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# The Importance and Uses of the Potato

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THE IMPORTANCE AND USES OF THE POTATO

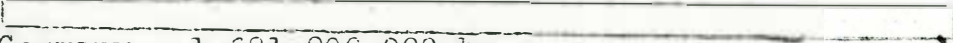
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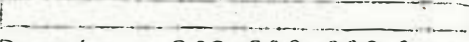
George H. Valentine,


Assistant Agronomy Specialist.

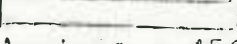
A. Potato Growing Countries.


The country growing more potatoes than any other according to census figures is Germany. Five other countries including United States have a comparative yield as follows:

  
Germany - 1,681,900,000 bu.

  
Russia - 862,800,000 bu.

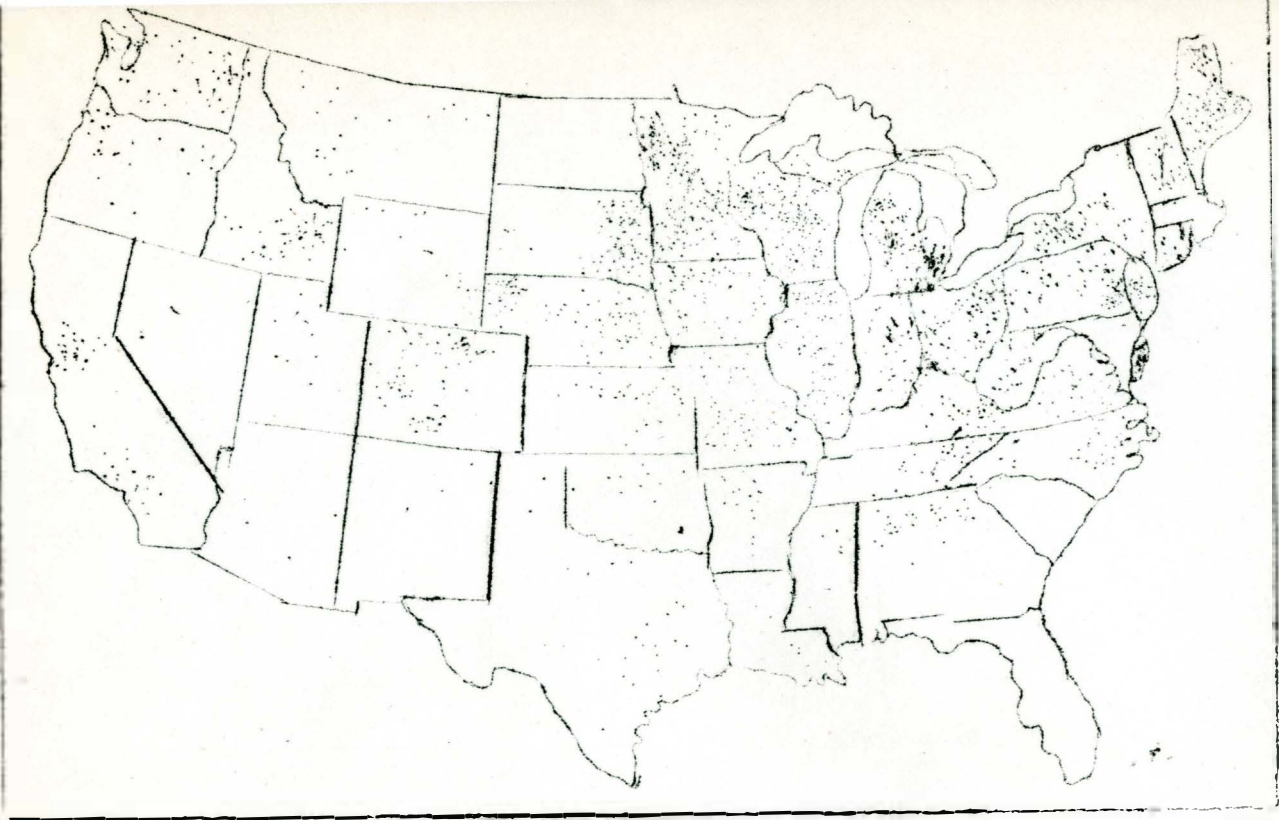
  
France - 489,300,000 bu.

  
Austria - 456,500,000 bu.

  
Poland - 373,900,000 bu.

