. The order made by the Wages Board came into operation on October 6 despite a protest from the present President of the Board of Agriculture, Lord Lee of Fareham. That gentleman exercised the power conferred on him by Section 5 (5) of the Corn Production Act, and directed the Agricultural Wages Board to reconsider their decision. The Board, after full consideration, unanimously resolved to adhere to their decision.

The decision of the Wages Board does not impose any limit on the number of hours for which a farm laborer may contract with his employer to work, but there is an extensive movement on the part of organized farm workers for shorter hours. Resolutions in favor of the inclusion of agricultural labor in the proposed "Forty-Eight Hours Bill" continue to be passed at branch meetings of the Laborers' Union.

The development of the trade union movement in agriculture in recent years is proved by the fact that the membership of the Laborers' Union now stands at 100,000 as against 36,000 in 1918.

Under the Corn Production Act, the prices guaranteed by the Government for 1919 grain crops are: 1, wheat, 71s. 11d. per qr. of 480 lbs.; 2, barley, 61s. 6d. per qr. of 400 lbs.; 3, oats, 44s. 1d. per qr. of 312 lbs.; 4, rye, 71s. 11d. per qr. of 480 lbs.

CHANGING PHASES.

The 1920 policy of the Government, as represented by Lord Lee of Fareham as the head of the Board of Agriculture, will be that which makes for a future greater breadth of arable farming. Ways and means new to our systems of 1914 must also be found for rearing and feeding our commercial store, dairy and pedigree stocks. The situation for the dairy farmer is at the present time of writing most difficult. Hay is short, so is straw, roots are but a poor crop, and all prepared feeds are not only exceedingly dear but very scarce. Still the Government, through its Food Ministry, realizes the national importance of the milk industry.

Milk is one of the very few articles of food in which the population of Great Britain is dependent almost wholly upon home supplies. Even before the war supplies from foreign countries were entirely negligible, while those from Ireland, which in 1915 reached a maximum of 115,000 gallons, were also insignificant, and have disappeared in the last few years. During the war, in spite of the many difficulties to be faced, the dairy herd of Great Britain was maintained at a level above that of previous years, but notwithstanding this success there has been a serious reduction in the total supply of milk. The chief factor contributing to the decreased yield of milk per cent, has been the difficulty of obtaining feeding stuffs, and along with this there has been considerable local scarcity of skilled labor. In both these respects the general prospects for 1920 are brighter, but even if the estimate of not much less than 1,100 million gallons for the year proves correct, the yield per cent. will still be considerably below pre-war average. There are indications also that, apart from recent additions to the civilian population, there has been an increased demand for milk. On the other hand, the necessarily high retail price may cause a reduction in the effective demand, and so supplies probably will be adequate to meet it.

LONDON'S MILK SUPPLY.

The nine days railway strike at the end of Septem-

ber, 1919, showed the country how well milk can be collected and handled by motor-lorry transport. The areas from which our large towns draw their milk supplies are far apart, yet the motor lorry linked them up and children and invalids went but little short of their usual supplies. The case of London is very remarkable, for the home counties provide only about 17 per cent. of the city's milk, the remainder being contributed by almost every milk area in the country. Westmorland being the noteworthy exception. The case of Leeds is simple, 91.9 per cent. of the supplies coming from Yorkshire, with 1.1 per cent. from Cumberland, 6.5 per cent. from Lancashire, and .5 per cent. from Westmorland. Liverpool and Manchester, taken together, obtain about 60 per cent. of their supplies from Lancashire and Cheshire, and draw for the remainder on all the adjacent counties from Westmorland to Salop, including about 5 per cent. from Wales. These varying distances over which milk has to be carried are reflected in local retail prices, and data for an earlier year showed that the highest prices were found in large industrial areas dependent on distant supplies, and the lowest prices in districts such as the western counties of Wales, where transport difficulties restricted the demand to local consumption.

