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Silver King. A corn for northern Iowa.

H. D. Hughes
Iowa State College

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SILVER KING—A Corn
for Northern Iowa

AGRICULTURAL EXPERIMENT STATION
IOWA STATE COLLEGE OF AGRICULTURE
AND THE MECHANIC ARTS

AGRONOMY SECTION
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SILVER KING.
A Corn for Northern Iowa.

By H. D. Hughes.

Every acre of Iowa soil must be considered strictly within the corn belt.

The extreme northern counties of the state are capable of producing yields of corn which compare very favorably with the yields of the southern counties or of districts in other states with even a longer growing period. It is merely necessary to find and use in northern Iowa varieties of corn which are adapted to a shorter growing season by their ability to produce and mature a good crop quickly.

Silver King is such a variety. That has been shown by the experience of practical growers and by the investigations of the Iowa Agricultural Experiment Station. In some localities in northern Iowa, Silver King has been grown successfully for 40 years or more. It has produced yields of more than 100 bushels an acre with a quality that made 50 per cent of the crop good for seed ears.

One of the most important labors undertaken by the station’s Farm Crops department since its present organization was effected, has been to select, develop and distribute a corn especially adapted to the conditions of that region. The results all point to Silver King as better suited to northern Iowa than any other variety now known. The station began breeding this corn in 1910 and in the fall of 1912 harvested 150 bushels of pedigreed seed for distribution among farmers of northern Iowa for trial and for increase.

It is generally accepted that the corn crop of northern Iowa can be greatly increased in yield as well as in market value per bushel by the general use of varieties especially adapted to that section, that is, varieties which will give satisfactory yields and mature early enough to be out of danger of early frosts. While a number of standard and well known varieties, such as Reid’s Yellow Dent, Legal Tender, Silver Mine and Boone County White, are well suited to general conditions elsewhere in Iowa, they are too late maturing to be satisfactory in the northern counties. Therefore, the Iowa Agricultural Experiment Station undertook its work of finding the very best variety possible.

MANY GOOD LOCAL VARIETIES.

Northern Iowa grows a good many kinds of corn that do very well. Many men in different counties in that section have varieties that are quite good enough for their needs. They have been growing them for many years, selecting each fall the type of seed ear which seemed to mature best and which also gave a satisfactory yield. Other men have in some cases introduced...
new varieties which have proved to be well adapted, or which after a few years of selection became acclimated.

Thus in a day's drive in one of the northern counties we found several distinct types or varieties which had been developed on as many different farms. They had been selected through a long period of years, sometimes 30, without the introduction of any new seed. This continued selection has in a number of cases resulted in wonderfully uniform types which must be considered different varieties as truly as the more widely distributed and better known kinds developed in much the same manner, such as the Reid's, the Silver Mine, the Learning and the Silver King.

Some of these unknown corns may be superior to anything of which we know, but a grower should never feel sure of this without careful comparisons covering several years. One man in Kossuth county grew for 25 years a particular "type" of corn which had come to him from his father-in-law, who in turn had grown it for twelve years. But after he compared it for five years with another variety, Silver King, this corn was finally abandoned. Repeated examinations in this particular case, made it certain that the old type was very much better than most of the corn grown in the locality. We assume therefore that a similar thorough comparison might convince many other men of the possibility of getting better corn than the corn they now grow.

HOW SILVER KING WAS CHOSEN.

In looking for corn which could be recommended without reserve for general planting in northern Iowa, we wished to find the corn which had already shown itself suited to that section and which already possessed the most desirable qualities and then by systematic breeding improve upon it. After comparing the records and qualities of such varieties or strains as could be found, one above all others seemed adapted for this particular work. This was Silver King.

Believing that the men who select and exhibit seed corn at county fairs and farmers' institutes would best represent those farmers most advanced in corn matters in their localities, we sought to get in touch with them. Request was made of the secretaries of the county fair associations and of the county farmers' institutes in the three northern tiers of counties for the names of those who had won prizes on corn at their respective contests or exhibitions.

