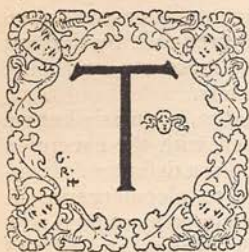


WHAT THE GOVERNMENT IS DOING FOR THE FARMER.



THE farmer was never before so prominent a figure in the United States. This fact is all the more noteworthy when considered in connection with the decreasing proportion of our population living in the country, and with the growing importance of our city industries as compared with agriculture. The explanation is to be found in the fact that the United States has just reached a point of marked change in agricultural conditions.

For more than a century the pioneer farmer has been working his way, year by year, toward the West. Beginning on the Atlantic coast, he cut the forests of New England, exhausted the fair fields of Virginia, tried and passed by the fertile valleys of central New York, stopped for a time in the Ohio Valley, completed the conquest of Kansas, quickly took possession of Nebraska and Montana, and now has come face to face with the agriculture of the Pacific Slope. During all this time he has planted his seed and gathered his crops without giving a thought to the destruction his methods were bringing upon the fertility of the soil. The exhaustion of the soil was a matter of no serious import, for to him its only meaning was an easy move to a new location. We of to-day see the birth of agriculture in the United States. The farming of the past was land-skimming; the farming of the future must be land-culture. Suddenly the old pioneer farmer has found the play played out, and the present wide-spread interest in the farmer is the manifestation of the fact that our agriculture—still the greatest of our industries—is under the necessity of accommodating itself to new conditions.

So long as the supply of virgin land was sufficient, agriculture asked few favors. The Eastern and Middle States have long been studying methods for preserving the soil, diversification of products, and means of protection from plant diseases, insect pests, and other enemies. But it is only recently that crop disasters or low prices, affecting the great staple-producing regions of the West, have brought the farming population to an agreement in the demand for help. This demand has called men of science to the study of the principles that underlie the

right practice of agriculture, and has asked the lawmakers for such protection and help as it is in their power to afford.

It is the purpose of this article to state very briefly the principal points of some of the more important legislation bearing upon agricultural interests. Space, however, makes it necessary to leave a large and important part of the field uncovered. By special exception, railroad legislation is treated in another article. Nor will any attempt be made to trace the effects of legislation, which, though of great influence on the welfare of the farmer, yet touches his interests only in common with those of others. This exception will throw out any consideration of the general effect of the tariff on the tiller of the soil. The specific protection meant for his direct benefit will be noticed, but it will not be possible to touch the still more important and more difficult consideration of the net results of the McKinley Act, arising from giving him control of the home market with increased prices for some of his products, and at the same time requiring him to pay increased prices for some of the articles which he consumes. Another important class of laws is composed of those relating to banking and money. The changes which are asked in these lines deserve the respectful and careful consideration both of the people at large and of Congress, but they can not be considered here. Another tempting topic which the writer must not discuss is the fairness to the farmer of the laws which distribute the burdens of national, State, and local taxation. Another body of laws of the greatest interest is State legislation; but all that can be done in this article is to make mention of some of the more interesting subjects which it covers. Prominent among these at present are the making and the care of country roads; and if it be true, as stated, that it often costs more to haul grain ten miles by wagon to the railroad than to carry it by rail and steamer from the interior of the United States to Liverpool, it will be seen that this subject deserves even more attention than it is now receiving. Other subjects are the control of the fertilizer trade, the inspection of milk, butter, meats, and other products, the liabilities of owners of stray stock, the necessity of fences, the regulation of the slaughtering of animals, the duties and privileges of grain-elevators and other public

warehouses, the work of commissioners of agriculture and of boards of agriculture, farmers' institutes, district libraries, and the like.

It is, then, the object of this article to state very briefly the essential features of the more important recent acts of Congress bearing upon the development of agricultural interests in the United States.

OLEOMARGARIN.

In 1886, at the solicitation of the dairy interests, Congress passed a law, which the President approved August 2, defining butter and imposing a tax upon and regulating the manufacture, sale, importation, and exportation of oleomargarin.

