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# Broom Corn Production in Iowa

## **Abstract**

Because of the high prices occasionally paid for broom corn brush, many Iowa farmers have become interested in the possibilities of broom corn production and men who have had no experience with the crop are tempted to grow it. While the culture is comparatively simple, there are a few things about the management of the crop that should be fully understood or the results may be very disappointing.

## **Keywords**

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## **Disciplines**

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## IOWA AGRICULTURAL EXPERIMENT STATION

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### AGRONOMY SECTION

#### FARM CROPS

# BROOM CORN PRODUCTION IN IOWA

By Clyde McKee.

Because of the high prices occasionally paid for broom corn brush, many Iowa farmers have become interested in the possibilities of broom corn production and men who have had no experience with the crop are tempted to grow it. While the culture is comparatively simple, there are a few things about the management of the crop that should be fully understood or the results may be very disappointing.

Considerably less broom corn is now grown in Iowa than in former years. In 1899 the center of broom corn production was in Illinois, that state alone producing over 65% of the entire crop of the United States. Since then the center of production has shifted gradually to the southwest, Oklahoma, Kansas and Texas leading in acreage in the order named.

Some experience in handling broom corn is essential to success. Also, good brush cannot be produced without considerable necessary and expensive equipment. Because of the weather conditions usually prevailing at harvest time in Iowa, drying or curing sheds to protect the brush from rains and sun after it is harvested are necessary. Other equipment, such as seed scrapers and baling presses, are needed to prepare the brush for the market. No doubt, the most important consideration in broom corn production, however, is the matter of labor. A large amount of hand labor is required to harvest the crop and prepare it for the market and this is specialized labor which can be done satisfactorily only by those familiar with handling the crop.

The price of broom corn brush, unlike that of the more common farm crops, is subject to extreme fluctuation. Good brush sells at much higher prices than poor brush, but the prices of all grades vary greatly in different years, depending upon the supply. When there is a scarcity of brush the best grades have been known to sell as high as \$250.00 per ton. On the other hand, when the crop is large and much of the brush poor in quality, the price ranges from \$20.00 to \$50.00 per ton. Normally, the market price for good brush ranges from \$75.00 to \$100.00 per ton. A year of high prices is very often followed by one or more years of low prices, when many new and inexperienced growers put in an acreage of the crop, expecting large returns. The result is a crop of poor quality, which must be sold for less than the cost of production. The men who win with broom corn are properly equipped to handle the crop and plant it year after year, regardless of the price secured from the previous crop.

It is not usually well for one to attempt to grow broom corn in a locality where others are not growing it, for the grower must be sure that his crop can be marketed readily and at a profit after it is produced. Community co-operation in the growing of broom corn will not only aid in solving the labor problem, but manufacturers are more likely to send an experienced buyer into the community to purchase the crop.

#### ESSENTIALS FOR SUCCESS

**Climate.** Broom corn makes the best growth in a warm, sunny climate. As dry, warm weather is very essential during the harvest period, Iowa climate is not all that is to be desired. Rains just before harvest cause much of the brush to turn red, while rains after harvest result in discoloration and bleaching.

**Soils.** Any good corn soil will produce good yields of broom corn, but since quality and uniformity of brush is as important as yield, it is very important that a uniform soil be chosen. Weedy ground is undesirable because too much labor will be necessary to keep the weeds from choking the young broom corn plants, which grow very slowly during the first two weeks.

**Varieties.** There are only three distinct varieties of broom corn, namely, Dwarf, Acme (Dwarf Standard) and Standard. Dwarf broom corn makes up about two-thirds of the total crop of the United States. As the name implies, the plant is small or dwarf, growing only 4 to 6 feet in height, depending on the soil and the season. The brush varies from 15 to 20 inches long, and is used extensively in the manufacture of whisk brooms and brushes which require a short, fine fiber. The Standard grows 10 to 12 feet in height and produces a long, coarse brush used chiefly in the manufacture of the large brooms.