We then asked these men, first, which variety of corn from their observation or experience they considered best suited to general use in the northern part of the State. In the reports of the 31 who replied, Silver King easily outclassed other varie-
Fig. 1.—When Dame Nature smiles upon us, we fill our cribs to overflowing and then store hundreds of bushels out under the open skies. We need more bumper crops, not as a result of accident, but of honest, consistent effort to secure the best under given conditions.
ties. Thirteen men considered Silver King the best of all varie-
ties, two named the Reid’s Yellow Dent, two the Silver Mine,
and two the Wimple’s Yellow Dent. Twelve others each named
a different variety.

Of seven who were growing Reid’s Yellow Dent only two
considered it the best, while every man growing the Silver King
considered it second to none. It is interesting to note that the
two men who named Reid’s Yellow Dent had been growing it
for a period of years, stating that it was much too late in
maturity during the first few years, but that they had been able
to select an earlier strain.

TABLE I.

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<tr>
<td>VARIETIES OF CORN NAMED AS BEST FOR NORTHERN IOWA</td>
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<tr>
<td>BY MORE THAN ONE CORRESPONDENT.</td>
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<tr>
<td>Number of Reports.</td>
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<td>First Choice. Second Choice.</td>
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<td>Variety</td>
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<td>Silver King</td>
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<td>Reid’s Yellow Dent</td>
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<tr>
<td>Silver Mine</td>
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<td>Wimple’s Yellow Dent</td>
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Each correspondent was also asked to name the variety which
he would class as the second best. From table I it will be
observed that of those who did not name Silver King as the
best variety, five named it as second best, which again placed
this variety above all others. The Reid’s is again second in
popularity, doubtless because of the type of corn and the yield
secured, and in spite of the fact that it is late in maturing.

Of varieties which had been tried in the county but classed
as unsatisfactory for general use, the Silver Mine was named
by seven men, the Reid’s by six, Calico by three, Boone County
White by two and Gold Mine by two. It is of interest to note
that the Silver King was not named at all in this connection.

The characteristics which were considered by these men in
naming the corn best suited to their localities are indicated by
the reasons given in table II.

TABLE II.

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<td>REASON GIVEN BY CORRESPONDENTS IN CHOOSING A</td>
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<tr>
<td>VARIETY AS BEST FOR NORTHERN IOWA</td>
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<tr>
<td>Reasons</td>
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<tr>
<td>Early Maturity</td>
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<tr>
<td>Good yield</td>
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<td>Deep kernels</td>
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<td>Good shelling per cent</td>
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<td>Small cob</td>
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The uniformly good qualities presented by the Silver King is indicated by the fact that during the past several years practically every premium offered for white corn grown in the northern sections of the state has been won by men exhibiting this variety. This has been true not only of all local shows held in counties where Silver King has been grown to any extent, but also of the annual exhibition at the state fair and of the state corn show of the Iowa Corn Growers Association. Its superior quality has also been given recognition outside the state, in that it has repeatedly been shown successfully in national competition from as early as 1884.

**DEVELOPMENT AND EARLY HISTORY OF SILVER KING.**

Attention was first directed to Silver King corn through the efforts of H. J. Goddard of Fort Atkinson, Iowa, who in his day was ranked as the foremost corn breeder in Iowa. Its origin can be traced back to Indiana, for it was brought from that state to Fayette County, Iowa, in 1862. In 1869 Mr. Goddard secured a half bushel of this seed. The possibilities of developing a very superior type or variety from the stock so appealed to him that he continued to grow it, selecting each year the type of ear which came nearest his ideal. This has had much to do with the present uniform type of the corn. While he gave special attention to early maturity, at the same time he selected an ear of good size which had deep kernels and a comparatively small cob, and with little space between the rows.

A rather rough, rugged type was developed without giving much attention to most of the fancy show characteristics. A tendency to select ears with very well filled tips probably had something to do with the fact that the original Silver King corn as produced by the Goddards has a tendency to produce a considerable proportion of ears large in circumference as compared with their length. The indentation is noticeably rough, though not harsh to the hand. The butt is rather fine for white corn, the kernels rounding out well around a shank which is inclined to be small.

In order to insure a good yield the Goddards attempted to get a corn which would grow few or no stalks that either were barren or which bore small nubbins. They did not consider more than one ear per stalk objectionable provided the ears were well developed. So when this corn is planted on very good soil its tendency to prolific production is very noticeable, many hills with three stalks producing four or five good ears. Even six good ears have been found in such hills.