In 1867 a French chemist, Mège-Mouries, surmising that the presence of butter in milk was due to the absorption of fat contained in the animal tissues, began experiments on the separation of the oils of animal fat. He succeeded in separating fatty matter into stearin and oleomargarin, the second of which he used for butter-making. His discovery became known, and when introduced into the United States, led to the development of a large industry for the manufacture of artificial butter from beef fat. This fat is composed chiefly of three oils or fats—stearin, olein, and palmatin. The second and third are the largest constituents of butter. Stearin appears, but in very much reduced proportion. The manufacture is based upon the circumstance that the three fats melt at different temperatures, olein requiring the least heat and stearin the most. The animal fat is first carefully washed in cold water and cleaned from all portions of flesh and from other impurities. It is then heated until melted. The mixture of oils obtained is allowed to cool until some of the palmatin and a large part of the stearin become solid. The mixture is then subjected

to heavy hydraulic pressure. The fluid portion extracted is known as oleomargarin. When churned with a certain proportion of fresh milk a butter is produced which mixes with it, and the buttermilk imparts a flavor of fresh butter to the mass, making an imitation so perfect that it can scarcely be distinguished by taste from fresh butter. There seems to be little doubt that the product of this process, when made from carefully selected fats, by the best method, is pure, sweet, wholesome, and more palatable than some butters.

The act above referred to, popularly known as the Oleomargarin Act, with the exception of section 1, which contains a definition of butter, is devoted entirely to oleomargarin. It lays a special tax of \$600 upon manufacturers, of \$480 upon wholesale dealers, and of \$48 upon retail dealers. A stamp tax of two cents a pound, to be paid by the manufacturer, is assessed upon every pound or upon every package containing a fraction of a pound. It provides for exportation free of tax, and subjects imports to an internal revenue tax of 15 cents per pound in addition to any customs duty. Each package is to be marked, stamped, and branded as prescribed by the Commissioner of Internal Revenue. Severe penalties are imposed for manufacturing or selling without paying the proper tax, or buying from those who have not paid the proper tax, and for failing properly to label packages. The law, as introduced in Congress, was doubtless intended to prohibit the manufacture; but, as passed, it is a protective measure. It protects the butter-maker not, as originally intended, by imposing a tax sufficiently great to deprive oleomargarin of the advantage of cheapness, but by freeing butter from the competition of oleomargarin under the name of butter. It protects consumers from the imposition of imitation butter for real. The reports of the Commissioner of Internal Revenue show the following figures:

FOR THE FISCAL YEAR ENDING —	INTERNAL REVENUE RECEIPTS.		NUMBER POUNDS PRODUCED.		PERSONS ENGAGED IN TRADE, AS —		
	TOTAL.	PER MONTH.	TOTAL.	PER MONTH.	MANUFACTURERS.	WHOLESALE DEALERS.	RETAILERS.
June 30, 1887*	\$723,948	\$90,493	21,513,537	2,689,192	37 †	267 †	3416 †
June 30, 1888	864,137	72,011	34,325,527	2,860,461	30 †	166 †	2316 †
June 30, 1889	894,248	74,521	35,664,026	2,972,002	24 †	199 †	3982 †
June 30, 1890 †	786,292	65,524	32,324,032	2,693,669	22 †	179 †	3529 †
June 30, 1891	1,077,924	89,827	44,392,409	3,699,367	19 §	255 §	5914 §

* For 8 months from November 1, 1886, when the law went into operation. † For the "special tax year" ending April 30.

† The cheapness of butter and stringent State laws account for the decrease.

§ For 14 months ending June 30, 1891. The law of Oct., 1891, made the "special tax year" end June 30, to conform with fiscal year.

