THE 4-H CORN CLUB
I and II

4-H CLUB CIRCULAR 30

COLUMBIA, MO. MAY, 1929

COOPERATIVE EXTENSION WORK IN AGRICULTURE AND HOME ECONOMICS
UNIVERSITY OF MISSOURI COLLEGE OF AGRICULTURE AND THE UNITED STATES DEPARTMENT OF AGRICULTURE COOPERATING
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REQUIREMENTS OF 4-H CORN CLUB PROJECTS I AND II.*

Object.—The object of the 4-H corn club work is to organize boys and girls into groups for the purpose of demonstrating to the members and to the community approved methods of production and crop management to the end that better practices may be adopted; and to train the members in leadership.

Work Required.—Corn Club I.—Each club member who is doing the work for the first time is required to raise at least one acre of corn, demonstrating the use of pure seed of an adapted variety, proper methods of seed bed preparation and corn culture, and field selection of seed corn.

Work Required.—Corn Club II.—Each club member who is doing the work for the second time, or for successive times, is required to raise at least five acres of corn, demonstrating the use of pure seed of an adapted variety, proper methods of seed bed preparation and corn culture, and field selection of seed corn.

Records Required.—Each club member is required to keep an account of all operations, hours and cost of labor necessary to produce the crop, cost of seed and fertilizer, and any other necessary expense; an account of receipts and a story of the club work for the year, in a record book provided by the Extension Service of the Missouri College of Agriculture.

Ownership Required.—Each club member is required to own the crop, to be responsible for the demonstration field, to buy his own seed and fertilizer, and to secure any tools necessary for cultivating the crop.

Time Required.—Time for necessary work to produce the crop.
Time for the attendance at six or more club meetings.
Time necessary for one local exhibit.
Time for a county or state exhibit is optional.
Time for attendance at an achievement program at the close of the year's work.

Organization.—Corn clubs should be organized in February or March. The crop season is from April to October, varying with local conditions. The work should be completed before November 1.

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INTRODUCTION

CORN YIELDS in Missouri have never averaged more than 32 bushels per acre. Yet yields of 100 to 125 bushels have been secured in certain instances in our State. These high yields were not accidental, but the result of having used proper seed, under proper soil conditions and suitable cultural methods. It is to get greater yields through the use of these better methods that the 4-H Corn Clubs are organized. Club members are in a position to secure maximum yields of corn because they usually go about their work with few fixed ideas as to how things should be done and are likely to take great care in following directions.

I. ORGANIZATION OF A STANDARD 4-H CORN CLUB

A standard 4-H corn club is composed of a group of five or more boys or girls from the same community between the ages of ten and twenty-one years who are working upon the same club project under the direction of a local club leader.

Meetings.—Standard 4-H clubs are required to hold at least six regular meetings during the club year. These meetings may be held as often as the local club leader and members desire; however, the meetings usually are held once each month.

Below are subjects suggested for a number of club meetings. It may be necessary to devote two or more meetings to some of the subjects. It is suggested that these subjects be followed in the order named. **Local club leaders and clubs are expected to adapt these subjects to local community conditions.**

SUGGESTED MEETINGS FOR 4-H CORN CLUBS

I. **Organization of the Club.**—(See Club Secretary's Record Book.)

1. The business meeting.—The local club leader in charge.
   (1) Explanation of the duties of the club officers and members. (See the Club Secretary's Record Book.)
   (2) Election of club officers from the membership of the club: President, Vice-President, Secretary, Song and Yell Leader, and the Club Reporter.
   (3) Selection of a name for the club. (It is suggested that the name be selected so as to identify the club and the project.)

(4) Selection of a time and place for regular club meetings.
(5) Appointment of a committee to work up or select an appropriate song and yell for the club.
(6) Adjournment of the business meeting for instruction in club work.

2. Instruction.—The local club leader in charge.
(1) Distribution of club literature and the record books and explanation of their use.
(2) Explanation of the standard 4-H club requirements. (See Club Secretary's Record Book.)
(3) Explanation of the corn club project requirements.
(4) Setting one or more club goals, such as:
a. Every member will plant only tested seed.
b. Every member will try to make the 100 bushel club.
c. Every member will grow certified seed for sale.
d. Every member will enter the five-acre corn contest.
e. Every member will learn to judge, to demonstrate and to exhibit.
(5) Giving a brief statement of the main club events for the year, as:
a. Holding of six or more regular club meetings.
b. Conducting a field demonstration meeting on selection of seed corn.
c. Exhibiting corn at the local, county and state corn shows.
d. Planning to attend and take part in the State 4-H Club Round-up at the Missouri College of Agriculture.
e. Developing any other club activity, adapted to local conditions.
(6) Assignment of work for the next meeting:
a. References:
(a) Selecting the Plots. Page 10.
(b) Preparing the Soil. Page 10.
(c) Selecting the Variety of Seed Corn. Page 11.
b. Stating specifically what each member must do to start his corn club work.
(a) Home project work to be started.
(b) Records to be started.
c. Assignment of the National 4-H club pledge to be learned by all members before the next club meeting. (See the pledge in the suggested outline for the second club meeting.)
d. Assignment of topics to be used in response to roll call at the next club meeting.
(a) Name a standard 4-H club requirement and give one or more good reasons for the requirement.
(b) State whether or not seed corn was tested, is being tested, or will be tested.
(c) Name four leading varieties of corn in Missouri.
(d) Tell briefly how to test seed corn by naming the steps in the process.

e. Demonstration: Individual demonstration on testing seed corn.

3. Social hour, games, etc.

II. **Club Meeting.—Selecting the Plots, Preparing the Soil; Selecting the Variety of Seed Corn.**

1. The business meeting.—The club president in charge.

Duties of Club Officers. (See Club Secretary's Record Book.)

(1) Meeting called to order by the president, who leads the club members in repeating the National 4-H club pledge, as follows: "I pledge my **head** to clearer thinking, my **heart** to greater loyalty, my **hands** to larger service, and my **health** to better living, for my club, my community, and my country."

(2) Roll call by the secretary, the members responding by reporting on the previously assigned topics.

(3) Reading of the minutes of the last meeting by the secretary which should be adopted as a permanent record by the club when approved.

(4) Unfinished business:
   a. Report of the committee on club songs and yells.

(5) New business:
   a. Appointment of a social committee.

(6) Songs and yells, led by the song and yell leader.

(7) Adjournment for work.

2. Instruction and demonstrations.—

(1) Discussion:
   a. Selecting the Plots. Page 10.
   b. Preparing the Soil. Page 10.
   c. Selecting the Variety of Seed Corn. Page 11.

(2) Demonstration: Testing seed corn.

(3) Explanation of how to start keeping records.

(4) Assignment of work for the next meeting:
   a. Bringing of record books to the meeting.
   b. References:
      (a) Planting. Page 16.
      (b) Cultivation. Page 17.
      (c) Corn Pests. Page 18.

c. Assignment of topics to be used in response to roll call at the next club meeting, as:
   (a) Name a standard 4-H club requirement not previously given in response to roll call and give one or more good reasons for the requirement.
   (b) Each member is to report the variety of seed corn he is going to plant.
   (c) Name three main purposes of cultivation.
   (d) Name three pests which sometimes prevent a good stand of corn.

d. Demonstration: Individual demonstration on how to read or interpret the results of a rag doll seed corn test, previously made.

