

REPORT OF SECRETARY OF AGRICULTURE.

Secretary Wilson in submitting his seventh annual report to the president, discusses many topics of interest to farmers and the country. The report shows the growth and development of agriculture during the past year and reviews in a practical and telling way the rapid development in the various lines of agriculture in the United States.

Discussing the balance of trade, the Secretary shows that the favorable balance to the credit of this country is due entirely to the farmers. The balance of trade in favor of farm products during the last fourteen years, no year excepted, aggregated \$4,860,000,000. In products, other than those of the farm, during the same period, the balance of trade was adverse to this country to the extent of \$865,000,000. Our farmers not only canceled this immense obligation, but placed \$3,694,000,000 to the credit of the nation when the books of international exchange were balanced. He concludes that "it is the farmers who have paid the foreign bondholders."

Reviewing the magnitude of agricultural production, after giving the figures of the most important crops, Mr. Wilson states that the value of all farm products, not fed to live stock, for 1903, considerably exceeded their value in the census year, when it was given as \$3,742,000,000.

An increase of nearly 20,000 is shown in the number of places receiving forecasts by telephone without expense to the government, thus securing a rapid extension of weather information among progressive agriculturists.

Secretary Wilson reports a satisfactory development of the beet sugar industry. In 1896, 22,220 tons of sugar were made, and a year ago 220,000 tons. Careful estimates put the present crop at about 260,000 tons. The growing of seed in the United States of a superior quality, is assured. He concludes that the industry is now well established.

The work of the chemist in charge of the Road Material Laboratory has included investigation of the cementing power of rock dust, gravels and clays; also experiments on the binding and clinking of clays, with a view to their use as road materials. There are vast areas throughout our country where this is the only road material available, and the determination of the quality of clay adapted to this purpose will solve an important problem. He has also studied the effect of mixtures of crude petroleum and asphaltum. New tests for determining the hardness and toughness of rock have been made possible by the adoption of machines designed and now in operation in the laboratory.

Some supervisory work on tobacco was done in Connecticut the past year, but the principal purpose of the Department to show the feasibility of growing a wrapper leaf of superior quality in the Connecticut Valley has been successful and it remains for the growers to put the shade grown Sumatra on a substantial basis.

In Ohio the quality of tobacco handled in accordance with the methods prescribed by the Bureau of Soils has increased from 655,000 pounds of the crop to over 4,000,000 pounds of the crop of 1902. Important work has been done in the experimental growing of Cuban cigar leaf tobacco on the Orangeburg sandy loam in South Carolina, Alabama and Texas. These soils appear very similar to the tobacco soils of Cuba, and the aroma of the leaf grown on one of them in Texas has been pronounced very fine by the trade.

The total production of domestic filler tobacco in 1901 was 71,000,000 pounds, worth nearly \$8,000,000. In the same year the Cuban tobacco imported amounted to 18,500,000 pounds

but the value aggregated over \$16,000,000. Thus, the Cuban import, though nearly one-fourth in quantity, amounted to two and one-third times the value of the domestic.

The Office of Experiment Stations has continued irrigation investigations with a view to furnishing information regarding the requirements and possibilities of irrigation in both the arid and humid regions of the East; to furnish expert advice to commissioners about methods of distributing water so as to lessen the loss from seepage and evaporation to discover the best methods of handling water, and to gather such facts as are needed to answer inquiries received by the department. The investigations have been extended so as to include the draining of land both in the arid and humid parts of the United States. The Secretary points out the desirability of undertaking a special study of work in relation to running pumps, and points out how the information thus collected may be useful in other lines of farm work. He regards this line of work as so important that he has recommended a special appropriation to enable the Department to extend its operations to agricultural engineering, especially on the application of power to farm machinery. He reports that he has asked Congress to change the wording of the appropriation act so as to entitle this division of the work "Irrigation and Agricultural Engineering."

Important work is reported from the Office of Public Road Inquiries, especially in its co-operative work, most of which has been undertaken with local or state authorities, agricultural experiment stations, and some of the good roads associations. In this co-operation the Department furnishes only the services of its road experts, materials being supplied and other expenses paid by the other factors in the work. The Secretary points out the intimate relation which exists between good country roads and the rural free delivery, and argues that communities which would enjoy the latter must make and maintain the former.

POPULARITY OF WINTER DAIRYING.

When any considerable change occurs in the habits and practices of the farming community it is slow at first, and even when the change is proved to be for the better, there is always a considerable number who do not adopt it.

There was perhaps no more radical change in any branch of farming than the change from summer to winter dairying. From time immemorial it had been the practice to have cows come in in the spring and the heavy flow of milk was received in the summer months, writes C. M. Root in "Twentieth Century Farmer." This system invoked much extra work for the farmer, who was already overtaxed with work of the planting and growing season.

If the season was moist the milk was partially kept up by the rowen of the mowing fields, and when the cows were put on dry feed they became little better than strippers. Long before spring opened they were dry and went dry for several months.

The first urgent demand for winter cows came from the butter and condensing factories, and in the part of the country where they were located the first winter dairying was done. At first the number of farmers who milked their cows in the winter were few, but this practice proved so remunerative that their neighbors caught the winter dairying idea and bred their cows so that they would come in in the fall, and soon winter dairying became general in that part of the country, and they now for some fifty years have kept up winter dairying.

These pioneers in winter dairying found an ample reward and many of

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them can now count their possessions with four cyphers, and their start and most of the pile was made by keeping and milking cows the year round.

The change that has come over dairying in the last few years by having the manufacture of dairy products concentrated in a few places, has had a powerful influence on winter dairying. There has been large amounts of capital invested in these manufacturing plants and in their accessories, such as cans and farm separators. They have called for skilled help that that they were compelled to keep throughout the year. They have made a market that demanded a steady supply of fresh-made butter the year round and would not take a large supply in June and a small supply in December. Butter carried over in cold storage would not please the cultivated palate of these customers; hence the proprietors of these large creameries have through their agents induced their patrons to keep more or less winter cows. The higher price paid and the more abundant leisure that they found in winter, all tended to the winter cow. They have found that they can feed their grain to milk cows with as much or more profit than they can to beef steers.

The money they receive for their milk and cream is fast putting them on a par with their more eastern brethren who have so long practiced winter dairying.

Most of the work that winter dairying involves can be carried on indoors and those engaged in it are sheltered from the winter cold and storms. The dairy on well regulated farms puts much that otherwise would be lost to profit. The corn grown on the place is all cut up and the fodder fed through the winter. The corn and oats are ground and turned into milk. Everything raised on the farm can be turned into the milk cans or run through the separator.

Winter dairying brings cash and plenty of it at a season when ordinary farming operations are at a standstill and there is no income from the farm. On most farms the hired hand has to be discharged when the fall work is done. With dairying through the year he can be kept and will have a winter home and be earning money in place of spending, as is often the case.

Winter dairying makes a more even distribution of the work of the dairy, as the cows will go dry in the busy season and the milking will be light then instead of heavy, as would be the case with cows that come in in the spring. The cows will come through the winter in better shape when stabled as they will be, if they are milked. If they are not milked



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