Those who wished to prohibit the manufacture and sale have been disappointed, for the oleomargarin industry has actually increased since the passage of the act. It has not, however, failed in noteworthy results. It has helped to raise the price of butter, especially that of good butter. Further, by confining the oleomargarin competition to the poorer grades of butter, it has doubtless caused improvement in these grades. Again, by preventing oleomargarin from masquerading as a more expensive article, it has kept the price down, greatly to the advantage of consumers. And, lastly, by compelling oleomargarin to be sold under its own name, it has relieved that product from the reproach of being a fraudulent article and has given it an honorable position in commerce as a legitimate means of utilizing waste products, and as a cheap, wholesome substitute for an expensive necessity.

THE FARMER AND THE WEATHER.

THE weather service of the United States was until recently under the charge of the War Department, and its conduct was a part of the work of the Signal Office. Under this management it devoted itself chiefly to the interests of commerce, though some attempts were made to help the farmer by warning him of frosts and floods, and by studies in lines in which he is especially interested. By an act approved October 1, 1890, the weather service was transferred from the War Department to the Department of Agriculture, of which it became a bureau, and it is expected that every effort will now be made to increase the value of the service to agriculture. The development of the work of this bureau will be of great interest to the farmer. In the past, good reasons have rendered it impossible to make the weather service of very great value to him. In the main its work has been the preparation of the familiar predictions, which have been made for large areas. At present the areas selected are single States. The predictions are made by an officer in Washington to whom observations are reported from a large number of stations situated in various parts of the country. He glances over these reports, noting the places where rain has fallen, and the network of temperatures and barometric pressure; sees how the conditions have been changing since the last predictions were made; and, perhaps with scarcely time to weigh the reasons for his conclusions, makes up his predictions in regard to the weather of the immediate future. He can give but a very small amount of time — perhaps two minutes — to each State. Any decrease in the size of the districts would, by increasing their number, make shorter the time to be devoted to each.

Moreover, an increase in the number of the details to be considered, such as would result from making the districts very much smaller than the States, would greatly augment the difficulty of making any predictions at all. It will be seen that it is impossible for one observer at Washington to make local predictions.

The farmer, however, cares very little to know that rain is to fall in his State or that a frost is likely to occur within three or four hundred miles of him. He wants to be warned of the frost and the summer downpour that now find him unprepared. But in order to make such predictions as his needs require, it is necessary to take local conditions into consideration. A lake, a river-valley, or a forest may affect the weather of adjacent regions. Mountains or hills quite insignificant in the calculations of the Washington prophet will sometimes determine the weather of many farms. If these influences are to be considered, the work of forecasting the weather must be divided, and, in addition to the general predictions from Washington, we must have local predictions prepared by officers in charge of small districts. Such officers have already been appointed by the Secretary of Agriculture, and their number will doubtless be increased when the usefulness of their work is shown. This, however, can not be fully demonstrated until, by the cheapening of telegraph and telephone service, and by the extension of free mail delivery, effective means are found for carrying the predictions to the farmer in time for his use. The present work of the local observers is of service in perfecting their methods, and their forecasts are of great usefulness to the farmers who can be reached; but their full value can never be realized until it is possible to put them promptly into the hands of all the farmers who can use them.

It is also to be expected that the Weather Bureau will undertake the study of those problems which lie in the common domain of meteorology and agriculture. Thus it will doubtless make systematic studies of the climate, which is almost if not quite as important to the farmer as the soil which he cultivates; for it is the climate more than the soil which fits a given region for particular crops. We speak of the peach land of New Jersey and Delaware, but it would be nearer the fact to speak of the peach climate. It is chiefly climate that fits Florida and California for the orange, the North for corn and wheat, and the South for cotton and sugar-cane. In this line the Weather Bureau can be of great service to the farmer, and it need not wait for improvements in the facilities for communication, for climate is permanent, and there will be no difficulty in presenting results of its study in time. Very little work of this kind has yet been done,

but the following quotation from an article by the present chief of the Weather Bureau, written before his appointment, will indicate some of the possibilities :