3. Social hour, games, etc.

III. **Club Meeting.—Planting; Cultivation; Corn Pests.**

1. The business meeting.—The club president in charge.
   (1) Meeting called to order by the president, who leads the club members in repeating the National 4-H club pledge.
   (2) Roll call by the secretary, the members responding by reporting on the previously assigned topics.
   (3) Reading of the minutes of the last meeting by the secretary.
   (4) Unfinished business:
      a. Report of the social committee.
   (5) New business:
      a. _____
   (6) Songs and yells, led by the song and yell leader.
   (7) Adjournment for work.
2. Instruction and demonstrations.—
   (1) Discussion:
      a. Planting. Page 16.
      b. Cultivation. Page 17.
      c. Corn Pests. Page 18.
   (2) Demonstration: Interpretation of results of the rag doll seed corn test.
   (3) Assignment of work for the next club meeting:
      a. References:
         (a) Selecting Seed Corn. Page 19.
         (b) Use of Score Card. Page 19.
         (c) Corn Score Card. Page 21.
         (d) Judging. Page 21.
         (e) Judging by Comparison. Page 22.
         (f) Suggested Procedure in Judging Corn. Page 23.
         (g) Judging Ten-Ear Samples of Corn. Page 23.
         (h) Curing and Storage. Page 24.
      b. Demonstration: Field selection of seed corn.
      c. Assignment of topics to be used in response to roll call at the next club meeting, as:
         (a) Name a standard 4-H club requirement not previously given in response to roll call and give one or more good reasons for the requirement.
         (b) Name the five important points in the score card for judging corn and state the percentage of importance for each point.
         (c) Give three ways of storing seed corn to dry.
         (d) Explain how an ear, selected for seed corn, should hang.
      d. Announcement of plans for the field demonstration meeting.
3. Social hour, games, etc.

IV. **Club Meeting.—Field Meeting; Selecting Seed Corn; Judging; Curing and Storage.**

1. The business meeting.—The club president in charge.
   (1) Meeting called to order by the president who leads the club in repeating the National 4-H club pledge.

(2) Roll call by the secretary, the members responding by reporting on the previously assigned topics.
(3) Reading of the minutes of the last meeting by the secretary.
(4) Unfinished business:
a. _____
(5) New business:
a. Appointment of committee to help plan for the club round-up.
(6) Songs and yells.
(7) Adjournment for work.

2. Instruction and demonstrations.—The local club leader in charge.
(1) Discussion:
a. Appointment of committee to help plan club round-up.
a. Selecting Seed Corn. Page 19.
b. Use of Score Card. Page 19.
c. Corn Score Card. Page 21.
d. Judging. Page 21.
e. Judging by Comparison. Page 22.
f. Suggested Procedure in Judging Corn. Page 23.
g. Judging Ten-Ear Samples of Corn. Page 23.
h. Curing and Storage. Page 24.
(2) Demonstrations:
a. Field selection of seed corn.
b. Judging demonstration.
(3) Assignment of work for the next club meeting.
a. References:
(a) Determining the Yield. Page 27.
(b) Score card for Judging Club Team Demonstrations. Page 35.
(c) Program for round-up. Page 28.
b. Demonstrations:
(a) Individual try-outs to make the club demonstration team.
(b) Individual try-outs for making the judging team.
(c) How to determine the yield.
(d) How to select corn for the exhibit.
c. Assignment of topics to be used in response to roll call at the next club meeting, as:
(a) Name all the standard 4-H club requirements.
(b) Give points to observe in selecting seed corn in the field.
(c) Name two methods of determining the yield.
(d) Give the number of pounds of shelled corn or ear corn to a bushel.

3. Social hour, games, etc.

V. Club Meeting.—Determining the Yield; Individual Try-outs for Making the Club Judging and Demonstration Teams.

1. The business meeting.—The club president in charge.
(1) Meeting called to order, the members repeating the 4-H club pledge.

(2) Roll call, members responding by reporting on the previously assigned topics.
(3) Unfinished business:
a. Report of the committee on club round-up.
(4) New business:
a. _____
(5) Songs and yells.
(6) Adournment for work.

2. Instruction and demonstrations.—The local club leader in charge.
(1) Discussion: Determining the Yield. Page 26.
(2) Individual try-outs for the club demonstration team. Page 9.
(3) Individual try-outs for the club judging team. Page 8.
(4) Assignment of work for the club round-up, as:
a. Bringing completed record books to the round-up.
b. Giving detailed instruction regarding the responsibility of each club member, of the club teams, of club committees, and of the club as a group, on the club round-up or achievement program.

3. Social hour, games, etc.

VI. **Club Meeting.—The Club Round-Up or Achievement Program.**

The club round-up or achievement program should be held at the close of the work for the club year, but before November 15.

Each club member should hand to the local club leader the completed record book so that the results of all the work of the club may be summarized for the year in the Club Secretary's Record Book.

Suggested Public Program

1. Exhibit of corn. Two-bushel lots for five-acre contestants; 10-ear lots; and single ears. An explanation of the placings should be given by the judge, if time permits.
2. Typical meeting by the club. Each member should respond to roll call by giving a summary of his corn club work.
3. Judging contest. Judge 4 samples each of single ears, and of 10-ear samples of both white and yellow corn.
4. Talk on the club's achievements by a club member, by the local club leader, by a member of the community committee, or by the extension agent.
5. Team demonstrations. The champion club demonstration team should demonstrate an approved practice which was learned in the corn club work.
6. Awards. Each member who completes the work is eligible to receive a 4-H club achievement pin, if given.
7. Plans for next year.

Suggestions

Only club members who make a complete report or have their records up-to-date should be eligible to take part in county, inter-state or national club contests, club camps, etc.

The events of the club achievement program and the results of the club work for the year should be carefully prepared and offered to the local newspapers for publication.

II. SELECTING THE PLOTS; PREPARING THE SOIL; SELECTING THE VARIETY OF SEED CORN.

Selecting the Plots.

Size of Plot.—The plot for the first-year members shall be one acre (43,560 square feet) in size. For the second-year members, the plot shall be five acres in size. It is a good plan to plant an area considerably larger than the plot desired; treat it all alike and at harvest time measure off the best acre or 5 acres.

In shape the plot must be square, or a rectangle which is not more than four times as long as it is wide. A square acre is 208 feet 8½ inches on a side. A square five-acre plot is 466 feet, 8⅓ inches on a side. A rectangular acre four times as long as it is wide is 417 feet, 5 inches long and 104 feet, 5 inches wide. A rectangular five-acre plot four times as long as it is wide is 933 feet, 4½ inches long and 233 feet, 4 inches wide. The plots may be of any dimensions between a rectangle and a square of the sizes given.