The conditions under which agriculture is carried on to-day make the feeding of all farm live stock a most difficult matter in Britain. The raising, rearing and fattening of farm animals is an important phase of our agricultural system, and at no period of the history of the industry has it been so essential as an adjunct to profitable cultivation of the soil as it is now. Even under "control," our home-produced meats command a much better price than imported, and in order to increase the annual output of this home-bred and fed fat stock, new departures in crop rotations and in the general management of the land are a vital necessity. It is well, however, to remember that what might prove a successful rotation in one area may prove a complete failure in another. Soil and climatic influences are beyond the farmers' control. All tillage lands ought to be so cropped that the exhausting effect of one crop should be repaired by the succeeding one. A well-devised system of cropping is the best and cheapest means of increasing the fertility of the soil.

FEEDING OF DAIRY CATTLE.

The feeding of dairy cattle, likewise becomes a more difficult matter, in these days of shortage. We still don't know what are economical rations for dairy cows. No precise amount of feed can be laid down as a ration suitable to all cows of any given age, or breed, or size, in milk or out of it. Some cows require much more feed than others, but the big eaters seldom make the most profitable return for it. Gluttonous and greedy cows eat, as a rule, too quickly, and too large a proportion of the feed goes to waste. The careful herdsman knows the peculiarity of each cow under his care in reference to appetite, and feeds her accordingly. He feeds each cow rather sparingly than otherwise. Lavish and indiscriminate feeding is a folly all round. Cattle make the best return for the feed they eat when they get just as much as they will eat up cleanly, and with a relish. If a man's cows are habitually poor he will, very deservedly, be poor himself. It is the careful man, who feeds his cattle liberally, to whom profit always comes. A scientific ration for cows in milk is all very well where the farmer understands the subject well, and has time and money to devote to it, but it cannot be left to servants, and the rank and file of dairy farmers can hardly be expected to take it much in hand. The farmer who feeds his cows liberally is usually on the right track for profit, and he knows that low-priced cake or corn is not the best of its kind to buy. The best is generally the cheapest in the end, and a variety of sorts is a good thing for milk. The most practical and important feature in the feeding of dairy cows is to give them just so much feed, whatever it may be, as they will eat up cleanly and with a relish. Under feeding is an evil, and so is over-feeding.

CATTLE AND MILK ON THE CONTINENT.

We hear a lot about the children of the Continent requiring milk. Happily for France and for the world, no comparison can be drawn between the conditions of the children of France and of the large towns of German-Austria. Even the tragic state of Lille after the withdrawal of the Germans, when 60 per cent. of the children were found to be undersized and 40 per cent. tuberculous, was not so terrible as that of Vienna now, a city of 2½ million inhabitants, where one never sees a normal child in the streets, and where practically rickets and tuberculosis are wide-spread. This ghastly state of affairs is the direct result of malnutrition, and above all the absence of milk. In Germany, which is much better off than German-Austria, milk is only allowed for serious invalids and for children up to 6. In practice there is next to none for children over 3.

According to the Brussels paper, "Soir," Belgium is in sore need of dairy cattle and says the "Soir": "In demanding from Germany only 50,000 milch cows and 40,000 heifers we are showing extreme generosity. As a matter of fact, Germany stole from us 322,850 cows, which corresponds to an annual loss of considerably more than two hundred million gallons of milk, or nearly 35,000 tons of butter."

HOW PRICES HAVE RISEN.

How much our live-stock and agricultural produce prices have risen of late years is proved by an official document issued by the Board of Agriculture. Generally speaking, those commodities have increased on the average in selling value some 153 per cent. above the price of 1906-8. The highest increase was in beans and peas, which went up 403 per cent. Fruit rose 353 per

cent., and vegetables 218 per cent. Farm products showing the lowest increases were potatoes 116 per cent., wool 108, sheep 103, hay 120, and butter 119 per cent.

It is necessary to go back to 1818 to find a higher average price for wheat than in 1917, and to 1812 for a higher average for barley, while for oats there is no previous instance during the period for which the records are available, namely, since 1771, of an average so high as 49s. 10d. in 1917, and 49s. 4d. in 1918, the previous record being 44s. 6d. in 1912. The prices of store cattle were generally higher in 1918 than in 1917, the average for first quality two-year-old Shorthorns being £27 8s., as compared with £26.