The State services have in several cases published climatic studies of their own States which are useful, although they have not exhausted even the material on hand. They are in all cases to be looked on as provisional, mere sketches and outlines, to be followed by more complete studies. There are also many individual problems which have been studied with more care. Professor Chickering has called attention to the warm band existing half-way up the Alleghanies. Mr. Alexander has found a cold island in southeastern Michigan. Mr. Curtis has made a careful study of the hot winds of the plains. More complete are the studies made by Dr. Waldo on the distribution of average wind velocities over the States; by Professor Davis and others on the sea breezes of the Massachusetts coast; and by Professor T. Russell on our cold waves. These are all of high importance to the farmer, but the number of them is so small that they hardly do more than serve as specimens of what can and ought to be done for him.

This work will doubtless be entered upon at once, and we may confidently look forward to the time when we shall have a complete climatology for each region of our country. From this the farmer may learn the danger of torrential rains or cloud-bursts, the amount of dew to be expected, the average temperature and the extremes of variation, the frequency and amount of rain, danger of droughts, distribution of snow, amount of sunshine, and the like. These data will go a long way toward indicating the possibilities of profitable culture in any region.

There are other important problems which the bureau will study or which it will perhaps assist the agricultural experiment stations in studying. Among these are, for instance, the meteorological conditions most favorable to the growth of individual plants. It has been found that the cotton-plant requires in the earlier part of its growth plenty of warmth and moisture to develop stem and foliage, while in the later period of growth less moisture is desirable in order to favor full and early development of seed and lint. The meteorological conditions of South Carolina are generally favorable, but the right cultivation of the soil is necessary. Of late years the improvements in the regulation of the moisture by the management of the soil are noteworthy. Sea-island cotton is famous for its quality, and brings a high price, yet some years ago it was thought that the culture of this cotton must be abandoned even on the sea islands, largely because its season of growth, which was so long as to render it liable to be caught by frosts, made the crop very uncertain. Improved methods of culture have, however,

materially hastened the maturity of the plant and brought it well within the length of the season. Similar determinations of meteorological requirements should be made for other staple crops.

Studies should also be made of the way in which plants are affected by removal from one climate to another. We know that an apple which is successful in New York may be an entire failure in Virginia, but we know little of the laws which govern the adaptability of plants to climates. Still other problems are connected with forests, soils, the movement of water in the soil, and the effect of climatic conditions on insect and other pests.

It is easy to see that when specialists turn their attention to this field of work, as yet almost unexplored, many opportunities will present themselves for investigations of great moment to the farmer, and it is not improbable that the act which placed the weather service in charge of the Department of Agriculture may some day come to be regarded as one of the most important originating in the eventful Fifty-First Congress.

A NEW SUGAR INDUSTRY.

THE act making appropriation for the United States Department of Agriculture for the fiscal year beginning July 1, 1891, contains the following provision :

Any manufacturer of sugar from sorghum may remove from distillery warehouses to factories used solely for the manufacture of such sugar distilled spirits in bond free of tax, to be used solely in such manufacture; all distilled spirits when so used may be recovered by redistillation.

For a number of years sugar-making experiments with sorghum have been conducted by the Department of Agriculture. Sorghum, sometimes called Chinese sugar-cane, is a cane-like grass, having the general appearance, stature, and habit of broom-corn and the taller varieties of maize, but more slender than the latter and bearing no ears. It contains an amount of sugar which many years ago caused it to be regarded as likely to become one of the important sources of our sugar supply, but till recently this expectation has not been realized; for although a ton of sorghum contains 200 or more pounds of sugar, but 80 pounds could be crystallized out of the concentrated syrup, or molasses. To ascertain the cause of this fact, the Department made investigations which led to the discovery that the substances which prevented the crystallization of the sugar were chiefly gums, which could be entirely taken out by the addition of alcohol to the juice. Alcohol causes the gums to collect and settle, so that

when the juice is filtered or strained they can be pressed into a hard mass on the filter-cloths, and easily removed. This method of treatment increased the yield of crystallized sugar from 80 to 160 pounds per ton of cane. Studies were then instituted looking to the recovery of the alcohol, with the object of using it again and again. Experiments conducted on a laboratory scale showed that the alcohol, after having been used, might be recovered by distillation with a loss of less than 5 per cent., and often of not more than 1 per cent., and that the gums themselves might be fermented and made a source of the alcohol used in the process. The only difficulty in the way of using this process was the cost of the large amount of alcohol needed. This did not result from the expense of making the alcohol, which is slight, but from the heavy internal revenue taxes.