Kind of Land.—Corn is not a poor-soil crop. For this reason corn land should be fertile, deep as well as **warm,** well drained and preferably of a **loam** type.

Warm Soils are those that are well drained and of a dark color, and warm up quickly in the spring.

Loam soil is composed of a mixture of particles varying in size from clay to sand and in such proportions that it is easily cultivated and readily drained of excess moisture.

Land that has been in pasture or meadow makes an excellent corn field if the soil is otherwise of a suitable location and quality.

The corn plot should be next to or a part of a larger field of the same variety of corn. A plot by itself is more likely to be injured by livestock, squirrels or insects.

Preparing the Soil.

After a report of the committees appointed at the first meeting has been made and the business part of the program is finished there should be a discussion of the work necessary for producing your corn.

Manure and Fertilizers.—Corn is a plant that feeds very heavily upon the soil and can use large amounts of rather coarse barnyard manure and green manure. Both of these manures furnish needed plant food as well as decayed organic matter (humus) which improves the condition of cultivation (tilth) of the soil as well as the capacity for absorbing and retaining moisture. Apply manure liberally according to the fertility of the soil, using as much as 15 or

16 tons per acre on the thinner soils. Productive corn soil should contain three elements which you will hear about more and more as you progress in agricultural work, they are nitrogen, phosphorus and potassium. Manure is rich in nitrogen but low in phosphorus, so if obtainable add 25 to 40 pounds of super phosphate to each load of manure before spreading as it will balance the nitrogen of the manure.

If the land is fall-plowed without manuring, apply the manure during the winter or spring and disk it in. On lands of medium to low fertility when manure is not available, broadcast 150 to 250 pounds of super phosphate per acre with the fertilizer drill, just before planting the corn.

Plowing.—In preparing the seed bed it is best to disk the land before plowing to destroy the weeds and mix them and other vegetable matter with the soil and to prevent the land from plowing up cloddy.

Fall plowing is usually advisable when the land will not wash badly during the winter. This enables the soil to become well compacted and the manure to decay partially before planting time. For these reasons fall plowing is especially desirable on sod land. Allow the fall-plowed land to go through the winter without disking to prevent washing, to increase its capacity to absorb rain and melting snow, and to allow the freezing and thawing of the winter to break down the rough exposed surface into a fine mellow condition for the seed bed.

Spring plowing should be done as early as possible to allow time for the soil to settle. The later in the spring the plowing is done the more the soil should be worked down into a firm, compact seed bed by disking and harrowing. On late plowing it is best to harrow each day's plowing as soon as it is done in order to prevent great loss of moisture.

If any considerable number of weeds appear in the spring on either the fall or spring plowed ground they should be destroyed by disking before they get too large and waste the soil moisture. Plow 6 to 8 inches deep, going the greater depth on the deeper soils and where the plot is plowed a long time before planting time.

Selecting the Variety of Seed Corn

Although you may have prepared the seed bed perfectly for your corn crop, the yield will not be large unless you have good, perfectly sound, well matured seed adapted to your own location.

Variety.—Club members should select a variety and strain of corn that yields well, and is known from years of trial to be adapted to the climate and soil where it is grown. It is best to use home-

grown or locally grown seed if seed of good quality can be obtained. If such seed cannot be secured and it is necessary to use other seed, it is better to go east or west for it rather than to go north or south for any distance as it will be better adapted to the climate than seed from farther north or south.

Variety Adaptation.—The standard varieties of corn for Missouri are: (1) Boone County White, (2) St. Charles White, (3) Commercial White, (4) Reid's Yellow Dent.

These are not all adapted equally well to every part of the state so each variety is given below showing where it yields best.

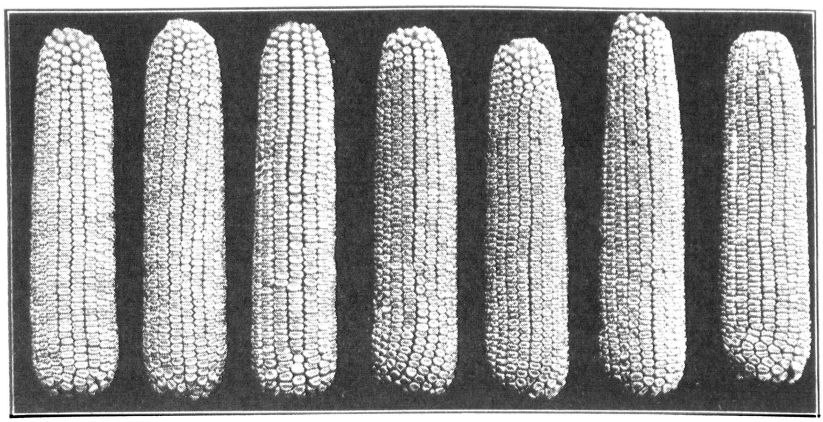

Fig. 2. Select ears of uniform size, shape, color and indentation.

Boone County White is especially adapted to the bottom lands in all parts of the state and the more fertile uplands throughout central and southern Missouri. Johnson County White is a variety very similar to Boone County White and adapted to the same conditions.

St. Charles White is a good yielder in the central and southeastern sections and on bottom lands all over the state.

Commercial White is well adapted to the southern third of the state. It does not mature well in northern and central Missouri in the average season.

Reid's Yellow Dent is an especially good yielder on upland soils in the northern third of the state. In the southern part and in the bottom lands of northern Missouri, it will not yield as well as Boone County White or Commercial White.

Securing Seed.—When the club members have decided on the variety of corn they wish to plant they should secure from near home the best seed possible. Six to eight pounds of good, uniform, viable shelled seed should be secured for each acre to be planted. Viable seeds are those capable of living. If corn is bought in the ear about ten to twelve ears will be needed for each acre planted.

Select your own seed if possible, picking ears that are uniform in size, shape, color, length and indentation and that are as nearly as possible like the description for the special variety that is selected as given on page 12. As a help in selecting seed read the paragraphs on Seed Selection page 19, Judging page 21, and the score card page 21. Keep the points of the score card in mind while making your selection. In selling the corn, the kernels from the tip and butt ends should be discarded, principally because they are undersized and irregular in shape and will not plant uniformly and give an even stand of corn.

Description of the Leading Varieties of Corn in Missouri

	Boone County White	St. Charles White	Commercial White	Reid's Yellow Dent
Ear shape	Cylindrical	Slowly Tapering	Slowly Tapering	Slowly Tapering
Length inches	10½-11	10-10½	10½-11	10-10½
Circumference inches	7½-7¾	7¼-7½	7½-7¾	7¼-7½
Kernel color	White	Pearl White	Pearl White	Lemon Yellow
Indentation	Medium Rough	Medium Rough	Smooth	Rough
Shape	Medium Wedge	Medium Square	Medium Square	Long Wedge
Depth	Medium	Medium Shallow	Shallow	Deep
Rows number	16-20	18-20	16-18	18-24
Space	Medium Close	Medium Open	Open	Close
Cob color	White	Blood Red	White	Deep Red
Average height feet	8-9½	8-9½	8¼-9½	8-9
Days to mature	130-135	135-140	140-145	125-130

If it is necessary to send away from home for the seed the club members should consult the Local Leader and County Extension Agent about the best place to secure seed. You can then buy the seed together and each member can pay his share of the expenses.

