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SEED CORN WEEK!

Editors:

In order to furnish editors with material available for advertising "Seed Corn Week," the Extension Division is forth this issue of the University Farm Press News ten days ahead of usual time.

The observance of "Seed-Corn Week" last year undoubtedly added hundreds of thousands of dollars to the gains which Minnesota farmers this year derive from the corn crop, worked for the prosperity of every locality.

The Division feels justified then, in appealing to editors to give the greatest publicity possible to the Government's proclamation and to the other matters presented on this sheet. Editors may often, however, be able to make the presentation more effective in their own language and by giving paragraphs a local coloring. The co-operation of the press is of the utmost importance to the "Good Seed" propaganda—indeed, to all the work of the Extension Division. It is greatly forwarded our work on all occasions; and we trust it will not now be lacking.

Importance of Selected Seed Corn.

After the severe experience which they went through in 1909, from the difficulty of securing good seed, the farmers of Minnesota began to recognize the importance of saving seed corn at the right time, and of a careful selection of seed ears. The selection done during, and about the time of "Seed-Corn Week," in 1910, brought results evident to the eye of every observer, in thousands of cornfields. The importance of selection has therefore been demonstrated in a single lesson.

Increasing the Yield of Corn.

There are three important factors which aid in increasing corn yields. First, the soil must be in the proper condition, productive, well drained, and well fertilized. Second, a corn-field must receive proper tillage. Third, the selection and storing of seed corn. This last factor is especially important in Minnesota, where climatic conditions are such that late-maturing varieties cannot be successfully grown. One example will suffice. At Watkins, in northeast Minnesota, a field of 63.9 bushels per acre was secured, in 1909, by the proper selection of a variety of corn particularly adapted to the locality. Many farmers throughout the state are now growing corn equaling in yield that grown in the corn-belt states. They are able to do this simply by selecting a corn adapted to the conditions of their soil and climate.—Minn. Extension Bul. No. 9.

How Much Seed Corn to Select.

Few farmers save enough seed corn. One bushel of shelled corn will plant from seven to eight acres. One hundred to one hundred and twenty selected ears will make a bushel of shelled corn. At this rate it will take from twelve to fifteen ears to plant one acre. It should be remembered, however, that the first selection is not always perfect; and oftentimes, upon second selection and germination test, half of the first selection will be thrown out. Thus it is seen that there should always be selected in the fall at least twice as much seed as the farmer expects to plant. There is little danger of getting too much seed corn. Any surplus, if the seed is good, can usually be sold at a fair price.—Minn. Extension Bul. No. 9.

When to Select Seed Ears.

One of the main reasons why seed corn should be selected early is to be reasonably sure it will grow the following year when planted. Early selected seed corn is the corn that usually gives the best stand. Without a good stand it is impossible to get a maximum yield, and it costs no more to raise a field of corn with a perfect stand than it does to raise a field with a 60 to 70 per cent stand. Every good kernel of seed corn has in it a life, though very small, corn plant. This plant is tender and easily injured, unless kept under favorable conditions. Seed corn that is not thoroughly dry before cold weather will

freeze. The freezing of the kernel causes it to expand, thus injuring the germ, or little plant, lowering its vitality, and often destroying it, so the kernel will not germinate. It is well, if possible, to have every ear of seed corn selected before a killing frost, which, for average conditions in Minnesota, will mean about the middle of September. Seed corn, husked and stored properly about the middle of September will be reasonably sure of becoming thoroughly dry before cold weather.—Minn. Extension Bul. No. 9.

How to Select Seed Corn.

In case one has no "special seed plot," in which his best and earliest maturing ears were planted, it is then necessary that his seed corn be selected from the field. The most practical method to do this is to go through the field with a sack tied across one's shoulder and select the choicest and best-matured ears. Two rows of corn may easily be examined at once. During the process of selection, consideration of the strength and character of the stalk, the height of the ear from the ground, and the size of the shank, should be noted. A stalk does not necessarily have to be large to be a big producer. A tall spindling plant lodges very easily. The stalk should be of good size and strong at the base, gradually tapering, and not necessarily tall. Strong, vigorous stalks, of medium height, usually produce the best and earliest-matured ears. The ear should be attached to the stalk by a medium-sized shank, which is long enough to allow the tip of the ear to hang down.