The legislation referred to above was intended to remove these taxes and to make the newly discovered process applicable to the practical manufacture of sugar; and it is reasonable to expect that it will at an early date lead to the establishment of a new sugar industry. This will belong almost entirely to the United States, for the sorghum can not be grown successfully north of us, nor extensively south of us. The growing of sorghum will not, like the cultivation of sugar-cane, be confined to a small district and to a small number of great planters, but will be profitable in the enormous semi-arid region, including the central part of southern Kansas, Oklahoma, and a large part of Texas.

During the last summer and fall experiments have been made on an extensive scale to test the value of this process from a commercial standpoint, and a very important development is the fact that the sugar made is unusually pure. The refining of sugar is simply a process of cleaning or washing, by which impurities adhering to the crystals are removed. With cane-sugar this usually results in raising the percentage of pure sugar from a figure ranging between 90 and 95 before refining to 99.8 per cent. after refining. The raw product of the alcohol process is already about 95 per cent. pure, and will serve for many purposes as it is. This will make it possible for the producer of sorghum sugar to put a large part of his product upon the market without refining, will save the expense of that process, enable the producer and consumer to deal directly with each other, and by reducing the power of the refiners will decrease the danger of sugar trusts.

INSPECTION OF LIVE STOCK AND MEATS.

FOR many years our exports of live stock and meat products have been very much restricted by hostile regulations in foreign coun-

tries. The reason assigned for these regulations was the absence of any United States government inspection of live stock and meat products to guarantee them free from disease. Two acts of Congress, one approved August 30, 1890, and the other March 3, 1891, authorize the Secretary of Agriculture to inspect animals and meats intended for export or for interstate trade. In compliance with the law he has established, through the Bureau of Animal Industry, an inspection of live stock for export and an inspection of meats.

The inspection of live stock is intended to detect all animals that are diseased or infected with disease, and to prevent stock from becoming diseased in transport. The veterinary inspection of neat cattle and sheep to be exported to Great Britain, Ireland, and the continent of Europe is made at a number of interior cities and at seaports from which stock are shipped. The cattle inspected at interior cities, when found free from disease and from exposure to contagion, are tagged and shipped to the port of export, where they are again inspected. Railroad companies are required to furnish clean and disinfected cars. Persons who ship live stock must give the name of the place from which the animals come and the name of the feeder, to enable the bureau to trace diseases to their origin. The inspector at the interior city, after passing cattle and tagging them, forwards to the veterinary inspector in charge of the port of export for which they are destined the tag numbers and a description of the cars in which the animals are shipped. At the port the animals are unloaded from the cars at the wharves, whenever possible; and when it is necessary to transport them to ocean steamers by means of boats, these must be cleaned and thoroughly disinfected, and must not receive more cattle or sheep than can be carried comfortably. No vessel with cattle or sheep for Great Britain, Ireland, or the continent of Europe can receive clearance papers until the veterinary inspector certifies to the collector of the port that the animals have been duly inspected, and that the law has been fully complied with.

As Great Britain has insisted upon the existence of contagious pleuropneumonia in American cattle when the United States Department of Agriculture claimed that infection did not exist, the Secretary of Agriculture, through the State Department, recently obtained permission from the British government for American veterinarians to participate with the British officers in inspecting American cattle landed at British ports. In August, 1890, three American inspectors were sent to England. Up to September 19, 1891, they examined 374,000 head of cattle with the most gratifying results. The English officers alleged contagious pleuro-

pneumonia in only three cases, and in these cases the judgment of the American inspectors, who disputed the English diagnosis, was confirmed by the highest English veterinary authorities.