Approved seed of good quality may be secured directly from growers through the approved seed list published cooperatively by the Missouri Corn Grower's Association and the College of Agriculture, Columbia, Missouri.

Johnson County White does not differ materially from Boone County White. It is rougher, kernels more chalky in color, ears more tapering, especially toward the tip, butts more rounded.

Testing the Seed.—After the ears are selected, the club members should test the corn to see if it will germinate or sprout well before it is planted. Testing the corn is an easy task and the simplest effective method for doing it is the rag-doll seed tester. This method of testing shows the germinating power of each ear and its freedom from diseases. For one acre thirty to forty ears should be enough to test. This allows for a number of ears which may have to be discarded because of poor quality.

Lay a strip of butcher's glazed wrapping paper 14 inches wide and 60 inches long on a clean surface and on top of this place a moistened strip of good bleached or unbleached muslin of the same size. Sterilize the cloth by boiling it in water for twenty minutes. Sterlizing makes the cloth free of germs.

Take out eight kernels from each ear. Start near the tip and take one out of another row and farther from the tip, turn toward the right again and remove another kernel from a third row and farther from the tip than the second kernel. Continue until eight have been removed. Lay the eight kernels from each ear in a row across the cloth, beginning about 2 inches from the top of the cloth and putting the first row about 4 inches from one end of the cloth. Place the kernels in the order in which they are removed from the ears, with the germ side next to the cloth and the tips all pointing in the same direction. Leave about a 2-inch space between the rows of kernels and about a 4-inch margin at the bottom of the cloth. Number the rows at the margin of the cloth to correspond to the number of the ears. The number may be attached to the butt end of the ear, by means of a pin stuck into the cob.

Roll the paper and cloth into a smooth, firm roll (doll) and fasten at each end with a rubber band or string. Stand the doll on end with the tips of the kernels pointing downward in a pail containing about 2 inches of water. Keep the water at about this depth by adding more from day to day.

Fig. 3. Removing the kernels and placing on rag-doll tester.

Fig. 4. Rolling the rag-doll.

Place a moist gunny sack or cloth over the pail and cover with another pail or board to prevent drying out. Keep the doll moist and at a temperature of 80° to 85° Fahrenheit which is slightly higher than the ordinary room temperature. It should be protected from the cold at night.

At the end of seven days the germination is ready to read. Unroll carefully, count and record the number of kernels from each ear that sprouted.

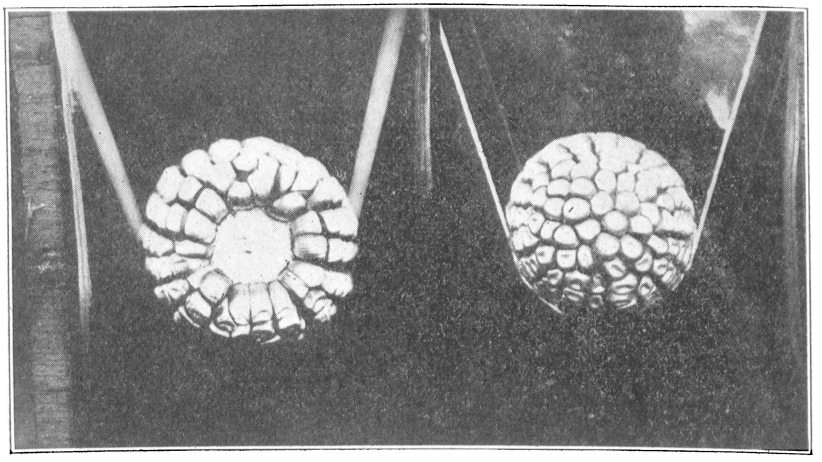

Fig. 5. Good butt and tip of ear.

Examine each row of kernels for dark, moldy, rotted and weak sprouts. Such kernels come from diseased ears which should be discarded as well as those which do not show 100 per cent germination. If possible use only those ears for seed whose kernels show 100 per cent germination and that have no moldy, rotted or weak sprouts.

III. PLANTING; CULTIVATION; CORN PESTS.

Planting.

Time.—Do not plant the corn until the ground has become fairly warm and danger of frost is past. The time will vary from the middle of April, for the southern part of the state, to the last of May, for the northern part of the state.

Rate.—On the more fertile soils, plant at the rate of three kernels to the hill, 3 feet, 4 inches to 3 feet, 8 inches apart. On the

thinner soils, plant two grains per hill. To insure a perfect stand, plant more seed than needed and thin to the proper stand. Thinning should be done as soon as the stalks are too hard to be injured by cut worms and before the stalks are more than eight or ten inches high, leaving three stalks to the hill on the more fertile soils and two stalks to the hill on the proper soils. A broom handle flattened at one end, or a similar stick, to which is fastened a sharp piece of flattened iron like a 2-inch chisel, is of greatest assistance in thinning, since it is necessary to remove the stalks below the surface of the ground in order to prevent further growth.

Depth.—Plant the seed about 2 inches deep either by hand or with the ordinary corn planter.

Furrow openers on an ordinary planter give good results by putting the seed deeper into the ground where it will withstand drought better. They should not be used on heavy, poorly drained, or the very shallowest soils. The furrow produced by this method of planting is gradually filled in by cultivation.

Cultivation.

Purposes.—The main purpose of cultivating is to destroy weeds. Other less important purposes are:

1. To conserve soil moisture.
2. To enable rainfall to penetrate the soil.
3. To set free or make available additional plant food.
4. To bring about better aeration of the soil or to supply air to the soil.

Ordinarily enough cultivations to keep down weeds will produce the other results, and are all that are necessary to produce the greatest yields.

Methods.—Harrow the field if weeds appear, or the ground crusts before the corn comes up and before the corn gets too high to be injured by this operation. Set the teeth of the harrow pointing backward and drive the harrow at an angle to the corn rows and not parallel with them.

Start the cultivator early and destroy the weeds while they are small and not deeply rooted. Cultivate often enough to prevent the weeds from developing deep and large roots, which will sap the moisture that is needed by the corn.

Depth.—Do not cultivate too deeply; go only deep enough to stir the surface and kill the weeds. Deep cultivation destroys the surface roots of the corn and usually results in a decreased yield.

If the regular cultivations have been done promptly and well, late cultivations after the corn is normally "laid by" will seldom be required and they rarely pay.

If late cultivation is practiced, it should be shallow and done with a one-horse cultivator, a one-horse harrow, or a mower wheel dragged through the rows which will loosen up the surface soil an inch or so deep.

Implements.—Either a shovel or disk cultivator may be used, but for all conditions the shovel cultivator is most satisfactory. If only one cultivator is available it should be of the shovel type.

The disk cultivator can be used to best advantage on sod ground in wet seasons or when weeds have gotten the start of the corn. For the first cultivation, run the disks as close to the plants as possible throwing the soil away from the plants (barring off). For the second cultivation, set the disks to throw the soil back towards the plants and to cover the weeds in the row. For succeeding cultivations, either type of cultivator is satisfactory.

