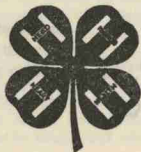


CORN CLUB MANUAL

for

4-H CLUB MEMBERS



NORTH CAROLINA STATE COLLEGE OF AGRICULTURE AND ENGINEERING
OF THE
UNIVERSITY OF NORTH CAROLINA
AND
U. S. DEPARTMENT OF AGRICULTURE, CO-OPERATING
N. C. AGRICULTURAL EXTENSION SERVICE
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STATE COLLEGE STATION
RALEIGH

Corn Club Manual For 4-H Members

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You have not reached your goal as a club member until you have produced more corn, on less land, and at a lower cost per bushel.



Live with your corn, watch it grow, learn its language (it has a language) and supply its needs. Ask your county agent how a corn pant shows fertilizer deficiencies.

In starting this race with other 4-H Club members, remember your "Biggest" race is with yourself. It is a victory only if you win honestly.



Your best prizes for a job well done are: (1) Satisfaction in learning a useful lesson. (2) A good return from a good yield of corn. Should you win a prize, this will add to the satisfaction of the project.



THINGS TO DO

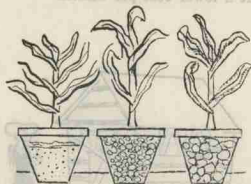
1. Pick out one or more acres, measure the land, and put up stakes to mark your field.
2. Obtain hybrid seed from the source and of the kind recommended by your Farm Agent.
3. Prepare the seed bed, fertilize, cultivate, and manage the crop according to the methods recommended.
4. Harvest the crop and determine the yield per acre.
5. Figure the cost per bushel and the profit or loss per acre.
6. Keep an accurate record of all labor and material. Send your record to the Farm Agent.

SELECTING THE SOIL



The soil supports the plant and is the storehouse of food and water. The ability of the soil to supply food and water depends on: (1) The amount of decaying plant material from previous crops turned under. (2) The fineness of the pieces or particles. (3) The amount of fertilizer applied to the crop, that which remains from previous crops, and that naturally in the soil.

Choose a soil that will come as close to the following as conditions will permit: (1) Well drained soil (water should not stand in the furrow). (2) Soil containing rotting vegetation from a legume crop turned under. (Legumes are crops such as red clover, lespedeza, sweet clover, crotalaria, soybeans, vetch, crimson clover and Austrian peas. (3) Soils which plow easily but that are not too loose and sandy.



MEASURING THE AREA



An acre contains 43,560 square feet and may be any dimension such as 208.7 feet square; 200 ft. x 217.8 ft.; 100 ft. x 435.6 ft.; etc. Another method of calculating is by the number of feet of row. There are 12,445.7 ft. of row in an acre with $3\frac{1}{2}$ ft. rows; 10,890 ft. of row with 4 ft. rows.

SELECTING THE HYBRID SEED

Adapted hybrids have averaged 20 per cent more corn than the present open pollinated varieties. See your Farm Agent for source of seed and hybrid number to plant. Corn is a hybrid only the first year it is grown after crossing two parent strains. **DO NOT PLANT SEED SAVED FROM HYBRID CORN.**

SEED BED PREPARATION

The corn root must go after food and water. Therefore, the soil must be prepared loose enough for the roots to be able to go to all of the surface soil. A good seed bed will save cultivation later.

The following procedures are recommended for the different areas and cropping practices:

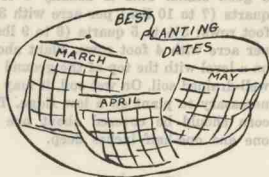
Piedmont—(1) Plow clay soils in November or December. (2) Plow around the hill on sloping land. (3) Leave the furrow on edge and the surface as rough as possible. This will help hold rain water and prevent washing. (4) Harrow just before planting to prepare the seed bed. The freezing and thawing during the winter will put the soil in good working condition.

CAUTION: Do not work the soil when it is so wet that the soil does not crumble after squeezing in the hand.

Mountain—(1) Plow steep slopes in February to prevent the soil washing during the winter. (2) Plow bottom lands two or three weeks before planting. (3) Prepare the seed bed by discing and harrowing.

Coastal Plain—(1) Cut and disc the stalks into the soil by January. (2) Plow two or three weeks before planting. (3) Disc and harrow the land before planting.

Reasonably early corn produces the best yields. Plant soon after the first people in the neighborhood start planting corn.



Use 300 to 500 lbs. (about $1\frac{1}{2}$ to $2\frac{1}{2}$ bags of fertilizer) of 4-8-8 or 6-8-6 per acre at planting. Similar fertilizer, relatively high in nitrogen (the first figure of the 6-8-6 will be satisfactory. Mix the fertilizer in the row before planting the corn. The germination of the kernel will be injured if the fertilizer is placed too close and a poor stand may result.





Side-dressing

Apply 125-500 lbs. of nitrate of soda, or its equivalent when the corn is 2 ft. (knee) high. Mix 50 lbs. of muriate of potash with the nitrogen side-dressing for one acre. On sandy soils apply half of the side-dressing when the corn is knee high and the other half two weeks later.