Next after Mr. Goddard, Will Banks who lived near Algona, Iowa, had much to do with Silver King corn. Though a quiet,
Fig. 2.—A three stalk hill of Silver King with six ears of corn. On rich ground this variety often produces more than one good ear per stalk.
unobtrusive man who did not call attention to the prizes he won annually on his Silver King corn at the meetings of the State Agricultural Society. Mr. Banks developed Silver King corn rapidly in his county. In the fall of 1903, his corn easily outranked all other entries at Algona in the first corn show held in that county.

Fig 3.— Showing the quality of six ears of Silver King as found in a three stalk hill.

SILVER KING IN KOSSUTH COUNTY.

Greater attention has been attracted to this corn by growers in Kossuth county than by those in any other section of the state.

H. A. Bates, a young man new to the farming profession, discovered for the first time at the Kossuth County Institute and Corn Show in 1903, that some CORN was more than just plain “corn.” (all corn having previously looked alike to him). In the spring of 1904 he secured something less than a bushel of Banks Silver King corn. Throughout that season the one thing of which he thought most was corn,—more corn, better corn. The result was that at the corn show the next winter his corn carried off the first prize for his district. The following year he captured the grand championship of the show. This was the beginning of Mr. Bates’ interest in corn. Naturally a careful
student, his work has had much to do in calling attention to this variety and in furthering its more general use.

The regularity with which E. R. and J. C. Mawdsley, of Burt, Iowa, carried off high honors with Silver King, in local contests, at the state corn show and at the state fair, is a matter of record. In the spring of 1907 E. R. Mawdsley secured two bushels of Silver King corn from H. A. Bates and that fall carried off two first premiums and the sweepstakes premium for all northern Iowa.

Space will not allow a detailed statement of first prizes, sweepstakes and grand championships won on Silver King corn by the "Mawdsley Boys" since this corn was first brought to their farm. But with its introduction there came a new source of income, for not only has the yield of corn been increased and its quality improved, but it has never been possible to meet the growing demand for seed of this variety. Moreover the numerous prizes which have been won during the five years of its cultivation on this farm approximate a value of $1,200.*

It is interesting to note that when this corn was first brought to the Mawdsley farm by one of the boys it was looked upon with small favor by the father. The ears in the original lot of seed are said to have been "small, scrubby looking things." For some 25 years Mr. Mawdsley, Sr., had been growing and selecting a corn of his own which he had secured from his father-in-law, who in turn had grown it for some 12 years. Knowing positively the sterling worth of this variety he was loath to believe that it was to be surpassed. He demanded positive proof. As a result both corns were grown on the farm each year until the season of 1912, when the Silver King was given full possession.

SILVER KING IN ONTARIO, CANADA.

In Ontario, corn is grown extensively for grain, in the southern counties only, these counties lying in the same latitude as those of northern Iowa. At the annual show** of the Ontario

*Our only excuse for enumerating here a list of the premiums, is the belief that this more convincingly than anything else, may demonstrate that the quality of this corn is readily recognized wherever shown. The premiums are as follows: Corn planter, alarm clock, farm wagon with triple box, rooster, farm wagon, corn planter, disc harrow, cultivator, Tower pulverizer, hoe, corn grader, litter carrier, steel kitchen range, corn grader, sheep, corn grader, two pigs, Holstein calf, pen of chickens, $25 cash, field gate, pen of chickens, milk tester, field gate, $25 cash, pair of shoes, Keen Kutter tool cabinet, $2 in trade, combination hay and hog rack, hat, pair of fur mittens, 20 sacks cement, seed corn tester, 400 ear; 4 bushels seed oats, 1,000 6-inch tile, 40 rods American fence, seed corn tester, 250 ear. Lampless brooder, $47 cash, combination wire stretcher and hoist, seed corn stringer, 100 lbs. Kanit, $10 cash, corn planter, $10 cash, corn cultivator, $15 cash, corn tester, corn grader, feed grinder, $2 cash.

**From a report by M. L. Mosher who judged the exhibit.
Fig. 4.—A 70 ear sample of pedigreed Silver King produced on the farm of H. A. Bates, Algona, Iowa.

