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R. Johnston

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THE IMPORTANCE AND USES OF CORN
by
Ralph E. Johnston
Extension Specialist in Agronomy

A. Where corn is grown:

Nearly every civilized country grows some kind of corn. United States leads all other countries with a total production during 1921 of over 3,000,000,000 bushels, while the nearest competitor is Argentina with a total production of only about one-thirteenth or about 230,000,000. Other countries producing large amounts of corn include Italy, Hungary, Portugal, Bulgaria, Canada, parts of Africa, Phillipine Islands, Austria and Russia.

It would be interesting to make a study of the different cultural methods used in these various countries, but that would be a book by itself.

B. Corn in the United States.

Naturally we will wish to learn of the ranking of our state as compared to other states producing corn. In 1890 South Dakota ranked 25th place in total corn production. In 1900 South Dakota ranked 23d, while in 1910 we find our state in 13th place. In 1920, however, we have climbed to tenth place with the nine states of Iowa, Illinois, Nebraska, Missouri, Indiana, Texas, Ohio, Kansas and Minnesota ahead of us. South Dakota ranks in sixth place, as regards yield per acre, of the ten leading corn producing states.

These facts should be of considerable encouragement to South Dakota corn club members. They can now be assured that they are living in one of the greatest corn states of the Union. It seems queer to us northern folks that we should have greater average yields than down south. It is partly because we are more ambitious, and also because our South Dakota soil is more fertile. We raise on an average more than twice as much corn per acre as do the farmers of Georgia. We raise nearly twice as much per acre as the people of Mississippi. The same is true of Alabama and other southern states. If you want to be a "corn-fed" farmer, don't envy the folks down south, but settle down to business right here at home.

C. Corn in South Dakota:

We are also interested in corn production within the state. Which counties are the heaviest producers? The ten counties which produce the most corn in order of rank are as follows according to 1920 census:

- (1) Lincoln (2) Minnehaha (3) Union (4) Clay (5) Yankton
(6) BonHomme (7) Chas. Mix (8) Hutchinson (9) Beadle (10) Moody

The order is not the same when we consider yield of corn per acre. The ten counties ranked according to average corn yields are as follows:

- (1) Turner (2) Clay (3) Union (4) Minnehaha (5) Lincoln
(6) BonHomme (7) McCook (8) Brookings (9) Hutchinson (10) Lake

16 We note from the above that the corn belt of South Dakota seems to be principally in the southeastern portion of the state. Nevertheless, practically all of South Dakota can grow good corn. It is not unusual to find state champion corn growers in counties not mentioned at all as leading corn counties.

Furthermore, varieties are being developed which are well adapted to almost all South Dakota conditions. Corn club members from western South Dakota had corn exhibits at the Corn Palace last year. The attendant explained to an Iowa visitor that the samples were grown by corn club boys in western South Dakota. He said, "Do you know, that's the kind of corn we first grew in Iowa when I was a boy? Now we grow corn twice that large and get over twice as much per acre. We used to believe though that we were growing big corn." So it is with the corn industry in South Dakota; it is bound to develop. Varieties will become adapted and people will learn more about the correct cultural methods. The corn club boys of today are the men of tomorrow who will increase the corn yield of the state to equal that perhaps of any state in the Union.

D. Corn and other farm crops:

Corn is the great American cereal. In South Dakota, 73 percent of the farms grow corn as compared to 67 percent for oats, 66 percent for wheat, 34 percent for barley and 14 percent for rye. As regards total production, the total production of the different cereals for 1919 is as follows:

Corn	-	69,060,000	bushels
Oats	-	51,091,000	"
Wheat	-	31,086,000	"
Barley	-	12,815,000	"
Rye	-	4,111,000	"

In the whole United States corn stands out more prominently as the leading crop. Following is given the total production of the several crops in the United States during 1921:

Corn	-	3,080,370,000	bushels
Oats	-	1,060,737,000	"
Wheat	-	794,893,000	"
Barley	-	151,181,000	"
Rye	-	51,918,000	"

We see from the foregoing that Corn is King. During 1921, there was three times as much corn produced as of any other cereal, taking the United States as a whole.

