

POISONOUS PLANTS IN THE HAY

(Experimental Farms Note)

Much loss may be avoided by paying a little more attention to the quality of food that is fed to live stock. To use as food, hay which is 50% coarse and unpalatable weeds is not the best means of keeping stock in good condition, nor is it more wise to feed them poisonous plants.

Most animals have an instinctive knowledge of injurious foods and will push aside and leave suspicious portions of their hay. But this refuse is often chopped up with the fodder in such a manner that they must eat it or starve.

Bracken is conspicuous in hay by its coarse foliage and rusty green color. A closer examination will reveal on the under side of the leaves, a narrow band or margin of rusty brown. All bracken should be removed from the hay and burned. It will not do to leave it for bedding, as greedy horses will eat their bedding while waiting for their regular feed. No ill effects appear after eating it once or twice, as bracken poisoning is slow and cumulative.

The leafless branches of horsetail are also readily distinguished by a difference in color, being of a darker and more bluish shade of green than the ordinary hay. Other differences are the hollow stems, the leafless, furrowed, and jointed branches with sharply pointed teeth around the joints.

The poisoning of cattle in the west has occurred from eating the seed-pods of larkspur dried with the hay; loss might easily have been avoided by picking out the coarse stalks with the three parted pointed pods. The leaves of the larkspur resemble those of the buttercups, and are very toxic in a fresh green state. But with maturity they lose their toxicity, which then becomes concentrated in the seeds. Thus a very small quantity of pods and seeds will cause death.

Another noticeable plant among hay, harmful to sheep, is the lupine. The pods and seeds are the most poisonous portions of the plant, and these are often cut with the hay in the western provinces. The action of the poison is not cumulative and hence animals may feed upon the plant without much harm unless the toxic limit is reached. The toxic dose for sheep of the seeds alone is from 1 to 1 lb. and that of the seeds together with the pods is about 1 1/2 lbs. The pods are about an inch long, more or less hairy, and arranged at intervals along the stem.

A few moments spent each day in looking over the hay will well repay even the busiest owner of stock.

MINERAL REQUIREMENTS OF HOGS

(Experimental Farms Note)

Anyone familiar with the feeding of hogs knows that much crude or raw mineral matter is consumed by them, aside from that actually contained in the food eaten, and known technically as the ash content. While a general statement as to the mineral or earthy requirements of the hog may be made, certain abnormalities may appear at various stages of the animal's existence due to a definite lack of some vital constituent in an apparently perfectly balanced ration, this lack due, in turn, to the absence of the required mineral or salt in the soil that grew the foods. Here, of course, specific feeding is required.

In general, pigs under summer or outdoor conditions supply their own wants in the foregoing connexions, consuming earth, slate, weathered stones, ashes, wood, etc. If they are pen-fed, some two or three of these easily available materials may be supplied. Even under outdoor conditions, however, many large feeders provide supplemental mineral and corrective feed. Of these, charcoal in various forms, ground rock phosphate, ground limestone, slaked lime, bone meal, wood ashes, salt, etc., are the most important. A readily accessible supply of a mixture of the above is advised as a general corrective of possible deficiencies in the mineral constituent as supplied by the regular ration.

GENERAL RECOMMENDATIONS:

For Breeding Stock in Winter: Soda, earth, and ashes are easily supplied. Charcoal may be purchased in various degrees of coarseness, or may be supplied from charred corn-cobs, or wood. Aside from the value of its mineral constituent, charcoal is an excellent tonic and corrective. Where the spring titters lack evidence of strong, bony structure, a mineral deficiency of the dam's ration during gestation is often responsible, where other probable causes are difficult to ascribe. Hairless pigs at birth, a phenomenon difficult to explain definitely, would seem to have as one of the several probable causative conditions, some mineral lack in the blood-flow of the dam. Feeding the pregnant sow a mixture containing charcoal, ground rock-phosphate, slaked lime, wood ashes, and salt will frequently prevent the condition. These constituents are cheap and easily procurable. Aside from their value as a natural food in winter, roots supply much mineral constituents in themselves and in the earth which usually accompanies them.

For the Sucking Pig: The winter farrowed litter should have access to earth, soda, and ashes, as soon as they begin to

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run about. This, with the milk of a properly fed dam, will usually suffice. Early spring litters should be similarly supplied and allowed to run outside at the first possible moment.