Corn Growers' Association, held at Windsor in January, 1913, at which over 4,000 samples were exhibited, coming mainly from the counties of Essex and Kent, the Silver King was one of the three varieties which appeared most often. Though introduced but two years ago, Silver King has already demonstrated its adaptability by supplanting many of the corns grown there for years, so that this variety is now acknowledged the most popular white corn in the province.

SILVER KING IN WISCONSIN.

Unfortunately for Iowa, the wonderful value and possibilities of this corn were long overlooked, except in a few localities. Although especially well adapted to conditions in northern Iowa, because of 40 years' selection, its true value was not generally recognized until after its introduction into a neighboring state, Wisconsin, where in a few years it became more generally grown than any other dent variety.

Silver King corn was first introduced into Wisconsin* in 1904 by Prof. R. A. Moore, who assisted in the judging of corn at the Kossuth County Farmers' Institute at Algona, Iowa, in the fall of 1903. His attention was attracted to the general desirable qualities of Silver King there exhibited by Mr. Banks.

*Data from annual report of Wisconsin Experiment Association and Wisconsin Experiment Station.
Before leaving Algona he arranged for the shipment of 30 bushels of this variety to the Wisconsin Experiment Station at Madison, to test thoroughly its adaptation for use in that state. Up to that time the numerous attempts made to secure a corn which could be recommended for general planting throughout Wisconsin had met with little success, as nearly all of the corns tried failed to mature satisfactorily.

In the work with Silver King that followed at the Wisconsin Experiment Station to adapt the plant to Wisconsin conditions, as well as to increase the proportion of perfectly formed ears, from 17 to 18 per cent of all ears gathered were classed as seed ears. This was considered a very unusual record in view of the previous experience of these Wisconsin investigators. Following this preliminary work the Silver King corn was distributed to all parts of the state through the agency of the Wisconsin Experiment Association. Some 1,500 seed corn cen-
sters were established where members of this association took up the work of producing seed of this variety.

In less than four years after its introduction into that state, 12,000,000 bushels of Silver King corn were produced, indicating the rapidity of its development. In the 1906 report of the Wisconsin Experiment Association, Professor Moore, who has had entire charge of the testing and distribution of this corn in that state, says: "Wisconsin No. 7 (Silver King) has given general satisfaction throughout a wide range of territory, and readily adjusts itself to various conditions and environments. From data received I feel confident that we have in No. 7 (Silver King) a variety superior to any other white corn grown in the state."

In the 1907 report, Professor Moore states that in trials carried on at the Wisconsin Experiment Station that year, a yield of 98.6 bushels per acre was secured, which at that time was the largest yield ever secured there from any variety.

The annual reports of the Wisconsin Association show that
during the six year period, 1904 to 1909 inclusive, reports were received from 749 men who were conducting tests with the Silver King corn, in more than 50 of the 71 counties in the state, indicating a very wide range of climatic conditions. Of all reports received 77.4 per cent reported satisfactory maturity. The average yield secured on the 749 farms was 57.7 bushels per acre. During the five year period, 1905 to 1909 inclusive, the yield of Silver King was compared with that of other corns on 632 farms, in each case the other corn supposedly being the best which could be had. In these tests the Silver King made an average yield of 59.2 bushels per acre as compared with 48.3 bushels per acre, the average yield of the other corn—or 10.9 bushels in favor of Silver King.

REPORTING TESTS OF SILVER KING CORN IN WISCONSIN.

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Total number of men reporting in six years 749
Average number counties represented each year 46
Total number counties in the State 71
Per cent reporting satisfactory maturity 77.4
Av. yield on 749 fields in six years 57.7 bu. per acre
Av. yield of Silver King for five years 59.2 bu. per acre
Av. yield of other varieties grown in comparison with Silver King 48.3 bu. per acre
Surplus yield of Silver King 10.9 bu. per acre

WHAT GROWERS SAY OF IT.

Statements made by a few of the men who grow Silver King may be of interest in indicating some of its characteristics, which most appeal to practical growers.