The Department also makes inspection of meats upon application of the proprietors of slaughter-houses or packing-houses. An inspector is appointed for each establishment. He must be given full and free access at all times to all parts of the building or buildings used for the slaughter of animals and the conversion of their carcasses into food products. He inspects all animals in the pens, allowing none to pass to the slaughter-room until inspected, and also makes a post-mortem examination. Any animal found to be diseased is condemned, and its owner must remove it from the premises, and dispose of it as required by the laws of the State. An owner who wilfully causes or permits any diseased animal to remain upon his premises beyond the time allowed for its removal forfeits the privilege of inspection, and is refused certificates for his product. Carcasses of dressed beef are marked with a numbered tag, a record of which is kept in the Department at Washington. Each package of food products made from the carcasses of the inspected animals is carefully marked with a label, which must bear at least the Department number of the establishment and the statement that the product has been examined. A copy of this label is filed in the Department at Washington, and becomes the mark of identification. In addition it is required that each package shipped shall have printed upon it the Department number of the establishment, the location of the factory, the number of pieces or pounds contained, the trade-mark, and in large letters the words "For Export" or "Interstate Trade," and shall bear a Department of Agriculture stamp. For each consignment of carcasses or their food products exported to foreign countries, the Department gives a certificate stating the number of the factory, the name of its owner, the date of inspection, the name of the consignee, the country to which the articles are to be exported, and the numbers of the stamps attached to the articles. The certificate is in triplicate, one copy being delivered to the consignor, one attached to the invoice, and one filed in the Department of Agriculture.

An important part of the regulations for meat inspection is the provision for a microscopic examination of hogs at the time of slaughter in order to detect any infested with the animal parasite called *Trichina spiralis*. This parasite is a small worm found chiefly in hogs and rats and occasionally in other animals that eat animal food. In Germany it is believed to gain entrance to swine through rats

that they consume. How it gains entrance to American swine is not known. The worms when eaten pass into the intestines of the host animal, where they multiply, each female giving rise to about 1800 offspring. The young pass through the walls of the intestines, and wander through the body until they reach the muscular tissue. Muscles, when divided into their last component parts, consist of long, slender bodies made up of a case and inclosed matter. It is upon this matter that the worms prey. They seldom prove fatal to swine, but when they attack the breathing and swallowing muscles of man in sufficiently large numbers, death quickly ensues. Cooking that causes pork to become heated in all its parts to a high temperature for a half-hour or more destroys the worms, and renders even highly infected meat quite harmless. To thorough cooking is largely due the fact that this parasite has caused comparatively few deaths in this country. But in countries like Germany, in which large quantities of pork are eaten nearly or quite raw, the danger is very much increased. In European countries, and especially in Germany, inspection has been made by the Government for many years, and they have objected to receiving American pork, which until very recently has been subject to no inspection whatever.

When the slaughtered hog is passed into the cooling-room, three samples are cut from the body, one from the pillar of the diaphragm, one from the tenderloin, and one from the shoulder. These are marked, placed in self-locking tin boxes, and sent to the microscopist. He or an assistant takes from each sample three small portions, making nine in all for each carcass. These are flattened out between two glass plates and subjected to examination under the microscope. The worms, if present, are easily discovered coiled in a spiral and inclosed in a cyst, or sack. Samples that are condemned by an assistant microscopist as containing trichinæ are again viewed by the chief microscopist. All carcasses that are found to be infected are removed from the premises by the proprietor, and disposed of as the State law requires. Up to the present time proprietors, according to agreement with the Department, have sent condemned animals and meat to the rendering-tank. The Department has, however, no legal authority to compel them to take this course, as the supervision of local markets is left to local authorities.