For the Fattening Pig:—Fattening hogs, particularly if pen-fed, should be supplied with a general mixture. A box kept filled, or a self feeding device, will allow the hog to appease the demands of the system. Here, with the heavily-fed hog, charcoal in some form is particularly indicated both from the mineral and medicinal standpoint. Rock phosphate, bone meal, slaked lime, and granulated charcoal would supply practically all of the necessary elements. Some doubt exists as to the necessity of salt for hogs. All domestic animals require it in greater or lesser quantities. With the hog it is preferable to allow free choice rather than to force the consumption of definite quantities. Salt, therefore, should be added to all mineral or corrective mixtures.

To conclude,—in most localities simple home-procured mineral foods, as mentioned, will prove sufficient. To the feeder who wishes to leave no stone unturned or in localities where there is evidence of a lack of necessary plant-food, a more diversified mixture would be indicated. The quantities consumed are so small comparatively, that the cost will prove almost negligible. The growth and development of hogs, with rations so supplemented, cannot be injured and in most cases will likely be greatly benefited.

CANADA AND HER EGGS AND BUTTER

Canada has 27 fowls, compared with 100 in Holland, 166 in Denmark, 65 in Germany, 2 in Argentina, and 32 in the United States. This contained in a handy statement, plain to grasp at a glance, issued by the Canada Food Board. Increased production of live stock is of vital importance to Canada's future, and is the most valuable reconstruction work that can be done.

In fifteen of the most important fowl states of the United States there are 196.4 fowls per square mile, and a total of 203,000,000 fowl.

Britain normally imports 190,850,520 dozen eggs. She had a war shortage of 124,786,750 dozen. Sixteen years ago Canada exported 2,128,500 dozen, and up to October 31st, 1918, 3,861,389 dozen, were exported. If Canada in 1919 exports as many eggs as she did sixteen years ago she will be living up to her egg opportunity.

Britain before the war imported 452,795,264 pounds of butter a year. The shortage of butter in Great Britain due to the war was 209,148,784 pounds yearly. Twelve years ago Canada exported to Great Britain 33,888,074 pounds of butter. Two years ago she exported 6,783,466 pounds of butter. Compared with twelve years ago Canada has not lived up to her butter opportunity.

LIVE STOCK SHORTAGE

An enormous deficiency in the stock of food animals in the principal European countries has occurred in the past four years of war, during which period production was necessarily hampered, while consumption by the armies probably more than made up for the decreased consumption of the civilian population. The fighting men had to have plenty of meat.

The estimated decrease in European live stock since the war, not counting Russia, Austria-Hungary, and the Balkans, is made up as follows:

Cattle	28,080,000
Sheep	54,500,000
Hogs	32,425,000

Total 115,005,000

Last census Canada's total live stock numbered as follows:

Cattle	6,526,113
Sheep	2,174,300
Hogs	3,634,778

Total 12,335,191

In other words the decrease in Europe is nearly ten times the total live stock population of Canada, counting only those leading countries from which figures are available.

Britain's imports as based on normal figures, are:

Beef	1,077,154,000 lbs.
Pork	1,261,082,032 "
Butter	452,795,264 "
Eggs	190,850,520 doz.

Canada, in the year ending in the fall of 1918, exported:

Beef	104,710,813 lbs.
Pork	149,934,593 "
Butter	6,783,466 "
Eggs	3,861,389 doz.

The demand for Canada's animal products during the re-construction period of Europe will be as great as, or greater than, the demand during the war, according to those in touch with the situation.

Canada will have a net war debt of about \$1,300,000,000 for war expenditures alone, by March 31st, next. Her exports of animal products increased during the war from \$53,400,000 in 1913-14 to \$172,700,000 last year. The opportunity exists for holding this trade and paying off Canada's war debt inside ten years by live stock alone.

FEED NOW PLENTIFUL

"The feed situation in Canada is now excellent," declared an official of the Feed Division of the Live Stock Branch at Ottawa. "There is plenty of feed offering, both Canadian and imported. There is plenty of corn, plenty of concentrates, plenty of screenings. The Dominion Government have a reserve of 100,000 bushels of corn offering at \$1.50 f.o.b. Tiffin, Ont., 25,000 tons of linseed oil meal in 200-pound sacks, at \$64.00 a ton, f.o.b. Toronto, and \$66.00 f.o.b. Montreal.