C. G., Jackson Co., Minn.:—"I have raised Silver King for three seasons and I have had very good success with it. I have tried many other varieties of corn, but Silver King beats them all for early maturing and yield and uniform ears. Last season 20 acres yielded an average of 70 bu. per acre of shelled corn. This field has been under culti-
vation for 36 years without having received at any time any fertilizers, or having been in pasture or grass. Silver King can easily be made to yield from 70 to 100 bushels per acre in northern Iowa, and the two southern tiers of counties in Minnesota. I have sold quite a lot of seed to my neighbors, men who have lived here in this locality 30 or 40 years and they claim it is the best corn they have raised. After coming up here I tried a great many varieties of corn and none satisfied me until I tried Silver King. It is the best variety for this locality.

A. J., Sioux Co., Iowa:—“Silver King has proven one of the best varieties we have tried. Have never produced less than 60 bushels and three years ago it went better than 80 bushels. We find this corn to be very good in shelling percentage and of very good quality, and always matures before frost.”

Mr. W. C., Poweshiek Co., Iowa:—“Silver King is the best early corn I know of. I have raised 60 bushels per acre on old ground. As it matures early, it is of good quality, with deep kernels and is good in oil.”

R. B., Lyon Co., Iowa:—“In my estimation Silver King is the leading corn for this section of the State. It matures early so is not often caught by early fall freezes. The yield is high and the quality extra good. This variety produces very few barren stalks and worthless ears and its shelling percentage is high.”

C. G., Jones Co., Iowa:—“Silver King is one of the very best varieties for this locality (Northern Jones County). There are some varieties that will slightly out-yield it, but for quality and yield combined, there are very few kinds that will equal it.”

C. A., Dickinson Co., Iowa:—Our general opinion is that Silver King does not yield quite as much as the yellow corn we grow. However, it has its merits and a greater amount of it will likely be raised in the future. There is one thing about it that we have often noticed. That is, that the same number of shovelfuls of it as the yellow, will overfeed hogs on full feed when changed from yellow to white. A basket full of white corn goes further in feeding horses than the yellow. Most of the white corn shows a great deal better breeding than the yellow commonly grown around here. We are not wholly converted to the idea that the Silver King is the best, but it is gaining.”

**BREEDING SILVER KING.**

After careful consideration of all these facts and comparison with other varieties, Silver King was finally selected by the Iowa Agricultural Experiment Station as possessing those characteristics required of a corn best adapted to general use in the northern part of Iowa. The choicest and finest quality ears were secured from a number of the best growers and systematic breeding begun in the spring of 1910. After careful comparisons the number of ears to be planted was reduced to 300. One hundred of these were planted on the farm of H. A. Bates, of Algona, Kossuth county; one hundred on the farm of J. R. Mawdsley, Burt, Kossuth county, and 100 on the farm of A. M. Avery, Mason City, Cerro Gordo county.

Briefly, the work consisted in planting a portion of each ear
Fig. 7.—During the first season the mother ears were compared by planting a portion of each in separate rows. Each row was harvested separately and the comparative yield and quality determined.
in a separate row the first year, in order to compare the mother ears under actual field conditions. By careful records and observations made during the season, the progeny in the different rows were compared for strength and height of stalk, leafage, per cent suckers and barren stalks, height and position of ear, etc.

At harvest time records were made of the yield, quality and type, uniformity and maturity, per cent of seed ears, per cent of market corn and nubbins or worthless ears. Having in this way determined upon the best mother ears, the portions of each of these which had been carefully saved were planted the second year in an isolated crossing plot. Here the stalks from some of the ears were detasseled, those which were detasseled and those which were allowed to produce the pollen for fertilization, being distributed uniformly throughout the plot.

MULTIPLICATION PLOTS.

The progeny from the best of these detasseled, or female rows, were planted in multiplication plots the third year, so that the amount of seed available might be increased as rapidly as possible.

Following these methods the breeding work was carried forward in 1910, 1911 and 1912 the first increase or multiplication plots being harvested in the fall of 1912. Three increase plots were harvested on the farm of Mr. Bates, and five on the farm of Mr. Mawdsley. The corn from a number of these plots was of such quality and so uniform in type that fully 50 per cent by weight was saved for seed.