A shovel cultivator with six or eight shovels will give better results usually than one with only four shovels. The larger number of shovels will stir all the soil and kill the weeds without going too deeply or ridging the land excessively. On stumpy or very rocky land the four shovel type is more commonly used and probably preferable.

Corn Pests.

If you have trouble with insects, disease or other pests which you cannot handle yourself consult your Local Leader, County Agent, or write to the Agricultural Extension Service, Columbia, Missouri, stating fully the nature of the trouble.

IV. FIELD MEETING; SELECTING SEED CORN; CURING AND STORAGE; SCORE CARD; JUDGING.

Fig. 6. Ear in good position.

Selecting Seed Corn.

When it is time to harvest the corn don't fail to have a field selection demonstration somewhere in your neighborhood for securing the best ears of corn from the plot. The Local Leader, County Extension Agent or a corn specialist will give the demonstration. The best ears should come from the best stalks or those producing the most good corn under ordinary conditions. The best stalks should be of medium height and thickness, and contain a good supply of broad leaves, and have ears at a convenient height for husking. The selected ears should have a shank of medium length and should hang down toward the ground with a natural curving of the shanks as shown in figure 4.

Pick ears that are uniform in size, shape, color, length and indentation and that conform as closely as possible to the variety standard. The kernels should be uniform and arranged in straight rows which extend well over the tip and butt ends of the ears. After the seed ears have been picked in the field they should be reselected and the poorer ones discarded.

Use of the Score Card.

The first step in judging corn is to learn how to use the score card. The score card shows the relative value of the different

characters of the ears. For example, uniformity of type and length of ear have scores of 10 points each while shape of ear counts only 5 points. In selecting seed corn choose ears that follow closely the variety standard, and consider the different characters of the ears according to their relative value on the score card.

Corn judging demonstrations should be given in order to learn how to pick out superior ears or groups of ears that will produce the largest and best crop and at the same time conform or agree most closely and uniformly to a definite variety standard. Judging depends on three main factors:

1. Trueness to type (variety standard).....40 points
2. Maturity and market conditions.....15 points
3. Yielding quality and vitality.....45 points

Fig. 7. Demonstration of field selection of seed corn.

Each of these factors is made up of a number of values based on definite ear characters, uniformity and condition as shown in the score card page 21.

Trueness to Type (Variety characters).—Ears should conform as nearly as possible to all variety and other desired characters.

Maturity and Market Condition.—Ears should be well matured, thoroughly cured, and firm. Good market conditions are necessary which mean freedom from injury, disease or decayed parts or any other condition which would lower the market value.

Yielding Quality and Vitality.—The kernel shape and size, fullness and condition of tips and butts and size of the cob must be

such as to produce a high shelling percentage of the ear. The germs should be relatively large, extending well over the surface of the kernel, be bright in color and free from discoloration and injury. When cut or broken open they should reveal a fresh oily appearance indicating high vitality which is absolutely necessary in seed corn.

Variety Standard

	Length	*Circumference*
Yellow		
Reid's Yellow Dent	10 to 10½	7¼ to 7½
White		
Boone County White	10½ to 11	7½ to 7¾
St. Charles White	10 to 10½	7¼ to 7½
Johnson County White	10½ to 11	7½ to 7¾
Commercial White	10½ to 11	7½ to 7¾

Corn Score Card—Ten-Year Sample

Scale of points		No. of Sample				
		1	2	3	4	5
Trueness to type and breed characteristics—						
1. Uniformity of type	10					
2. Shape of ears	5					
3. Length of ears	10					
4. Circumference of ears	5					
5. Purity of kernel	5					
6. Purity of cob	5					
	40					
Maturity and market condition—						
7. Maturity	10					
8. Market condition	5					
	15					
Yielding qualities and vitality—						
9. Character of germs	15					
10. Shape of kernels	10					
11. Uniformity of kernels	5					
12. Butts	5					
13. Tips	5					
14. Size of cob	5					
	45					
Total	100					

Judging by Comparison.

After club members have learned to use the score card in judging individual ears of corn, they are ready to learn to judge by comparison. At first, this may be done by comparing two samples of corn. Usually, four 10-ear samples of corn constitute a judging class, each sample being designated by A B C D, or by 1 2 3 4.

In judging by comparison, club members should compare the sample placed first with the one placed second, the second with the third, and the third with the fourth. Reasons should be given in a similar way, which may be given in writing at first and later orally to the leader or judge. There is a tendency for beginners in judging to describe samples of corn rather than to give comparisons. Comparisons are made by taking up the essential points in a logical order as they appear on the score card. In contests, club members usually are judged on the combined results of both placings and reasons on basis of 50 points for correct placings and 50 points for correct reasons.

A free-for-all contest may be conducted in each club for the purpose of selecting the three highest ranking individual judges

Fig. 8. A club leader giving a lesson on judging corn.

to represent the club on the judging team in the county. Team work may be developed by giving the members of the team an opportunity to practice judging together and to discuss their own placings and reasons with each other and with the leader or judging specialist.

After the judging work has been completed but before the results of the contest have been announced, if time permits, the judge should exhibit the classes of corn as placed in the contest in the presence of the contestants and explain reasons for the placings made. After understanding the placings, club members will have a fact basis for showing good sportsmanship when the results are announced.

Suggested Procedure in Judging Corn

In crop judging, placings based on seed quality (use for seed) are in 90 per cent of the cases correct placings. This rule will hold true except in the possible case of judging corn and even here it is generally the rule.

Corn—Single and Ten-Ear Classes.—Procedure.

Step (*1*).—Place the samples 1-2-3, etc. as to uniformity (the samples which appear the most uniform in length, shape, color, indentation, butts and tips, etc. should be placed first, the next best second, etc.)

Step (*2*).—Compare 1 and 2, 2 and 3, 3 and 4, etc. in the order given as to—

(a). Maturity (c). Germ condition (Germination)
(b). Purity (e). Starch content
(f). Indentation.

Where samples show immaturity, note germs carefully as to possible low germination. Should immature samples also show bad germs, then more stress is to be placed on maturity than would otherwise be done.

In case of purity, look carefully for mixtures, (a) as shown in kernels, (b) as indicated in cob color, and (c) other varieties in sample.

Step (*3*).—Compare the samples as to extreme starch content and extreme rough indentation (chaffy).

Step (*4*).—Going back to Step (1) (your placings on uniformity), shift the placings to balance with your comparison on Step (2) and Step (3). For example, sample placed 1st on uniformity may have some mixture and should go below sample placed 2nd. If mixture is very bad or the sample immature, has suspicious germs, or is starchy, it should go even lower than second, depending upon the condition of the samples 3rd and 4th.

Step (5).—The type of kernel is to be considered after all other points are compared. When two samples are about equal with respect to above characters, always place the one having the best kernel type over the one poorest in this respect. (See Missouri Exp. Sta. Cir. 126.)

EXAMPLES OF PLACINGS IN COMPARING SAMPLES

A.