"There seems to be a big supply of flaxseed in the country, for the oil crushers are all busy now. Bran and shorts are purchasable on the open market today in straight carload lots, without the war-time necessity of buying flour as well as mill feed. We have 15,000 tons of screenings at Fort William, and we are offering No. 4 yellow corn throughout the Western Provinces on a basis of \$1.40 a bushel, f.o.b. Minneapolis. There is a plentiful coarse-grain crop throughout the greater part of the country, farmers having sown mixed barley and oats for feed purposes to a larger extent than usual. So, with the Government reserves and the commercial offerings, there is no danger of feed shortage in Canada. No body need worry about that."

THE DEVELOPMENT OF BRITISH FISHERIES

LAST week the National Sea Fisheries Protection Association presented an important Memorandum to Mr. Prothero, proposing that a Ministry of Fisheries should be created. As every one knows, the official management of the fisheries has long been combined with that of agriculture. This is rather like an attempt to combine two irreconcilable elements, if we may accept as a guide the prejudices of seamen—the kind of prejudice which Mr. Kipling describes so delightfully in *Captains Courageous*. In that story the member of the cod-fishing crew who spent part of the year on the Newfoundland banks and part of the year on his farm, used to be called to order for talking about farming when he was at sea. The proprietors, as he had constantly to be reminded, demanded that the two things should be "kept separate." For all that, we have no strong conviction that agriculture and fisheries could not be controlled by the same Department if it did not happen that the fisheries were almost instinctively put in the second place. Agriculture has been sufficiently neglected by past Governments in all conscience, but the fisheries have come off even worse. Probably the majority of Englishmen do not even know that the Board of Agriculture is also the Board of Fisheries; they speak simply of "The Board of Agriculture." The point is that the fisheries are in the greatest need of development, and that, if they cannot be developed by the existing organization, then the case is proved for the creation of a new authority.

When we are all considering ways and means for a greater output of food within the United Kingdom, it is ridiculous not to treat the fisheries very seriously indeed. For our part, we are hearty supporters of the Corn Production Act. Although it may not be possible to feed the nation entirely from the products of our own soil, an approximation to that condition can be and ought to be achieved.

"Another age shall see the golden ear. Embrown the slope and nod on the parterre, Deep harvest bury all their pride has planned. And laughing Ceres reassume the land." Now, it is hardly an exaggeration to say that if the fisheries were developed as they could be we could fill the margin necessary to make us a self-feeding population. Even if there were not unanswerable reasons for developing the fisheries as a national policy, we should still owe our fishermen all the help we could possibly give them. They have been for all practical purposes during the war part of the fighting services. Exposed to mine, torpedo, and gunfire while on the fishing grounds, for more than four years they have suffered their "bout o' passive strife" with unexampled gallantry. Fishing fleets have been largely manned by old men and boys, for the able-bodied fishermen were, of course, absorbed by the Navy and the transport services.

The history of British fisheries as summarized in the Memorandum is very curious. In the early and middle ages fresh meat was hard to come by, especially in winter, as winter fodder was scarce, and stock was generally slaughtered in the autumn and salted down. At the same time fast days were observed, and there was a heavy demand for fish on the meatless days. Harvest laborers, even far inland, were fed on fresh herrings, and armies, fortresses, and ships received as rations as much fish as meat. By the time of Queen Elizabeth fast days were much less strictly observed and there was considerably more meat. The fishing ports began to decay, and the fisheries did not really revive till early in the nineteenth century, when the French Wars had caused a serious shortage of food. About thirty years ago the industry was revolutionized by the application of steam-power to fishing. From 1889 to 1899 the annual British catch averaged