Though the work is only well begun, those who have been in any way connected with this breeding project have been very much pleased and encouraged with progress made. A number of farmers visited the plots while the corn harvesting was on in 1912, and without exception all expressed themselves as well pleased with what they saw. Some strains still in the process of development promise considerably more in the way of improvement than those isolated from the 1910 work. In the very dry year of 1911 a comparatively large number of rows yielded between 60 and 75 bushels per acre. In 1912 over 100 bushels per acre (counting 80 pounds per bushel) were secured and one of the crossing plots produced 111 bushels per acre with fully 60 per cent of the corn excellent for seed ears. In addition to this record, at the same time the land produced a crop of rape fully two feet in height.

It must be understood that the conditions under which these yields were secured in 1912, were very favorable. But the yields are of interest because they indicate what is possible in the
Fig. 8.—Crossing the best strains in the second season's work. The uniformly good quality is rather remarkable, over 50 per cent of the corn in some cases being sowed for seed. (Seed ears shown tied together.)
extreme northern part of Iowa when a good season is combined with a good soil and a good corn.

DISTRIBUTION OF PEDIGREED SILVER KING SEED.

Approximately 150 bushels of this pedigreed seed corn is now in the seed corn rooms at Ames and will be distributed at once to a large number of farmers for a thorough preliminary trial in all sections of northern Iowa. Enough seed for a quarter of an acre will be sent each of several hundred men requesting it, under the condition that it will be planted and compared with their own corns and the results reported in the fall.

The bulk will go into a few large fields for further increase until another year when it can be sent out generally in large enough amounts to insure its being kept comparatively pure. It is proposed that this corn shall be distributed as uniformly as possible among the three northern tiers of counties.

FACTORS GOVERNING THE SELECTION OF CORN FOR NORTHERN IOWA.

In looking for better varieties of corn, it must be remembered that extensive and oft-repeated tests have established that seed corn grown in the community in which it is to be planted is wholly preferable to imported seed. It is very likely that if the best of these local varieties could be had for general planting in the community that the problem could in this way, best be solved. Too often, however, men with really good corn do not select more seed than they need and very often their neighbors would not appreciate the quality of their corn, even if it was available.

During a period of seven years samples of seed corn secured from 40 to 60 farmers in each of 29 counties in the state, were planted side by side under identically the same conditions for a comparative study of quality and yielding power. These tests showed that in each of these counties there were from three to eight men who had corn yielding an average of 10.9 bushels per acre more than the average of all other local corns tested, an average of 19.7 bushels per acre more than seed purchased from seed firms, and an average of 13.5 bushels more than seed introduced into the county from prominent seed corn breeders or growers in other sections of the state.

VARIETY NAMES NOT IMPORTANT.

In comparing different varieties of corn, it must be remembered that a mere variety name does not mean very much in these days when many men are making a critical study of their seed corn. True, there are several standard varieties which are
Fig. 9.—In the crossing plot a second opportunity is given to study the type of the various strains before they go into the increase plots.

recognized as possessing certain characteristics, and while all ears will not possess these characters to the same degree they will in general, be more or less in evidence. It is also well known, however, that a grower may take any variety of corn, Reid’s Yellow Dent for example, and by persistent selection along certain lines so change its general type in a few years that the average grower of Reid’s Yellow Dent will not recognize it as of this variety. And just so we have in Iowa hundreds of strains of Reid’s Yellow Dent corn. While most of these resemble each other in certain respects, many have, through years of selection in adapting them to grow under special conditions, or to meet certain ideals, been so changed from the original type as to be quite unrecognizable. And yet all these strains go under the common name of Reid’s Yellow Dent corn.

Changing corn from one soil to another, or from one locality to another, usually has a considerable influence on the quality, type and yield. We are appreciating this more and more every year. In comparing varieties for yield, etc., many of the variations are no doubt due to the changing of some of the varieties to a different soil and climate, from those where the seed was produced.
In certain tests greater differences in yield have been observed between two lots of seed of the same variety than between the seed of different varieties. In 1912 Silver King seed was secured from ten different growers and when planted side by side on similar soil and with the same per cent stand, showed a range in yield from 58.3 bushels per acre to 87.8 bushels. How much of this difference was due to the strain itself and how much to the fact that most of the seed was moved some distance, can not well be determined.