**Preparing the Seed Bed.** In Iowa, the seed bed for broom corn is prepared in the same way as for ordinary corn. Fall plowing is desirable, but spring plowing, if done early and the seed bed well compacted, is satisfactory. Whether plowed in fall or spring, it is desirable that the land be worked thoroughly with disk and harrow until it is firm, smooth and free from weeds.

**Seed.** The use of good seed cannot be emphasized too strongly. It is usually considered best to secure seed from someone nearby who specializes in growing broom corn seed. Since broom corn crosses readily with other sorghums, and the hybrids resulting produce brush which is practically worthless, it is very essential that only pure seed of strong vitality be used. A uniform stand and a uniform crop are necessary to produce the maximum yield of high quality brush. If the seed is infected with kernel smut, it is important that it be treated before planting. Place grain in sacks and soak for one hour in a solution made of one pound of formalin in 30 gallons of water. After soaking, drain the sacks and spread the grain out on a clean floor or canvas to dry. If preferred, the solution may be applied by sprinkling the same as when treating oats for smut.

**Planting.** Since broom corn does not germinate readily in a cold soil and an irregular stand is very undesirable, it is important that planting be delayed until the soil is sufficiently warm to insure prompt germination, which is usually about two weeks later than the average date for planting corn. The ordinary corn planter is used, spacing the rows  $3\frac{1}{2}$  feet apart with the seeds 3 to 4 inches apart in the row. Special plates can be secured thru the local implement dealer or blank plates obtained and drilled to fit the seed. The holes should be three-sixteenths of an inch in diameter and counter sunk slightly on

the under side to prevent wedging of seed. The number of holes to drill will depend largely on the speed adjustments of the planter.

**Cultivation.** The same tools and methods of cultivation that are used in producing ordinary corn are equally successful in growing broom corn. Because the young plants are small and slow growing, it is best to begin cultivation early and repeat as often as needed to hold the weeds in check.

**Harvesting.** Experienced men generally agree that brush of the best quality is obtained by harvesting when the natural pea-green color extends from the tip to the base and from the outside to the center of the head.

The Standard variety being tall, it must be bent over or "tabled" and the brush cut off. The Dwarf and Acme broom corn is harvested by jerking or pulling the heads from the standing stalks and the brush is placed in small piles either on the ground between the rows or between the stalks in the row.

Because of the uncertainty of the weather in this state at the time broom corn is generally harvested, shed curing is recommended over curing in ricks. In order that the brush retain its natural green color it must be cured rapidly and not be exposed to strong light. If the brush harvested in any one day is placed in the shed before night and the seed removed the following day, much loss due to weather-staining and bleaching will be avoided. After the seed is removed, the brush is spread 2 to 3 inches deep on slatted shelves in the curing shed. If the layers of brush are thicker than 3 inches it will dry slowly and become moldy.

**Preparing for Market.** Since the market value of the brush depends very largely upon how well the grading, baling and storing is done, considerable care must still be used or much of the season's profit may be lost. Crooked heads, heads with twisted or kinky fiber and those with a large center stem should be discarded before baling, as much lower prices are paid if this sort of brush is included. The bales should be neat when finished, with all bands tight and securely fastened, and if not sold immediately after baling, they should be stored in a dry, dark place to protect against the weather and sunlight.

#### THE MONEY SIDE OF BROOM CORN GROWING

Broom corn is an expensive crop to produce. Successful growers in Kansas and Oklahoma estimate the cost from \$35.00 to \$50.00 per ton, but of course the cost of production varies in different localities.

According to the United States census, the average acre yield of broom corn in Iowa was 512 lbs. in 1889, 530 lbs. in 1899 and 480 lbs. in 1909, an average of 507 lbs.

By taking into consideration the cost of production, the average yields and the prices that are paid, one can readily draw his own conclusions as to the profit to be obtained by raising broom corn. If the production of this crop is undertaken, it should be with the idea that it is to have a regular place in the cropping system, as the equipment necessary for handling broom corn properly is entirely too expensive to be used for only a short time or during an occasional year. Detailed information regarding broom corn production can be obtained from Farmers Bulletin 768, U. S. Department of Agriculture, Washington, D. C.