All ears in a corn-field will not mature at the same time. A variation of fifteen days in maturing of ears in a field is not uncommon. One of the reasons why a good selection of corn can not be made from the shock, or from the field late in the fall, is that one is not able to tell the time the ear matured.

Desirable ears may mature ten or fifteen days later than the average freezing-time; and, if those are selected, they will insure a late-maturing crop. Again, if corn is left unhusked until late, the husks prevent the ear from drying out properly; and, as a consequence, it is likely to be frozen before it is husked, or at least before it has had time to dry out after husking.—C. P. Bull, Minn. Agr. College.

What Ears to Select for Seed Corn.

Everyone recognizes the value of using an ideal pure-bred sire, in breeding up his herd or flock. The better bred a herd or flock becomes, the more money it yields to its owner. These recognized facts, concerning the breeding of stock, are just as true concerning farm crops; and when practiced will often yield better returns. Surely there are few farm crops which may be improved so economically and so quickly as corn.

Many have the idea that, to start in right and grow good corn, they must send elsewhere and get some new fancy kind of seed. Those who do this are usually disappointed with their first crop or two. It takes some time for corn to become adapted to a change in climatic and soil conditions. For that reason, it is usually best to secure a variety of corn that has been successfully grown in the locality for a period of years.

In case the variety is not large enough, or does not mature, these faults can be corrected only by a careful selection of seed ears. If a good local variety is chosen, one will be more sure of securing a crop; and by the end of two years (which would be necessary to acclimate the outside corn) he would be much nearer success than if the same amount of time had been spent with a corn brought from some distant locality. We do not wish to discourage the introduction of new varieties of corn, but such varieties should be tried in a small way first. Color, so far as is known, has no effect whatever on the feeding value of corn, but is simply a fancy of the grower.—C. P. Bull, Minn. Agr. College.

Type Ear for Seed Corn.

In the choice of corn for seed, one selects the ears that he believes will give him the largest yield of good corn the following year. It is a good plan to choose an ear of corn that is as near the type wanted as possible; then keep this ear from year to year, or until you get a better one. At any rate have a sample ear that you can look at occasionally to help you in following one type. Keep this type-ear handy when selecting corn in the fall; and in the spring, when the final selection is made, it is well to compare all ears carefully with the type-ear.—C. P. Bull, Minn. Agr. College.

PROCLAMATION!

State of Minnesota, Executive Department.

There comes from thousands of Minnesota farms today a note of jubilation over the success of the corn crop. It is the largest crop ever known in the history of the State. The planting of an increased acreage has been followed by a marked increase in the average number of bushels produced to the acre. It is yet too early to say just what this increase will be; but that it will take on large proportions there is no doubt whatever.

While gratefully acknowledging the benefits accruing from weather conditions favorable, in most of our area, to the growth of the crop, it must be said that a large measure of the success of our Minnesota corn-growers this year is unquestionably due to the more timely and careful selection of seed-corn, last fall, resulting from the vigorous "Good Seed" propaganda inaugurated and carried on by the Extension Division of the Minnesota College of Agriculture. Last year's observance of "Seed-Corn Week," followed by the adoption, on multitudes of farms, of the improved methods of caring for seed and preparing the seed-bed recommended by the Division, has added this year many thousands of dollars to the revenues of our farms.

Not only this, but the spectacle of the magnificent crop now maturing is worth millions of dollars to the State as a fresh advertisement of the wealth of its resources. Coming at a moment when corn in the States hitherto producing the bulk of the crop has been cut short by unfavorable conditions, it will fix the attention of the world on Minnesota, as now fairly entitled to the distinction of being "in the Corn Belt."

It is extremely desirable that this year's triumph should be followed by a diligent effort to secure a greater and more brilliant one next year. The Extension Division, pointing to the good done by last fall's observance of "Seed-Corn Week," desires a repetition of such observance this year. The plan has my hearty approval. Therefore I hereby appoint the week of Sept. 11th-16th, 1911, as "Seed-Corn Week," and would again join the Division in urging that every farmer in Minnesota shall, on some day of that week, make it his special duty to go through his corn-field and select for seed the best ears from the sturdiest stalks; carefully storing them in accordance with the suggestions of Extension Bulletin No. 9.

Furthermore, this year's increase in the acreage given to corn having been attended with such satisfactory results, I would urge that yet more acres be set aside for this King of Crops.