E. What becomes of the corn crop:

The uses of corn may be considered under the heads of use as human food, as animal food, and for miscellaneous purposes. Before discussing its uses as food for man and animals, it is desirable that it be compared in its chemical composition and other qualities, with some of the other crops used for food.

The following table shows the composition of corn and several other crops used as feed:

	Protein	Carbohydrates	Fats
Corn, grain	10.3	70.4	5.0
Wheat, grain	11.8	72.0	2.2
Oats, grain	11.8	59.7	5.0
Soy beans, grain	34.0	28.2	16.9
Corn, stover	3.8	51.5	1.1
Wheat, straw	3.4	43.4	1.3
Oats, straw	4.0	42.4	2.3
Alfalfa, hay	14.3	42.7	2.2

From this table it may be seen that corn, when the grain is considered, is low in protein as compared with the grain of wheat, oats and soybeans. It is high in fat as compared with wheat, but low as compared with soybeans. Corn is relatively high in carbohydrates, or starch. It is known as a starchy food with a comparatively high fat content when compared with other foods for man and animals. Corn stover has about the same chemical composition as wheat straw, but is considered a better food because it is more easily digested. Corn stover as a food for animals cannot compare in its chemical composition or feeding value with alfalfa. The corn crop is, however, a very important food crop and has gained a place of great prominence, because of the quality and variety of the products it furnishes and because of the great quantity that can be produced on an acre at a comparatively small expense.

Feed for Livestock: Corn finds its greatest use as a feed for livestock. Where corn can be grown, no other crops can compete with it successfully. It is used for feeding livestock, as grain, forage, in the form of stover, fodder, silage, soiling and as a pasture. As a grain feed, it has no competitor. The grain is considered an excellent feed for fattening animals, but is not desirable as the main portion of the ration for young growing animals or for milch cows. For roughage, it does not take such a high rank, except for use as silage. The grasses and legumes surpass it for hay and pasture, but it must be remembered that the growing of corn for the grain is the principal consideration, the use of the plant after the grain has been removed being supplementary but still of considerable value. The methods of harvesting and handling for the various uses will be discussed in another lesson.

Use as Human Food: Corn is chiefly used as human food in the form of green corn, served as roasting ears or cut from the cob; as corn meal, served as corn mush or corn bread or cakes; and as pop corn eaten from the hand. Varieties of sweet corn are best suited for roasting ears or for canning. Sometimes flint and dent corn are used for this purpose, but they find their greatest usefulness as human foods in the making of corn meal. The pop corns are used almost entirely as human foods. While corn has almost as much protein as wheat, it does not contain gluten, which makes possible the light loaves made from wheat flour.

Corn is used in the making of lye-hominy, which is often made in a small way by the housewife. Hominy mills manufacture it in large amounts for the trade. A flinty type of white corn is desirable for this purpose.

Corn is also used extensively for the making of breakfast foods, such as cerealine and corn flakes. Of the manufactured products made from corn, none are as important as corn starch. The making of corn starch is quite an important industry and several important by-products result from it. The important ones are corn oil, used in the manufacture of soaps, paints, etc., gluten feed and gluten meal, which are used as concentrated livestock feeds, and corn syrup.

Miscellaneous uses: The grain is used in the making of alcohol; the stalks in the making of paper, packing material and gun powder. The husks are used in the manufacture of mattresses, door mats and in upholstery. The utilization of the corn plant is extending into many trades, and doubtless it will in the future be found useful in many ways unknown at present.

Summary:

Corn is grown in practically all civilized countries of the world. The United States is the largest producer, with Argentina next.

South Dakota ranks tenth in total corn production of all the states of the Union according to the 1920 census.

Lincoln county ranks first as regards total corn production of all South Dakota counties according to 1920 census.

Turner county ranks first as regards yield per acre.

Corn is the greatest of American cereals, the production during 1921 being three times that of any other cereal crop.

Corn is used as human food, animal food and for miscellaneous purposes. The crop has gained a place of great prominence because of the quality and variety of the products it furnishes and because of the great quantity that can be produced on an acre at a comparatively small expense.

References: "The Corn Crops", E. C. Montgomery.
"Corn Culture", George Livingston, Extension Service, University of Ohio, Columbus.