  
United States - 356,600,000 bu.

These figures given were from census reports before the World War but from census figures of 1921 the rank of the potato producing countries is different. However, the census figures of some European countries, Russia for example, are very incomplete. The rank of the six leading nations in potato production according to 1921 census is as follows: Germany, Poland, United States, France, Czechoslovakia, and Canada.



(Map showing approximate locations of potato producing sections. Each dot is intended to represent about 1000 acres.)

#### B. Potatoes in the United States.

Potatoes are grown in every state of the Union. The potato plant is one which has become adapted to a wide variation in conditions. The five leading states according to the 1920 census are New York, Michigan, Wisconsin, Minnesota, and Pennsylvania in order named. South Dakota ranks in sixteenth place as compared to all other states in the Union.

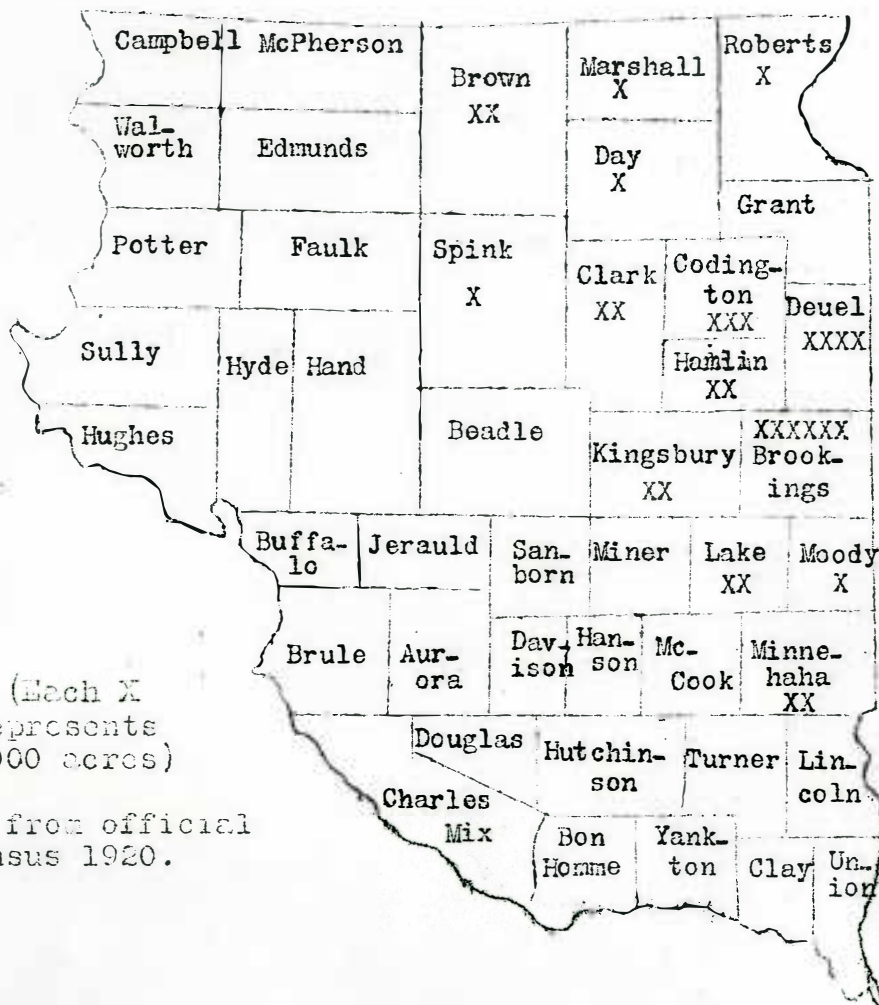
Our state ranks very well compared to its position in the potato industry according to the census of 1910. South Dakota ranked in 31st place according to the 1910 census. Therefore, we may expect further advances for South Dakota in this industry having climbed from 31st to 16th place in ten years.

#### C. Potatoes in South Dakota.

Eastern South Dakota is rapidly developing into a potato growing section. This development is also very recent. The total potato acreage of the state in 1919 was about 58,000 acres while in 1921 we find that the total acreage is about 80,000 acres or an increased acreage of about 38 per cent in two years.

The accompanying map gives some idea of the importance of the crop in certain districts of the state. Each (X) on the map represents 1000 acres of potatoes in the several counties according to the 1920 census. No single county west of the Missouri river had an acreage of 1000 acres when this census was taken so we have omitted the west river part of the state from the map.

