

tion by the department of agriculture as to the possibility of manufacture in the United States are: From Italy, the Gorgonzola, made from the unskimmed milk of the cow; Parmesan, or Reggiano, a cow's milk cheese popularly used for grating into macaroni or soup; Romano, or Pecorino, from sheep's milk; Caciocavalli, said to be thus designated because it originally bore the imprint of a horse's head as a trade mark; and Provoloni, a hard rennet cheese from the milk of the cow or buffalo; and from Switzerland, the Schweitzer, a rennet cheese, and the Emmenthal, similar to the Schweitzer, but harder and richer of milk. Cheddar and Cheshire cheeses, made in England, are very popular in this country, as also the Roquefort and Neufchatel cheeses of France, the Camembert of France and Germany, the Stilton cheese of England, and the Edam cheese of the Netherlands. The tariff of 1913 changed the duty on imported cheese from 6 cents per pound to 20 per cent ad valorem.

Our consumption of cheese in 1910 was 3.8 pounds per capita. The domestic cheese product, ranging between 320 and 330 million pounds annually, is from five to six times as much as the annual import of foreign cheese. The census of 1910 credited Wisconsin with a production of 149 million; New York, 106 million; Michigan, Pennsylvania, and Ohio, from 12 to 14 million pounds each; and Illinois, Oregon, California, Vermont, and Minnesota, from 3 to 5 million pounds each. Utah and Iowa each produced over 1 million pounds; and Colorado, Indiana, Arizona, Washington, Missouri, and New Hampshire, approximately a half million pounds each.

Markets for Cooking Fats and Coal.

Although a considerable quantity of lard from the United States is already used in some South American countries, South America presents good possibilities as a market for cooking fats from the United States. Argentina uses beef fat, or edible tallow, almost exclusively, except in the Spanish and Italian colonies, which consume large quantities of olive oil. In Chile, the native "grasa," a mixture of beef and other fats, divides the trade with lard and cottonseed oil. In Uruguay beef tallow comprises 80 to 90 per cent of the total sales of cooking fats, and in Brazil, Colombia, Ecuador, Peru, and Venezuela, lard constitutes 75 per cent or more. The subject is discussed in Special Consular Reports, No. 67, entitled Cooking Fats in South America.

At present there are markets to be had for American coal in Europe, South America, Mexico, India, and Egypt, according to Special Consular Reports No. 69, Foreign Markets for Coal. Certain countries of Europe have been dependent on Germany and the United Kingdom for their coal supply. Denmark and Sweden purchase almost all their coal from the United Kingdom, and distance and high freight rates will handicap the American shipper in competing for this trade when conditions return to normal. But Sweden has bought some American coal during the last few months, France stands ready to purchase in the United States if prices can be arranged, Italy is threatened with a coal famine, and it is reported by cable from Madrid that Spain offers a market for American coal of all grades. South American coal supplies have come chiefly from the United Kingdom, Australia, and Germany; but the United States had more of a foothold on the southern continent than it had in European markets, and American exporters have already begun to take advantage of present conditions to increase their sales.

DEPARTMENT OF AGRICULTURE

FOOT-AND-MOUTH-PLAGUE SUBSIDING

On April 1, for the first time since the plague appeared in Michigan last October, there were no animals in the United States known to be infected with the foot-and-mouth disease. This condition lasted for a few hours only, but it was an encouraging stage in the department's campaign against the pestilence. The cases that have been reported since then have all been in territory previously infected and are regarded as more or less sporadic outbreaks. Such cases are to be expected for some time yet, for although all the diseased animals may be killed it by no means follows that all possible sources of infection have been destroyed.

Up to April 15 the foot-and-mouth disease had cost the country the loss of 146,138 animals; many times greater than the loss in any of the previous outbreaks. The significant feature of this loss is the very large percentage of hogs included in it. In the outbreak of 1908, 56 per cent of the loss was in cattle, 37 per cent in hogs, and the remaining 7 per cent in other animals.

In 1902 the loss in cattle amounted to nearly 87 per cent of the total and that in hogs to only 8 per cent. In the present outbreak, however, the loss in hogs has been almost equal to that of the cattle, namely 47 per cent of the total. Sixty-eight thousand seven hundred seventy-six cattle have been lost, and sixty-eight thousand two hundred seventy-five hogs.

This very striking increase in the number of hogs lost is to be attributed, in the opinion of federal authorities, in large measure to the practice of feeding raw skimmed milk. Just how the disease found its way into Michigan is not yet known, but it has been established that some infected milk was sent to a creamery. After this infected milk had been skimmed it was mixed with other milk and returned raw to the creamery patrons to be fed to their hogs. In this way the disease was spread in Southern Michigan, and a herd of infected hogs carried it to the Chicago stock yards. There is every reason to believe also that skimmed milk spread the contagion in the same way in other localities.

For this reason those in charge of the campaign against the pestilence believe that experience in this outbreak has demonstrated the need of state legislation, requiring the pasteurization of all skimmed milk that is to be fed to live stock. Pasteurization has been shown to be a complete safeguard against the spread of foot-and-mouth disease through the agency of milk and this simple precaution would therefore close one of the most important channels of infection.

The sterilization of garbage fed to hogs is also recommended. Ordinary cooking of meat intended for human consumption would destroy the foot-and-mouth germs, but fat trimmings, and especially the marrow are not cooked, and if taken from a diseased animal are likely to be highly infectious. As approximately only 60 per cent of the meat consumed in this country is slaughtered under federal inspection, there is no certainty that much of it may not be diseased. If the waste trimmings and fat are fed along with other garbage to hogs they may well spread foot-and-mouth disease.