I regret to say that we have got a bad outbreak of Foot and Mouth Disease in England—NOT in Scotland. There are four serious centres of disease, and they are so far apart that there is no suggestion that one had produced the others. The districts affected are the Isle of Wight, Warwickshire, Lincolnshire and Huntingdon and Cambridgeshire.

The whole staff of the Animal Diseases Division of the Board is hard at work, and all animals found to be suffering from the disease, as well as those which have been in immediate contact with diseased animals, are slaughtered. The seriousness of the situation lies in the fact that the four centres of disease are spread over so comparatively large an area, and the present position in regard to the food and milk supplies of the country renders it more than ever necessary that every possible step should be taken to prevent its spread.

In the epizootic of the "eighties," in which it was not the policy to slaughter for foot-and-mouth disease, it was estimated that the loss to the nation was about £10,000,000. The mortality from foot-and-mouth disease is very low, but the animals go right out of condition, and therein lies the seriousness of the position at the present time.

The Middlesex Registrar Controversy.

A considerable stir was created locally and through the press by the appointment of Miss Minnie V. Walker as Registrar of Middlesex County. Apparently the Provincial Government made the appointment without consulting the members from Middlesex or the United Farmers' Clubs in that County. Harold Currie, Director of the U. F. O., has made himself the spokesman for those in whom the fires of the old patronage system seemingly slumber still and has been the means of continuing the controversy which never should have been started. Miss Walker was given the position because she served in the office during the term of the late Registrar, and has been in charge since the death of her superior officer last spring. No one has questioned her qualifications for the position, and the Government considered only her merits and competency. There has been some discussion locally as to just what is meant by patronage, but in a letter to Mr. Currie the Premier said: "I can see no half-way stopping-place between filling appointments with the sole object of efficiency and slumping back to the old patronage system, which we all oppose so strongly."

"As I see the matter, the facts are as follows: Miss Walker, of whose political past I know nothing, has been filling the position as Deputy Registrar very acceptably for some months. It would appear that if we adopted simple business sense in making appointments that as a matter of promotion she should have the office. I have investigated as to her qualifications and it appears that no one can urge anything against her on the ground of her not being able to fill the office efficiently. Then, if we turn her down, it must be simply because she is not of our political group. If we did that it seems to me that we have fastened upon ourselves with all its evils, the old system of 'to the victor belongs the spoils'."

Wheat Board Orders Advance in Wheat Price.

The Canada Wheat Board has ordered that the price of Manitoba wheat to mills in Canada be raised from \$2.30 to \$2.80 per bushel, in store at public terminal elevators Fort William or Port Arthur. This ruling became effective at midnight, December 27. The Chairman of the Board, James Stewart, has also announced that in connection with the above advancement in the price of wheat, and the consequent increase in the price of flour, permits will be issued for the importation of American products, which will allow some of the cheaper flours produced in the United States to enter Canada.

Number 1, Alberta Red, winter, and No. 1 Northern Manitoba is now set at \$2.80 per bushel, including 5 cents per bushel carrying charges. The various grades lower in standard range down to \$2.25½ per bushel, including 5 cents per bushel carrying charges, for No. 1 British Columbia wheat, in store Canadian Government elevator, Vancouver.

The second regulation, No. 77, says that the maximum wholesale price of flour from midnight, December 27, 1919, will be

A. Government standard spring wheat flour, \$13.15 per barrel, basis 98 pounds net, jute bags.

B. Government standard winter wheat flour, \$10.10 per barrel, basis 98 pounds net, jute bags.

Ontario wheat is not directly affected by this order, but it is thought that the increased price for the Western product will have its effect upon Ontario wheat. At time of writing millers are studying the recent order and are not in a position to state what they will be willing to do in regard to Ontario wheat purchased locally.