The cost of the inspection is borne by the Government. The Secretary of Agriculture, in his report for 1891, stated that the inspection of live stock for export had cost, for the ten months during which it had been in operation, \$8500 per month, and that the meat inspection

when it had been in operation three months had cost about $3\frac{1}{4}$ cents per head for each animal inspected. It is believed that experience will reduce the cost to 3 cents. The microscopic inspection of hogs has been in operation only a very short time. For the first month it cost $20\frac{1}{3}$ cents per head, for the second $13\frac{1}{3}$ cents per head. It is expected that the cost will shortly be reduced to $\frac{1}{2}$ cents. As a result of the adoption of our inspection laws, our pork products find markets now in Germany, Denmark, France, and Italy, from all of which they were formerly excluded. The British restrictions upon the importation of American cattle have not as yet been modified.

THE TARIFF.

PRESIDENT HARRISON approved October 1, 1890, an act whose title declares that it is adopted "to reduce the revenue and equalize duties on imports and for other purposes." Thus the McKinley Bill became a law, and the famous McKinley tariff was put in operation. This tariff supersedes one provided for in an act approved March 3, 1883. The McKinley tariff contains several features which should be noticed here.

Schedule G, which in the earlier act bore the title "Provisions," now bears the title "Agricultural Products and Provisions," and provides duties on live animals, breadstuffs, farinaceous substances, dairy products, farm and field products, seeds, fish, fruits and nuts, meat products, salt, and miscellaneous products. Other schedules provide duties on wool, lumber, tobacco, spirits, wines, flax, hemp, jute, and leather. The table given below, prepared from the report of the Secretary of Agriculture for 1890, shows some of the more important changes.

Sugars are free except those above No. 16 Dutch standard in color, which pay a duty of one half cent per pound. This duty is increased

by one tenth of a cent per pound on sugars produced by or exported from a country which pays a higher export bounty on them than on sugars of a lower saccharin strength. To the American sugar-producer there is granted a bounty of 2 cents per pound on beet, sorghum, sugar-cane, and maple-sugar testing not less than 90 degrees by the polariscope, and a bounty of $1\frac{3}{4}$ cents per pound on sugar testing less than 90 degrees, but not less than 80 degrees. The payment of this bounty began July 1, 1891, and is to continue until July 1, 1905. Machinery brought to this country to be used in the production of raw sugar from native-grown beets is admitted duty free until July 1, 1892. On the free list are jute, manila, Sisal grass, the substances used for manure, and animals imported for breeding purposes, provided that they be pure-blooded, of a recognized breed, and are duly registered in the book of record established for that breed.

It is yet too early to show the results of these provisions, but attention should be called to the fact that the McKinley Act recognizes the farmer's claim to be taken into account in any legislation furnishing protection to our industries.

RECIPROCITY.

SECTION 3 of this act is the famous reciprocity legislation. It reads as follows:

With a view to secure reciprocal trade with countries producing the following articles, and for this purpose, on and after the first day of January, eighteen hundred and ninety-two, whenever and so often as the President shall be satisfied that the Government of any-country producing and exporting sugars, molasses, coffee, tea, and hides, raw and uncured, or any of such articles, imposes duties or other exactions upon the agricultural or other products of the United States, which in view of the free introduction of such sugar, molasses, coffee, tea, and hides into the

	<i>Old tariff.</i>	<i>New tariff.</i>
Cattle	20 % ad val.....	{ Over 1 year, \$10. Under 1 year, \$2.
Horses	20 % ad val.....	{ \$30, or if value exceeds \$150, 30 % ad val.
Sheep.....	20 % ad val.....	{ Over 1 year, \$1. 50. Under 1 year, 75c.
Cheese, per lb.	4c.....	6c.
Eggs, per doz.....	Free.....	5c.
Wool, Classes 1 and 2, per lb.....	{ Value above 30c., 12c..... Other..... 10c.....	{ 12c. 11c.
Wool, Class 3, per lb.....	{ Value above 12c., 5c..... Other..... 2½c.....	{ Value above 13c. 50 % ad val. Other..... 32 % ad val.
Barley, per bushel.....	10c.....	30c.
Hay, per ton.....	\$2.....	\$4.
Hops, per lb.....	8c.....	15c.
Leaf tobacco for wrappers, per lb.....	{ Stemmed, \$1..... Unstemmed, 75c.....	{ \$2. 75. \$2. 00.
“ “ Other, per lb.....	35c.....	{ Stemmed, 50c. Unstemmed, 35c.
Potatoes, per bushel.....	15c.....	25c.