Adjust your side-dressing to your soil.

1. Set up your goal in bushels per acre.
2. Estimate the number of bushels the land would produce without nitrogen side-dressing.
3. Add 12 lbs. of soda or 6 lbs. of Ammonium Nitrate for each bushel difference between your goal and what the land would produce without any side-dressing.

Example:—You want to produce 75 bu. but can produce only 25 bushels without side-dressing. The difference of 50 bu. x 12 lbs. of soda or 6 lbs. of Ammonium Nitrate would be 600 lbs. of soda or 300 lbs. of Ammonium Nitrate. This amount of side-dressing would normally be required.

Planting

Be sure to plant enough corn to insure a good stand. This is usually 4 to 6 quarts (7 to 10 lbs.) per acre with $3\frac{1}{2}$ foot rows; $3\frac{1}{2}$ to 5 quarts (6 to 9 lbs.) per acre with 4 foot rows. Plant about on a level with the top of the ground on well-drained soil. On wet soil, it may be necessary to plant on a low ridge. The corn should be covered about one to one and one-half inches deep.



Spacing or Thinning

Thin or chop to an even stand when the corn is 4 to 6 inches high. Space according to expected yield:

21 inches for 50 to 75 bushels in
 $3\frac{1}{2}$ foot rows.

16 inches for 75 to 100 bushels
in $3\frac{1}{2}$ foot rows.

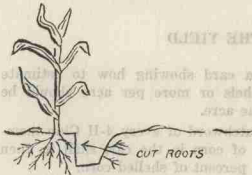
Cultivation



Cultivation starts with a good seed bed preparation. Run a cultipacker or plank drag over cloddy soil before or after planting. Use a weeder or section harrow before the corn comes up and again after the corn is up. The use of the weeder can be continued until the corn is 8 to 12 inches high. The weeder should be used in the afternoons when the corn is limber,

rather than in the morning when it is tender and brittle. A weeder must be used when the weed seeds are just germinating to be effective. Cultivate the corn often enough to keep the field free of grass and weeds until the corn is three feet high and then lay by. Each cultivation should be more shallow than the one before.

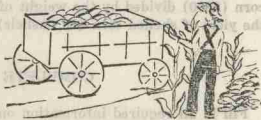
Before each cultivation, dig down and find where the roots are in the row. Do not cultivate close enough or deep enough, to injure many roots.



Barring off or ridging with a turning plow, will usually destroy so many roots that it will injure the corn.

Harvesting

Do not harvest until the ears are thoroughly dry. The best way is to shuck the ears from the stalk and throw them directly into the wagon. This will save much work over pulling the ears, piling them in the field, hauling them to the pile, shucking, and then hauling to the crib.





Storage

Suitable storage space should be provided in advance of harvesting. The storage should be fairly air-tight and should be made as nearly rat-proof as possible.

Prior to storage, bins should be thoroughly cleaned and all old infested grain removed. The walls, ceiling, and floors should then be sprayed with 5% DDT at the rate of 1 gallon to each 100 sq. ft. This spray is made up by adding 4-5 lb. of 50% wettable DDT powder to 1 gallon of water.

If corn is to be used as seed and will NOT be fed to animals, it can be treated just prior to sacking with 1 ounce of 5% DDT dust per bushel. If treated with DDT, fumigation will not be necessary.

Corn infested with weevils should be fumigated with carbon bisulphide. Use at the rate of 1½ to 2 gals. per 1000 cu. ft. of space for shelled corn; 3 gals. per 1000 bu. of grain; or one-half teacupful to a barrel of seed. The carbon bisulphide should be poured or sprayed over the top surface of the grain. Close the storage tightly immediately after applying carbon bisulphide and leave it closed for 48 hours. Then open and allow to air.

CAUTION: Carbon bisulphide is highly explosive. Do not permit lighted matches, pipes, cigarettes, lanterns, or fire of any kind around the building where it is being used. Use it only when the temperature of the grain is above 65°F. Check the grain about once a month and where more insect damage is noticed, repeat the treatments of carbon bisulphide.

DETERMINING THE YIELD

Your county agent can furnish you a card showing how to estimate your yield. Yields estimated at 100 bushels or more per acre should be checked by weighing all of the corn on the acre.

Honesty and accuracy should be the watchword of every 4-H Club member. Weigh all the corn. Weigh 100 lbs. of corn in the ear, shell it, then weigh the shelled corn. This will give the percent of shelled corn.

Example: Suppose the total yield on an acre was about 3500 lbs. of ear corn and the 100 lbs. of ears shelled out 80 lbs. of corn. Total weight of your corn (3500) times per cent of shelled corn (80) equals weight of corn (2800) divided by the weight of one bushel of shelled corn (56) equals the yield of shelled corn (50 bushels).

COMPLETE THE RECORD

Fill in all required information on the record book when the job is done. Complete the record and give it to your Farm Agent.