Given under my hand and the Great Seal of the State, this 2d day of September, 1911.

A. O. EBERHART,

Governor.

Attest:

JULIUS SCHMAHL,

Secretary of State.

Yield and Size of Ears in Corn.

An acre of corn planted in check rows, hills three feet and six inches apart, has 3556 hills; and, with three stalks to the hill, contains 10,668 stalks. If one stalk in each hill produce a ten-ounce ear, the yield per acre will be 31.7 bushels. The average yield of corn per acre in Minnesota, for 1909, was 34.8 bushels. The average yield for ten years in Minnesota has been but 29.4 bushels. From this it is easily seen that on the average two stalks out of each hill do not produce ears at all or are missing. What is immensely more important than large ears is a field of corn in which every stalk produces a good eight or ten-ounce ear. Three eight-ounce ears per hill will practically triple the present average yield. If care is used in selecting only choice seed ears, long strides will be made in increasing corn yields.

It may be well to emphasize the fact again that many are inclined to select ears that are too large. This is a very natural thing to do, because everyone likes large ears of corn better than small ones; but it is yield per acre rather than large ears that determines profit. And if one allows himself to select ears so large that they will not mature, he is the loser

thereby. For the southern part of Minnesota dent corn ears should not be longer than eight and one-half inches, nor larger in circumference than six to six and one-half inches when dry. Towards the northern part of the state the size of the ear will decrease until it is about seven inches in length and five and one-half inches in circumference when dry. Three good ears per hill, of the sizes mentioned, will give a yield surprising to most growers of corn.—A. D. Wilson, Extension Division.

Form of Ear.

It has been learned, by many tests, that ears of a certain form yield more than other ears different from the standard form. Ears of corn likely to give best results, carry the butt diameter well towards the tip; they are free from indentations or other irregularities that would tend to decrease the yield of the ear; they have straight, regular rows of uniform kernels, and have kernels extending well over the tip and butt.

Importance of Maturity in Corn.

Feeders have long recognized that it is difficult to feed immature corn and keep their stock from getting "off feed." Immature corn is not as high in feeding value as mature corn. It is surely much harder to store and keep. A field of mature corn will yield more pounds of solid corn per acre than a field of immature corn.

In poor corn years corn is worth more per bushel than it is in good corn years; so one is especially interested to have corn in unfavorable years. It is more encouraging and more satisfactory to get 40 bushels per acre every year than to get 50 bushels per acre four years out of five, and the fifth year get nothing because the crop failed to mature. In either case one would get the same number of bushels of corn in five years; but with the sure-crop variety he would have corn for his stock every year, and would have it on the poor years when it is high in price. Furthermore immature corn is low in vitality, and often will not grow at all.

A common practice is to select ears that are too large. It is much better to grow three medium-sized mature ears to the hill than it is to grow three larger immature ears per hill. As a general rule, the larger the cob and the deeper the kernel, the longer it will take for the ear to mature. The size of the cob and kernel will naturally have to be decreased from the southern to the northern part of the state. Indications of immaturity are looseness of kernels on the cob, a high percentage of moisture, chaffiness (or thin, small, poorly developed kernels), adherence of the tip cap to the cob, and generally a large amount of white starch.—Andrew Boss, Minn. Agr. College.

Points About a Good Ear of Seed Corn.

It costs just as much to grow an ear of corn that has kernels covering three-fourths of the cob as it does to grow one with kernels covering the whole cob. The kernel contains most of the feeding value. The cob is of very little value as food, hence the rows of kernels should round well down over the butt and extend well over the tip (not necessarily clear over) thus insuring a good proportion of corn to cob. The rows should run straight from the butt to the tip; because, in crooked rows, there are more irregular kernels, and kernels of irregular size make it impossible to plant a uniform number in each hill.

FURROWS.

In selecting seed corn, one should always have in mind securing a maximum yield. One cannot hope to secure a maximum yield of shelled corn if the furrows between the rows of kernels are wide and deep. On the other hand if there is scarcely any furrow, and the crowns of the kernels touch, it will be found that the ears are hard to dry. To be right, the furrows should be merely distinguishing grooves between the rows of kernels.

TIP SPACE.