twelve million hundredweights. In 1913 the catch was nearly twenty-five million hundredweights. Quite apart from restoring and expanding the steam fleets of the fisheries, which have suffered both destruction and depreciation from the war, there is the very important question of helping the fishermen who fish local waters in small vessels to furnish themselves with motor-power. A beginning had been made before the war with the very profitable application of auxiliary motor-power to small sailing vessels. Even a small and comparatively weak motor helps the fisherman to "save his tide," as he says, and so to market his fish perhaps twelve hours sooner than he could otherwise have done. In the use of motor-power England was sadly behind Scotland, while Ireland was nowhere. But even the Scottish figures could not bear comparison with those of several Scandinavian countries where the Governments make a practice of helping the fishermen to buy motor-power. The present writer has sometimes watched with a feeling more akin to despair than amusement the use of steam on the fine fishing smacks which sail out of Ramsgate Harbor. Steam is used to work the winches for warping the smacks alongside the quays, and indeed for numerous purposes, always excluding the propulsion of the vessel itself. A similar amount of power—or even less—derived from an internal-combustion engine would enormously increase the range and speed of the vessels. These steam winches ought long ago to have been on the scrap-heap. The writer used to wonder why the obvious change was not made when small marine engines were already becoming comparatively cheap. Probably want of capital rather than pure conservatism—though sea conservatism is of course very strong in its hold—was the explanation. In our present state of knowledge, or rather want of knowledge, it is impossible to make any statement on the finances of the fishing industry. It is a strange fact that the members of the National Sea Fisheries Protection Association estimate the capital invested in British fisheries at anything between £50,000,000 and £200,000,000. The wide differences in the estimates show how cloudy the whole subject is.

One of the greatest defects of the fishing trade in the past has been the shockingly bad system of distribution. It is a common experience for people who live quite near a fishing port to have to send to London or some other distributing centre for fish. For many years we have all of us been familiar with paragraphs in the newspapers about gluts of herring, mackerel, and sprats. The very word "glut" is a disgrace, because it is a confession of failure. It means that distribution has broken down. No doubt country people will require a good deal of education about fish; they have their prejudices, and much good food is wasted because they will not always eat even that which is brought to them. The present writer remembers talking to English and French fishermen in Penzance Harbor who were exchanging their catches in order that both sides might be able to satisfy the peculiar tastes of their own nations. For example, *langoustes*, which had been caught off the Irish coast, and which are much prized by the French were being exchanged for lobsters, which had been caught by French fishermen, but which had a much better market in England. Again, Englishmen were unloading all their skate upon the Frenchmen. Skate though eaten in England, is by no means a popular fish; yet who that has ever eaten a *raie au beurre noir* would despise it? At Brightlingsea shortly before the war some enterprising foreigners had established a factory for pickling sprats. Before this industry began it had been the local practice to sell gluts of sprats at a ruinous figure to the farmers to spread over the fields as manure. As regards the value of fish in feeding the nation, an interesting paragraph from the Memorandum must be quoted:—

"There were before the war 25,000 fried fish shops in the country, which employed 30,000 people and distributed 150,000 tons of fish annually, or 18 per cent of the total fish consumed in the United Kingdom. It will be news to nearly every public man who reads this Memorandum, but the fried-fish shops are the organization which more than all others is equipped to overcome the food crisis in the big cities. They are 'National Kitchens,' old established, run by experts, and providing really excellent food to the people who most need it. £3,000 a week are spent in Bradford, £20,000 a week in Sheffield, in these invaluable institutions—560,000 square meals in two towns. The fish friers have done their share in defeating the German Navy. The Fishing Industry

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CANADIAN FISHERIES IN NOVEMBER

Ottawa, Dec. 20—Stormy weather on both the Atlantic and Pacific Oceans interrupted fishing operations last month, according to the November statement issued by the Naval Department. Fifteen men were lost on the west coast of Vancouver Island during the month, in connexion with the fisheries, and one man on the coast of Victoria county, N. S. The statement shows that the value of the total catch of sea fish during the month in Canada was somewhat greater than in November, 1917. This year the total value at the point of landing was \$2,241,163, while a year ago 2,145,760. There was an increase of more than 12,000 hundredweight in the herring catch all over the Atlantic coast. The sardine fisheries in the Bay of Fundy were exceptionally good, amounting to 65,025 barrels, as compared with 53,653 in November, 1917. The quantity of cod, haddock, hake, and pollock landed was 87,311 hundredweight, against 10,694 hundredweight last year, the greater part of this shortage being in haddock. The new lobster fishing season opened in Charlotte and St. John, N. B., on the 15th, and more than 1,000 hundredweight were taken in the half month. The catch of oysters amounted to 3,979 barrels, as compared with 4,311 barrels in November, 1917. Scallops to the extent of 2,000 barrels were taken in the Chester Bay district of Nova Scotia.

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