When seed corn is changed from one location or state to another, it must become acclimated to its new environment before the best results can be expected, or before an idea can be had of its qualities under normal conditions. Samples of newly introduced seed have often given results entirely unsatisfactory the first year, yet after two or three years have been found superior to other types.

We must not overlook, however, but rather emphasize, the importance and value of utilizing to the fullest measure, the best types of corn in the locality before making recourse to the introduction of new types.

Fig. 10.—Farmers inspecting the corn as the breeding rows were being harvested.
Fig. 11.—A part of the 150 bushels of pedigreed Silver King corn in storage at Ames, Iowa, and which will be distributed to farmers in Northern Iowa for trial tests and increase.

INTRODUCED VARIETIES MATURE TOO LATE.

During the past ten years there has been a marked tendency toward the larger, later maturing varieties of corn. While this tendency has no doubt been desirable it is quite certain that the pendulum has swung too far and that we are often deceiving ourselves by putting into our cribs each year a great bulk of surplus water and are not actually increasing the yield of air-dried corn.

There are vital objections to growing corn which does not mature satisfactorily. The high moisture content makes it very difficult to secure seed corn for the following year which can be depended upon to retain its vitality throughout the winter. Moreover, it must be considered inferior for feed because the carbohydrates and proteids are in a less digestible form, and a smaller amount produced per acre than would have been the case had the corn matured. Soft corn is not as palatable as sound corn, and there is always the danger of throwing the animals off feed when using it.

In marketing, immature corn will be docked several cents on account of the excessive shrinkage which must come and also because of the risk in handling this corn on account of heating

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and molding. In certain seasons thousands of bushels of corn in northern Iowa have been cut 10 and 12 cents below the market price directly because of such conditions, a monetary loss to the farmers of that section of the state directly due to late maturing corn.

To illustrate the extent to which attempts are being made to utilize these late maturing corns, in table IV we have arranged data showing the range in moisture content of sixty samples of farmers' corn produced in Allamakee county in 1910. We believe this to be representative, since it includes every sample.

We have compared here the ten samples which at husking time contained the largest per cent of moisture, with the ten samples which had the smallest per cent; also the twenty largest or latest in maturity with the twenty smallest, or earliest in maturity.

**TABLE IV.**

<table>
<thead>
<tr>
<th></th>
<th>Av. of 10 samples</th>
<th>Av. of 10 samples</th>
<th>Av. of 20 samples</th>
<th>Av. of 20 samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highest % moisture when husked</td>
<td>40.4</td>
<td>23.5</td>
<td>38.6</td>
<td>24.5</td>
</tr>
<tr>
<td>Lowest % moisture when husked</td>
<td>80.9</td>
<td>81.3</td>
<td>81.2</td>
<td>82.9</td>
</tr>
<tr>
<td>Av. yield, lbs. ear corn</td>
<td>2734</td>
<td>3080</td>
<td>3084</td>
<td>2906</td>
</tr>
<tr>
<td>% shelled corn when husked</td>
<td>83.9</td>
<td>82.8</td>
<td>84.1</td>
<td>82.9</td>
</tr>
<tr>
<td>Bu. per A. ear corn when husked</td>
<td>38.9</td>
<td>44.6</td>
<td>43.9</td>
<td>41.7</td>
</tr>
<tr>
<td>Bu. per A. ear corn when air dry</td>
<td>25.9</td>
<td>37.2</td>
<td>30.4</td>
<td>35.0</td>
</tr>
<tr>
<td>Bu. per A. shelled corn, air dry</td>
<td>27.1</td>
<td>38.5</td>
<td>32.1</td>
<td>36.2</td>
</tr>
</tbody>
</table>

The ten earliest in maturing, when considered from every standpoint, outyielded the ten latest in maturing. When considered on the basis of air dry corn (12 per cent moisture) the twenty earliest also slightly outyielded the twenty latest. When the corn was weighed as husked, the larger, later maturing varieties appeared to have made the greater production, with an average of 2.2 bushels more corn per acre than the earlier maturing varieties. But when considered on the basis of air dry corn, the earlier maturing varieties are shown to have actually yielded 4.6 bushels more ear corn than the later varieties. In each case the later varieties had a higher shelling percentage, though even with this advantage the earlier varieties have shown themselves to be superior.