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(Each X represents 1000 acres)

Figures from official census 1920.

(Map showing the importance of potato production in South Dakota)

The ten counties having the largest acreage in the state according to the 1920 census are ranked as follows:  
 1. Brookings, 2. Deuel, 3. Codington, 4. Brown, 5. Kingsbury, 6. Minnehaha, 7. Hamlin, 8. Clark, 9. Lake, 10. Spink.

Because of the difference in area of the counties of the state another comparison is made giving the rank of counties having the greatest acreage per section of land which is as follows:

1. Brookings, 2. Deuel, 3. Codington, 4. Hamlin, 5. Lake, 6. Kingsbury, 7. Minnehaha, 8. Clark, 9. Brown, 10. Spink.

Thus we can see from the above that the east-central portion of the state is distinctly the potato section.

D. What the Potato is Made of.

A large number of investigators have determined the chemical composition of the potato. Among the earliest of known investigators are Pearson who reported in 1795 "Experiments and Observations on the Constituent Parts of the Potato Root". A large number of investigators reported the results of their analysis during the nineteenth century.

The approximate chemical composition of a number of varieties of potatoes is:

Fibre	.33%
Ash	1%
Other Materials	1.30%
Water	75%
Protein	2.5%
Starch	19.87%

The percentage of water usually ranged between 70 and 80 per cent, the extremes being 65 and 85 per cent.

The per cent dry matter in potatoes is larger than any root crop, as can be seen from the following percentages of dry matter in a few other crops:

White Turnips	7 to 9%	Carrots	10 to 17%
Rutabagas	9 to 14%	Parsnips	10 to 18%
Mangels	9 to 16%	POTATOES	20 to 30%
Sugar beets	12 to 24%		

E. Uses of the Potato.

The potato has three important uses; first as human food, second as stock feed, and third in manufactured products.

The use of potatoes as human food is the most important, and only the better grades are used for this purpose. The small and cull potatoes are used for stock feed. Only in years of very poor prices and very good yields will large potatoes be fed to livestock. For manufacturing a certain stable amount is used, principally good grades. Starch is the chief manufactured article in this country, while in Europe industrial alcohol is a very important product.

The proper amounts of food nutrients in a ration for a human being are: protein, 18 percent; carbohydrates, 75 percent; and fat, 7 percent. It will be seen that the potato does not fully supply these nutrients, and the addition of other foods, rich in fat and protein, is needed to make a balanced ration for man.

As stock feed, potatoes are little appreciated in this country. Experiments show, however, that they furnish a valuable and nutritious feed for all kinds of stock. Four hundred pounds of potatoes are equivalent to 100 pounds of corn, so that when corn is valued at 80¢, potatoes are worth 20¢ for feeding.

At first, potatoes should be fed in small amounts and gradually increased to the maximum amount. Potatoes are almost as important as a conditioner as they are as a feed. For horses, sheep and cattle, potatoes should be sliced, (to avoid the danger to the animals from choking) and fed raw. The maximum amount per day for horses is 10 pounds; for sheep, 3-4 pounds; for milch cows, 25 pounds; for beef cattle, 15 pounds.

For hogs and chickens potatoes should be boiled for the best results, and they should be fed in small amounts. For growing animals potatoes are not very good. There is a lack of protein and an excess of starch which tends to lay on fat, an advantage only in fattening animals.

Summary:

The six countries leading in potato production according to 1921 figures are Germany, Poland, United States, France, Czechoslovakia, and Canada.

The five states leading in potato production according to 1921 yearbook of the United States Department of Agriculture are New York, Michigan, Wisconsin, Minnesota, and Pennsylvania.

The ten counties of South Dakota having the greatest acreage in potatoes according to the 1920 census are Brookings, Deuel, Codington, Brown, Kingsbury, Minnehaha, Hamlin, Clark, Lake and Spink.

The potato is composed of about 75% water, 2.5% protein, 19.87% starch, 33% fibre, and 1% ash.

The potato has three important uses; first as human food, second as stock feed, and third in manufactured products.

References:

Year Book -- United States Department of Agriculture 1921, 1909, 1910.

"The Potato" by Samuel Fraser,

"Potato Culture", by Max F. Abell, Ohio Extension Service.