(1). 4 samples numbered 1-2-3-4.

(2). Placed 4..... 3..... 2..... 1 on uniformity

Uniformity of (4) and (3) rather close

Trace of : Pure Mixture :

Uniformity of (2) much better than (1).

Slightly immature: mature germs good.

(3). Correct placings 3-4-2-1

B.

(1). Samples numbered 1-2-3-4.

(2). Placed 4..... 1..... 2..... 3 on uniformity

Uniformity of (4) and (1) rather close

Pure : Pure

Maturity equal

Badly mixed: Best kernel type.

Uniformity of (2) and (3) rather close

Starchy and rough :

(3). Correct placings 1-3-2-4

Curing and Storage

Seed corn should be placed to dry the same day it is gathered where there is a good circulation of air. Some common ways of curing the ears are shown in figures 9 and 10.

Two people are needed to string ears as shown in figure 9. Take a piece of binding twine about 20 or 25 feet in length or as long as found convenient to handle. Double it as shown. One person stands and holds the ends of the twine in each handd,, and the other person lays an ear of corn in the loop; after each ear is laid the strands are crossed over and another ear is laid in place. This weaves the twine back and forth around the ears. About one pound of twine is required per bushell. The strings of of ears may be suspended from the ceiling, rafters or especially made racks.

A wooden rack for drying corn is made by nailing laths about 4 inches apart on two upright boards 5 or 6 inches wide. Another form of rack is made by driving good sized nails, 8 or 10

Fig. 9. Twine method of hanging seed corn.

penny, in rows through a board which is hung up with the ears stuck on the nails. Racks may be made of pieces of electrically welded wire fencing with the strands cut off upon which the ears are stuck as shown at the center in figure 10.

When thoroughly dry if well protected from mice and the weather, the seed ears may remain where they were cured or they may be stored in mouse proof boxes and put in a dry place. Insects may be kept out by storing some moth balls with the ears.

Remember that excellent seed corn may be ruined by poor storage, so take good care of it.

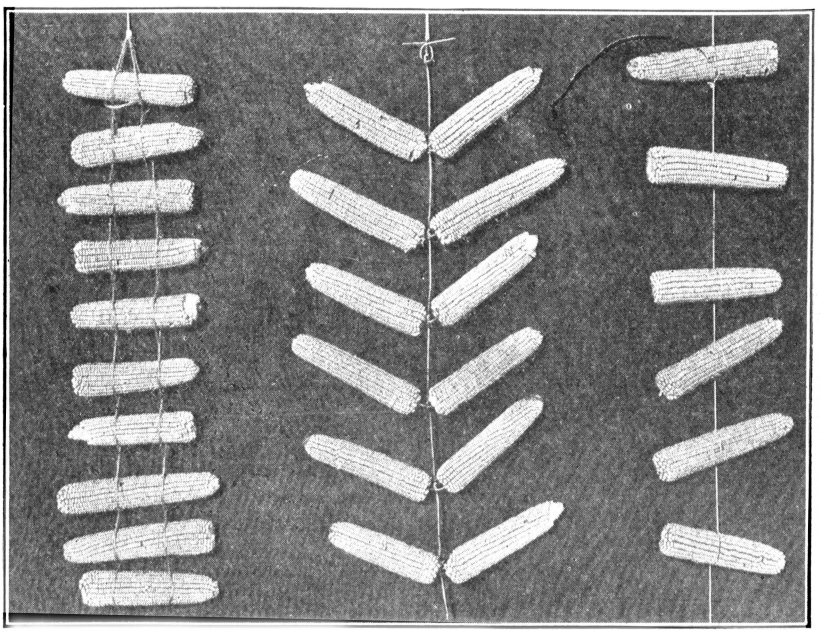

Fig. 10. Three excellent ways of drying seed corn.

V. DETERMINING THE YIELD; DEMONSTRATIONS; INDIVIDUAL TRY-OUTS FOR MAKING THE CLUB JUDGING TEAM AND THE CLUB DEMONSTRATION TEAM

Determining the Yield

One of the important parts of club work is determining the yield of your plot. At harvest time the corn plot should be accurately measured and the yield correctly determined. The best way to determine the yield is to husk and weigh all of the corn on the measured plot.

The seed corn should be weighed with the rest of the corn in order to get the full yield of the plot.

1. To determine the yield of dry corn weigh out 100 pounds of ear corn. Place the ears on a frame, string up in a loft or arrange in some manner so that they will dry thoroughly without injury.

2. When dry, weigh again and record the weight. Shell these dry ears and weigh the shelled corn. Record this weight as the per cent of dry shelled corn.

Multiply the total weight of corn from the plot by this per cent. The result is the yield in pounds of dry shelled corn from the plot. Dividing this weight by 56 gives the yield in bushels per acre as there are 56 pounds of shelled corn in a bushel.

If the entire plot cannot be harvested and weighed, the following plan will give the yield correctly and with less labor.

Select in the field at representative and separate places a total of six rows. Measure off 175 feet on each row and husk the corn from the measured portion. Weigh the corn and determine the yield of dry shelled corn as stated above under 1 and 2. The result is the yield in bushels of dry shelled corn from the selected rows.

Decide from the following table what fractional part of an acre the six rows represent.

Distance between rows	Fractional figure*	Distance between rows	Fractional figure*	Distance between rows	Fractional figure*
2 feet 0 in.	20.743 −	2 feet 9 in.	15.086 −	3 feet 5 in.	12.156
2 feet 1 in.	19.913 +	2 feet 10 in.	14.642 +	3 feet 6 in.	11.852 −
2 feet 2 in.	19.147 +	2 feet 11 in.	14.224 −	3 feet 7 in.	11.577
2 feet 3 in.	18.438 +	3 feet 0 in.	13.829 −	3 feet 8 in.	11.314 +
2 feet 4 in.	17.779 +	3 feet 1 in.	13.455 −	3 feet 9 in.	11.063
2 feet 5 in.	17.167 −	3 feet 2 in.	13.101 −	3 feet 10 in.	10.822 +
2 feet 6 in.	16.594 +	3 feet 3 in.	12.762 −	3 feet 11 in.	10.592 +
2 feet 7 in.	16.059 −	3 feet 4 in.	12.446 −	4 feet 0 in.	10.371 +
2 feet 8 in.	15.557 +				

*This number will be the number below the line in the fraction which shows the part of an acre six rows, 175 feet long, make of the width given opposite.

Multiply the weight of the dry shelled corn from the six rows by this fractional figure. The result will be the number of bushels of dry shelled corn per acre.

Six rows each 175 feet in length (1050 feet of row) represent the following fractional part of an acre. The fraction in each case is one over the number given: thus 1/20,743.

To illustrate the method of determining the yield per acre we will suppose the following case:

The weight of ear corn husked from the six rows is 380 pounds. The distance between the corn rows is three feet, four inches. The 100 pounds of ear corn when dried out and shelled weighs 78 pounds, which is the amount of the shelling per cent. Seventy-eight per cent of 380 pounds is 296.4 pounds.