To get the most feeding value out of an ear of corn there should be no space between the kernels at the tip. It is the tip of the kernel—the end that contains the germ—that is richest in food nutrition. Pointed, chaffy tips indicate low feeding value and poor germinating power. Every precaution should be exercised to select seed corn that will grow and produce strong, vigorous plants. Space between the kernels at the cob, and lack of furrow, usually indicate a low proportion of corn to the cob, immaturity and poor vitality. The tip of the kernel should be wide, allowing room for a long, broad and deep germ.

THE KERNEL.

Nothing will aid more in making a high yield of shelled corn than a deep, well-formed kernel. But do not select

a too deep kernel; because the deeper the kernel the greater is the length of time required to mature it; and, above all other things, maturity is the first consideration. A good dent kernel will be somewhat wedge-shaped, about half again as broad at the top as at the bottom. Flint corn has a more rounding shape, being often as broad or broader than deep. A corn-planter can plant a uniform number of kernels in each hill only when the kernels planted are uniform in size. To secure uniform planting, the kernels of selected seed corn must be all of nearly the same size, not only on one ear, but throughout the whole selection.

PER CENT OF SHELLED CORN TO COB.

Ears with large cobs are to be avoided, on account of being hard to dry. A great variation exists in the amount of corn to cob different ears will shell. The variation usually comes between seventy and ninety per cent corn and ten to thirty per cent cob. From this it is seen that if one feeds one lot of hogs a bushel of corn that is but seventy per cent shelled corn, and another lot a bushel which is ninety per cent shelled corn, one lot will get forty-nine pounds of shelled corn and the other lot sixty-three pounds. For Minnesota conditions, dent ears should yield about eighty-three to eighty-five per cent of shelled corn. Indications of per cent of corn to cob are size of cob, depth of kernel, furrow space, and space between the kernels at the cob.

TRUENESS OF TYPE.

A few ears of yellow corn, in a field planted to white corn, means there is a mixture and that seed from that field will not be pure. Pure-bred corn, like pure-bred cattle, always sells better; not necessarily on account of superiority in the individual, but because it is well known that a pure-bred plant or animal will be likely to transmit its character to its offspring, while scrubs or mixed varieties may not. Intelligent crossing of either plants or animals often brings good results, but it is seldom that an unskilled cross brings increased production. Field mixtures of corn (crosses) are usually associated with decreased yields and anything but uniformity.

THE GERM.

Each kernel of corn has in it, near the tip, a little corn plant, called the germ or embryo. When the kernel is placed in favorable conditions—that is, put in warm, moist soil—this germ will grow and produce a corn plant. The germ should be nearly white in color, and should cut free and clean with a sharp knife. If the germ is soft and cheesy, it indicates that the seed has not been properly stored; and, if dark, that it has been frozen. A germ containing a high percentage of moisture after October 1st indicates immaturity, and the seed will very likely be injured by cold weather. A desirable germ should be large on the surface, clear in color, and show indications of strength. Such germs are seldom found in kernels with pointed, chaffy tips.—O. M. Olson, Extension Division.

Storing Seed Corn.

After time has been spent selecting seed corn, it would be folly to store it in a place where it would not keep. Freshly-gathered seed corn should not be left in piles in a warm room, or on the floor. It will either sprout, mold or do both. Always store seed corn where there is a good circulation of air, so it will dry out quickly. Never leave it in boxes, in piles, on the porch or in the barn. It should be taken care of at once.

There are only three necessary conditions for storing seed corn; and, if these are followed, one may be reasonably sure that ninety-five per cent or more of his corn will germinate, provided it was properly matured. First, there must be a good circulation of air about each ear, to carry away the surplus moisture. Second, a temperature must be maintained above freezing, until the seed is thoroughly dry. Third, seed corn must be selected early enough, so that it may have plenty of time to dry before cold weather.

WHERE TO STORE.

Numerous tests of seed corn have been made. Of all the thousands of samples tested, those that were taken from a house attic, where there was a good circulation of air, gave the highest per cent of germination. Second in per cent of germination was seed corn stored in a cellar in which there was a heating plant. Cellars without furnaces are usually damp and undesirable for storing. Samples of seed corn stored in oat-bins, on porches, under the eaves of barns, and in open sheds, have also been tested; and they usually gave tests too low for the seed to be of value for planting. It is easily seen that seed corn kept in an attic or an unused second story room can have the required conditions for drying; namely, good circulation of air, and an even temperature, above the freezing point.—Leon Robbins, Minn. Agr. College.