Probably the chief danger of a renewal of the epidemic lies now, however, in the existence of concealed sources of infection. Now that the disease is more thoroughly under control than at any time since its first appearance, it is highly important that every suspicious case of illness in stock should be reported at once. Under favorable conditions the foot-and-mouth germ may survive for a considerable period of time, and no matter how thorough the work of disinfection may be it is always possible that some of the carriers of contagion may have escaped destruction. For this reason, as has already been said, sporadic outbreaks are to be expected from time to time. If these are reported at once, the spread of the infection can be stopped. If any attempt is made to hide or ignore them, however, in the end the stock owner will not only suffer himself, but he will bring loss to the entire country.

RURAL WOMEN'S NEEDS

Replies to the letter which the secretary of agriculture addressed some time ago to the housewives of 55,000 crop correspondents of the department, have now been published under the titles of Reports Nos. 103, 104, 105, 106, of the office of the secretary. In his letter the secretary asked these women to suggest ways in which the department could render more direct service to them and to the other farm women of the country. Something over 2,000 letters were received in answer to this request, and are contained in whole or in part in these bulletins.

Perhaps the most striking feature of these letters is the eagerness the writers display for information which will lighten and at the same time make more effective their daily tasks. This information they look to the department of agriculture to furnish them. They also look to the department for assistance in making their own lives and the lives of their children brighter and richer. They wish bulletins, personal demonstrations, lectures, and exhibitions to point out ways of improving the material condition of their lives, and they also wish advice and assistance in the better organization of rural communities for social life. They say repeatedly that the department has done much to assist the farmer in his field work but that this assistance has not been extended in the same measure to the farmer's wife in her housework.

Another significant feature in these letters was the large proportion of writers who had never had brought to their attention the work that the department has already done in this way. For this reason the new bulletin contain-

ing these letters also contains appendices in which are classified lists of all government literature of special interest to farm women. Many of these publications are, of course, the work of other departments and their has hitherto been no convenient classification of their titles.

CURCULIO GRUB A MENACE TO ALFALFA

The clover-root curculio is a tiny grub which is now found in most of the northern states east of the Mississippi, in Washington, Oregon, Idaho, Utah, and Colorado in the west, and in Virginia, North Carolina, Tennessee, Kentucky, and Louisiana. It seriously injures the roots of clover and alfalfa and sometimes works its way upwards into the stem. In the past the insect was of little importance, but it seems now to have been established that much of the damage attributed to other causes is really to the curculio's work.

Since May, 1914, when the first absolute proof was secured of the pest's depredations, the department has been engaged in a search for the most practicable method of control. The most efficient measure that has as yet been discovered is the disking and harrowing of the fields as soon as the first hay crop is removed. This process destroys vast numbers of the pupae which do not descend much more than an inch below the surface. Disking and harrowing should be done immediately after the removal of the first crop. Even if this does not altogether prevent injury to the second crop, it should considerably reduce the damage the following year.

DOGS THE FARM SHEEP'S WORST ENEMY

The production of sheep in the 36 so-called farm states, which do not include any in the western division, could be much more than doubled if their owners could secure adequate protection against dogs. In Farmers' Bulletin 652, which the department of agriculture has just issued, it is calculated that an increase of 150 per cent in these states could easily be accomplished without displacing other live stock, and that such an increase would mean in money \$144,267,000. Under present conditions, however, farmers are so reluctant to keep sheep that in the decade from 1900 to 1910 the number of sheep in the farm states actually decreased 3,900,000 in spite of a rapid rise in their market value. So rapid was this rise, indeed, that in 1910 the decreased number of sheep was worth \$19,000,000, or approximately 25 per cent more than the total value in 1900.

The number of sheep killed annually by dogs can not possibly be estimated with any degree of exactness for there are many cases which are not reported at all. The number is unquestionably sufficient to constitute a serious drain on the profits of the business which is at best conducted on a small margin. Moreover, the fear of such losses deters many men from risking their money in the business. Any one who has actually seen sheep killed or frightened by dogs is likely to think twice before investing in a flock. There are many cases on record where a whole flock has been chased until it drops dead from exhaustion, although only one or two sheep have actually been bitten.

A brief comparison with Great Britain shows at once how much this country is losing annually through its failure to take full advantage of the opportunity to raise sheep. In Great Britain there is one sheep or lamb for each 2.5 acres of the total area. In the 36 farm states in this country there is one sheep or lamb for each 31.8 acres. The British farmer handles his land on an intensive basis and feeds his sheep on forage crop pasture. This not only increases the fertility of the land but also frees the sheep from any internal parasites contracted from grazing on permanent pastures. In particular stomach worms which are one of the most prevalent and disastrous scourges of young stock can be avoided by the use of a succession of forage crop pastures. These, moreover, will enable the farmer to market lambs that were born in the late winter or early spring at the end of June or the 1st of July when market prices are usually the highest. Handled in this way and on high-priced farm lands, says the bulletin, the importance of a small flock of sheep can not be overlooked.

The one opinion that William Barnes, jr., repeated over and over again in his letters to his once friend, Colonel Roosevelt, was that the people lack the intelligence to govern themselves. In palliation it should be stated that Barnes has lived all of his life in New York and that his political affiliations have always been with the republicans of that state. The fact that it is untrue simply never came to Barnes' attention.