296.4 pounds divided by 56 equals 5.29 bushels. 5.29 bushels multiplied by 12.446 (fractional part of an acre which the six rows 3 feet, 4 inches apart represent) equals 65.84 bushels of dry shelled corn produced per acre on the field under consideration.

Demonstrations

In so far as possible, all club members should be instructed in the regular club meeting by the demonstration method. As a usual thing, one or more members of each club can begin doing before the club useful phases of the work program soon after the processes have been demonstrated by the club leader.

After two or three months of practical experience in handling real things all mature club members should be able to give public team demonstrations. The scope of the team demonstration usually should be limited to the essential processes of some phase of the club work of the current year on one subject. A team of two or three of the best demonstrators, according to the number needed, should be selected from the membership of one club, either by mutual consent or by individual tryouts in competition. All teams should have an opportunity to demonstrate before the local club group and the people of the home community, and the championship team should represent the local club at the county round-up, if one is held.

Suggested Problems for Team Demonstrations.

Testing seed corn with the rag doll tester.
Grading seed corn.
Field selection of seed corn.
Selecting a corn exhibit.
Judging a ten-ear sample of corn.
Storage and curing of seed corn.

Testing Seed Corn by Use of the Rag Doll Tester (Suggested Outline)

Team—Prepared for a team of two members from one club, designated in this outline as "A" and "B."

Reference—How to Test Seed Corn.—Circular 48, Missouri College of Agriculture.

Equipment Needed—1 piece muslin, 18 inch by 2 feet (for 10 ears), 1 yard stick, 1 pencil, 1 knife, 10 ears of corn, 1 rag doll tester which contains germinated kernels, 1 bucket, some warm water, 10 cards with pins to number ears, 1 blackboard and chalk or large cardboard.

Time—Fifteen to twenty-five minutes.

Procedure.

A speaks and demonstrates.—

A leads in repeating the National 4-H club pledge; gives a brief history of the club; introduces the team; and states the problem which the team will demonstrate.

I. *Explains Briefly Testing for Germination.*

1. Its importance.
2. Value of this method in discovering root-rot infection in the ears.
3. Brief explanation of kinds of tests.
   a. Some commercial tests, heated by lamps or electricity.
   b. Old incubators.
   c. Dinner plate tester.
   d. Sand box germinator.
   e. Sawdust box germinator.
   f. Rag doll tester.

"My team-mate will now demonstrate and explain how to make and use the rag doll tester, since it is the most common kind now in use."

A assists.—

Assists in making tester as B explains the process and its purpose.

B. assists.—

Be stands at attention until introduced, and then quietly gets materials ready for making the rag doll tester.

B speaks.—

II. *Demonstrates and Explains Briefly the Steps in Making and Using a Rag Doll Tester.*

1. Marks off two rows of 3-inch squares, 5 squares to the row, down the middle of the cloth. Explains.
2. Numbers the squares consecutively so as to identify the kernels. Explains.
3. Numbers the ears to correspond to the numbers on the cloth. Explains.

	4. Removes six kernels from each ear and places same on corresponding numbers on the cloth. Explains. 5. Folds over sides and ends of cloth and then rolls up cloth firmly. Explains. 6. Sprinkles or immerses the rag doll tester in a bucket of warm water. Explains. 7. Places the rag doll tester in a warm place, but so as to keep it moist. Explains. "After six or seven days, we shall unroll this rag doll tester and examine results. My team-mate will now interpret and explain what the germination test shows."
A speaks and demonstrates.— III. *Interprets the Results Through Use of a Six or Seven-Day-Old Germination Test, Previously Prepaid.* — (Uses blackboard.) 1. Examines kernels and reports results. 2. Shows how 100 per cent germination test indicates best ears to plant. 3. Explains why ears with two or more dead kernels should not be planted. 4. Explains why ears that were slow in germniating should be discarded, etc. "My team-mate will now summarize the demonstration."	*B assists.—* Holds up exhibits as they are interpreted by A.
A assists.— Quietly collects all demonstration materials and cleans up the demonstration table. Stands at attention. Joins with B in giving the club song or yell.	*B speaks.—* IV. *Summarizes by Stating Briefly Five Reasons for Testing.* (Uses blackboard.) 1. Average stand in Missouri. 2. Average gain in stand by testing. 3. Average number of bushels gained by testing. 4. Average cost of testing. 5. Conclusion. Asks for questions. Leads in giving a spirited club song or yell. Concludes the demonstration by thanking the audience for its attention.

Field Selection of Seed Corn
(Suggested Outline.)

Team—Prepared for a team of two members from one club, designated in this outline as "A" and "B."

References—Selecting Seed Corn.—Circular 154, Missouri College of Agriculture. The 4-H Corn Club Circular Page 19.

Equipment Needed—Sack for gathering corn, peg, one or more very tall stalks of corn with ears, one or more very low stalks of corn with ears, one or more stalks of medium height with ears, and some good ears of seed corn.

Time—Fifteen to twenty-five minutes.

Procedure.

A speaks and demonstrates.— A leads in repeating the National 4-H club pledge; gives a brief history of the club; introduces the team; and states the problem which the team is to demonstrate. I. *Field Selection of Seed Corn.* 1. Value of good seed corn. 2. Disadvantages of selecting seed corn from the crib. (1) _____ (2) _____ etc. 3. Demonstrates the advantages of field selection of seed corn. (1) Can observe characteristics of parent plant which will be transmitted to offspring by heredity. a. Stalks— (a) Height. (b) Size. (c) Strength and vigor. (d) Leaves. (e) Root system. b. Shanks— (a) Height. (b) Position. (c) Shape. (d) Size. c. Ears— (a) Maturity. Time to gather. Purpose of selection and frost date. (b) Type. (2) Demonstrates how to proceed in field selection of seed corn. "_____ will continue the demonstration."	*B assists.*— B stands at attention until introduced, and then gets illustrative material ready for A. B exhibits typical stalks of corn to illustrate points being made by A. Places sack over shoulder and gathers ears from a few stalks of corn.

A assists.— Provides illustrative material for B as needed.	*B speaks and demonstrates.*— 4. Demonstrates the characteristics of a standard ear of corn, as selected in the field. (1). Shape. (2). Covering of grain. (3). Spacing of kernels. (4). Size, depth, and shape of kernels. (5). Heart of kernel. (6). Indentation. (7). Cob. "———————— will summarize the points brought out in this demonstration."
A. speaks.— 5. Summarizes the points brought out in the demonstration (without discussion). (1). Value of good seed corn. (2). Disadvantages of selecting seed corn from the crib. (3). Advantages of field selection of seed corn. (4). Characteristics of a standard ear of corn. Asks for questions. Formally thanks the audience for its attention.	*B assists.*— Stands at attention so as to be ready to answer any questions which A may refer to him.

Storage and Curing of Seed Corn.
(Suggested Outline.)

Team—Prepared for a team of two members from one club, designated in this outline as "A" and "B."

Reference—The 4-H Corn Club Circular, Page 24.