United States he may deem to be reciprocally unequal and unreasonable, he shall have the power and it shall be his duty to suspend, by proclamation to that effect, the provisions of this act relating to the free introduction of such sugar, molasses, coffee, tea, and hides, the production of such country, for such time as he shall deem just, and in such case and during such suspension duties shall be levied, collected, and paid upon sugar, molasses, coffee, tea, and hides, the product of or exported from such designated country.

Then follow the duties: on sugar varying from seven tenths of a cent to 2 cents per pound; on molasses, 4 cents per gallon; on coffee, 3 cents per pound; on tea, 10 cents per pound; on hides, $1\frac{1}{2}$ cents per pound.

This provision was intended to secure trade privileges in return for the free admission of products into this country. Under it there have been concluded treaties providing for reciprocity with Brazil, Cuba, and Porto Rico, the Dominican Republic, Salvador, Trinidad, Barbadoes, Leeward Islands, Windward Islands, British Guiana, and Jamaica, Nicaragua, Germany, and Honduras. To describe the provisions of all these treaties would require too much space. That with Brazil admits the following articles, products of the United States, free of all duties, national, State, or municipal: wheat; wheat-flour; maize and its manufactures; rye, rye-flour, buckwheat, buckwheat-flour, and barley; potatoes, beans, and peas; hay and oats; salted pork; fish, salted, dried, or pickled; cotton-seed oil; coal; rosin, tar, pitch, and turpentine; agricultural tools, implements, and machinery; mining and mechanical tools, implements and machinery, including stationary and portable engines, and all machinery for manufacturing and industrial purposes except sewing-machines; instruments and books for the arts and sciences; and railway-construction material and equipment. In addition, the following articles are admitted at a reduction of

25% from the duties provided in the tariff now in force or from any which may be adopted hereafter: lard and its substitutes; hams; butter and cheese; and preserved meats, fish, fruit, and vegetables; manufactures of cotton; manufactures of iron and steel not included in the former list; leather and its manufactures, except boots and shoes; lumber, timber, and the manufactures of wood, including cooperage, furniture, wagons, carts, and carriages; manufactures of rubber.

The President has suspended by proclamation the free admission into the United States of sugar, molasses, coffee, tea, and hides from Colombia, Hayti, and Venezuela.

This section may be taken as an express acknowledgment by the country that it is the duty of the National government to make it possible for the farmer to find favorable markets abroad.

COLLECTION AND DISSEMINATION OF INFORMATION.

AMONG the most important acts of Congress touching the welfare of the farmer are those which provide for the establishment of institutions of learning which are to give special attention to agriculture and the sciences related to it; for the maintenance of agricultural experiment stations which are devoted to the scientific investigation of agricultural problems; and for the elevation of the United States Department of Agriculture to a cabinet department. All these acts will be sufficiently noticed in other articles in this series. These three educational agencies, the colleges, the stations, and the Department, are the most important ones now at work for the betterment of agricultural matters, for nothing can benefit the farmer so much as a knowledge of the best methods of farming for the region in which he may live.

A. W. Harris.

"EARTH HATH HER HURTS."

EARTH hath her hurts, but seems to lack
Her cures; the broken heart
Knits in its cleavage, and the back,
Though lashed, forgets to smart.

Aye; but the loss—the maim—can this
Its crooked growth restrain,
Till life leaps through the arteries
And the man is a man again?

O Life immortal, hast thou skill
To heal, and can thy gift
Make Byron's brow serene, or fill
The famished soul of Swift?

John Jay Chapman.