Equipment Needed—Binder twine—25 feet, wooden lath rack, board with 8 or 10 penny nails projecting, wire rack, and enough seed corn to use in demonstrating each kind of rack without removing the corn from any rack used in the demonstration.

Time—Fifteen to twenty-five minutes.

Procedure.

A speaks and demonstrates.— A leads in repeating the National 4-H club pledge; gives a brief history of the club; introduces the team; and states the problem which the team is to demonstrate. I. *Storage and Curing of Seed Corn.*	*B assists.*— B stands at attention until introduced, and then quietly get equipment ready for use in the demonstration.

1. Why curing and storage are necessary. a. _____ b. _____ etc. 2. Names and exhibits approved devices and equipment which are used by successful farmers and states advantages of each. (1). Twine, single and double strands. (2). Wooden lath rack. (3). Board with projecting nails. (4). Wire rack. "_____ will now demonstrate how we use these racks in storing and curing seed corn."	Assists A in exhibiting equipment as needed in the explanations given.
A assists.— Assists B in demonstrating each method of storing and curing seed corn.	*B speaks and demonstrates.*— 3. Demonstrates approved methods of storing and curing seed corn. (1). By use of twine, single or double strands. Demonstrates process, explains advantages, and hangs up corn as an exhibit. (2). By use of a wooden lath rack. Demonstrates process, explains advantages, and sets rack of corn aside as exhibit. (3). By use of board with projecting nails. Demonstrates process, explains advantages, and hangs corn up as an exhibit. (4). By use of wire rack. Demonstrates process, explains advantages, and hangs up corn as an exhibit. "_____ will summarize this demonstration on storing and curing seed corn."
A. speaks.— 4. Summarizes points made in the demonstration. (1). Restates briefly the purposes and results of storage and curing of seed corn. (2). Names methods that have been demonstrated to secure these purposes and results of storage and curing. Asks for questions. Formally closes the demonstration by thanking the audience for its attention.	*B assists.*— Points out storage and curing exhibits as summarized by A. Stands at attention so as to be ready to answer any question which may be referred to him by A.

Judging Ten-Ear Samples of Corn.
(Suggested Outline.)

Team—Prepared for a team of two members from one club, designated in this outline as "A" and "B."

Reference—The 4-H Club Circular. Page 22.

Equipment Needed—Four 10-ear samples of corn of same variety as might be selected for instruction purposes in a club meeting or for use in a judging contest, samples of starchy corn, chaffy corn, and corn with cob off-color.

Time—Fifteen to twenty-five minutes.

Procedure.

A speaks and demonstrates.— A leads in repeating the National 4-H club pledge; gives a brief history of the club; introduces the team; and states the problem which the team is to demonstrate.	*B assists.*— B stands at attention until introduced, and then gets samples of corn ready for the judging demonstration.
I. *Judging Ten-Ear Samples of Corn.*	
1. States practical uses of judging information. (1). _____ (2). _____ (3). _____ etc.	
2. Reviews briefly the preliminary preparation for judging made in learning to use the corn score card. (1). _____ (2). _____ (3). _____ etc.	Provides corn score card for A. (Large chart, if possible.)
3. Outlines briefly the plan of judging by comparison without the use of the corn score card.	Places samples of corn.
(1). Shows set-up of four samples of 10 ears each.	Numbers the samples of corn.
(2). Each sample being numbered A-B-C-D or 1-2-3-4.	
(3). Explains use of placings card.	Provides sample placings card for A. (Large cl.art, if possible.)
(4). Indicates that written or oral reasons are given simply to explain why the placings were made in the order decided upon.	
(5). States that individuals and teams are judged on basis of 50 points for correct placings and 50 points for correct reasons.	
"_____will demonstrate how to judge corn by comparison."	

A assists.—	*B speaks and demonstrates.*—
Moves samples of corn in order indicated by B.	(6). Demonstrates how to judge corn by comparison. (1). Places the four 10-ear samples of corn as to uniformity. a. In length, b. In shape, c. In color, d. In indentation, e. In butts, f. In tops, etc., f. In tips, etc., in order 1-2-3-4.
Provides B with samples of disqualifications from other than the exhibit, such as cob off-color, etc.	(2). Compares samples 1 and 2 2 and 3, 3 and 4, as to— a. Maturity, b. Purity, c. Germ condition, d. Indentation, in order given. Note any disqualifications, such as wrong color of cob for the corn being judged, etc.
Provides B with extreme samples of starch and chaffy corn from other than the exhibit.	(3). Compare samples as to extreme starch content and extreme rough indentation.
	(4). Rearranges order of samples as placed on uniformity, if necessary to balance with comparison on steps (2) and (3).
Removes kernels from each ear which is being compared, as indicated by B. Rearrange samples in order 1-2-3-4, as finally decided upon by B.	(5). Compares samples of corn on types of kernel, after all other points are compared, and determines final order of placings, with brief reasons for same. "_____will now summarize the demonstration."

A speaks.—	*B assists.*—
7. Summarizes points made in the judging demonstration. (1). Practical applications of judging experience. (2). States the use of the score card in judging (without discussion.) (3). Gives outline of steps used in the judging demonstration (without discussion.)	Exhibits chart showing corn score card. Writes out steps on blackboard, or exhibits charts showing steps used in judging by comparison.
Asks for questions.	Stands at attention so as to be ready to answer any questions which may be referred to him by A.
Formally closes the demonstration by thanking the audience for its attention.	

SCORE CARD FOR JUDGING DEMONSTRATION TEAMS IN MISSOURI

	Perfect Score	Actual Score
1. **Subject Matter**	30	
(1) Importance of the subject-matter presented and relation to fundamental problems of home or farm.		
(2) Accuracy of statements made in oral presentation and proper methods in doing the work.		
(3) Completeness with reference to the giving of all steps necessary to clear understanding of process.		
(4) Clearness and definiteness of statements made in simple language easily understood.		
(5) Replies to practical questions. Judges' questions only should be considered in team scores. Team should give authority for subject-matter presented.		
2. **Team Work**	20	
(1) Preparation, arrangement and use of materials. The team will be responsible for the arrangement and preparation of equipment and its use.		
(2) Organization of work, each member in so far as practical to be kept busy with a definite part so that the work and instructions given will proceed without delay, but each member of the team should be able to demonstrate the whole process.		
(3) Appearance and conduct of the team. Appearance and conduct includes the personal appearance of the members, and of the team as a whole. They should be businesslike, pleasant and so far as possible, a unit in action and appearance.		
(4) The team member not actually directing the demonstration should reinforce the point at hand or at least should not detract from the theme of the demonstration.		
3. **Skill**	20	
(1) Ease in procedure.		
(2) Workmanship and efficiency of manipulation.		
(3) Neatness and cleanliness in doing work.		
(4) Speed, system or dispatch.		
4. **Results**	15	
(1) Effect upon the audience, and also upon materials used in the demonstration, as may be shown in the finished product.		
(2) All processes made clear.		
5. **Practicability**	15	
(1) Value of principles given for the home and community.		
(2) Actual club practices shown.		
Total Score	100	

Date_____ De nonstration Team_____

Signed_____ (Judge)