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Higher Corn Yields

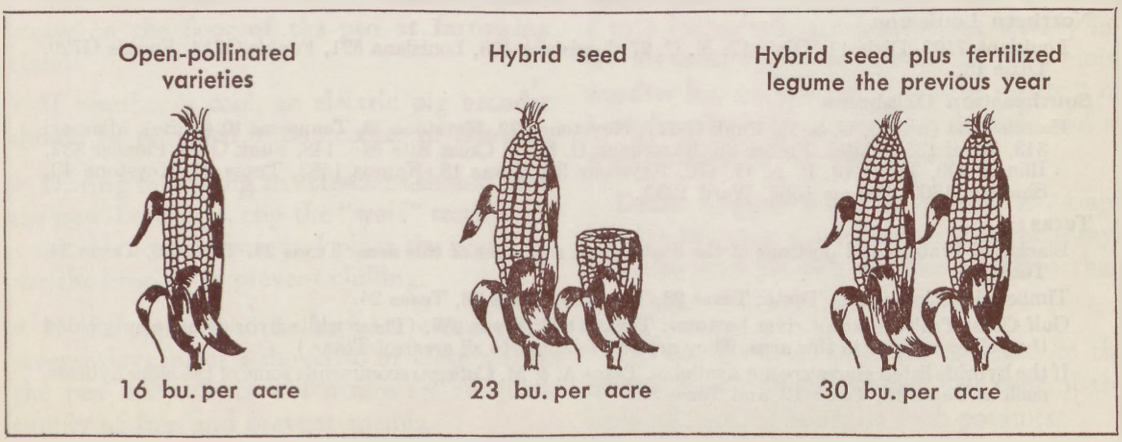
Higher corn yields will be especially important to southwestern farmers in 1950, since income from cotton, peanuts, and rice—major cash crops in the area—will be reduced because of the imposition of acreage controls. As a result, many farmers are increasing corn acreage, and higher corn yields will mean more income whether the crop is sold as a cash crop or fed to livestock.

As illustrated below, the first step in obtaining higher corn yields is the use of adapted hybrid seed. While farmers in southern sections of the Southwest have already planted corn, farmers who have not yet planted might find it profitable to check the list of hybrids on the next page and select one adapted to their areas.

The cost of hybrid seed—about $1 per acre—may seem high, but the experience of farmers shows that this investment usually returns from $7 to $8 per acre in increased corn yields. (Hybrid seed should be purchased each year, as it tends to "run out" after the first year.)

Hybrid corn has proved itself in the Southwest. Planting *adapted* varieties is not risky. They will mature satisfactorily, and they make suitable livestock feed. Planting untested or unadapted hybrids is risky, and if seed of adapted and tested strains are not available, open-pollinated varieties are recommended.

Use of hybrid seed is a most important factor in obtaining higher corn yields, but such factors as number of plants per acre, rate of fertilization, time of planting, and method of cultivation also affect materially the yield per acre. For example, corn yields are increased when the crop follows a fertilized legume. (See illustration below.) This is especially true on lighter, depleted soils. Legumes increase soil fertility by adding valuable plant food—especially nitrogen—and improve the moisture-holding capacity of the soil by adding organic matter, breaking up hard pans, and increasing the rate of moisture absorption. Thus, a crop which follows a legume usually suffers less from lack of moisture.



APPROXIMATE SPACING AND NUMBER OF CORN PLANTS PER ACRE

Level of soil fertility	Amount of fertilizer applied per acre	Approximate number of plants per acre
Light, relatively poor soil	None	Corn probably will not be profitable.
	32 pounds of nitrogen[1]	4,500 (3 feet apart in 3-foot rows)
	64 pounds of nitrogen[2]	7,000 (2 feet apart in 3-foot rows)
	100 pounds of nitrogen[3]	10,000 (16 inches apart in 3-foot rows)
Soil of medium fertility	None	4,500 (3 feet apart in 3-foot rows)
	32 pounds of nitrogen[1]	6,000 (27 inches apart in 3-foot rows)
	64 pounds of nitrogen[2]	9,000 (18 inches apart in 3-foot rows)
	100 pounds of nitrogen[3]	12,000 (14 inches apart in 3-foot rows)
Fertile bottom land	None	7,000 (2 feet apart in 3-foot rows)
	32 pounds of nitrogen[1]	9,000 (18 inches apart in 3-foot rows)
	64 pounds of nitrogen[2]	11,000 (15 inches apart in 3-foot rows)
	100 pounds of nitrogen[3]	13,000 (1 foot apart in 3-foot rows)

[1] 100 pounds of ammonium nitrate.
[2] 150 pounds of ammonium nitrate and 300 pounds of 5–10–5.
[3] 200 pounds of ammonium nitrate and 700 pounds of 5–10–5.

It is, of course, too late to do much about legumes for this year's corn crop, but plans can be made now to sow a legume this year on land that will be planted in corn in 1951. In some cases, it might be profitable to divert to legumes some of the acreage intended for corn this year, in preparation for the 1951 corn crop.

Maximum yields are obtained when corn is planted to as thick a stand as the fertility of the soil, amount of fertilizer applied, and probable moisture supply will support. Obviously, no "hard and fast" rule can be given, but there have been sufficient experimental work and actual experience on farms in this area to provide some general guides which are helpful in determining approximate stands that will produce maximum yields. These are shown in the table above.

Early planted corn usually produces the highest yields. In 1949 in a Hill County, Texas, corn contest all but one of the yields of 75 or more bushels per acre were from crops planted by March 20. The optimum planting time, of course, varies with the location and season, but in all areas the earlier corn has a better opportunity to mature before the onset of the hot, dry winds of early summer.

Corn yields are also frequently reduced by late cultivation. By the time corn is "hip high," the space between the rows contains hundreds of tiny feeder roots, and cultivation at this time destroys these roots which are so essential for maximum growth. If weeds make cultivation necessary after the corn is 2 or 3 feet high, the cultivator shovels should be set shallow and well away from the row.

ADAPTED CORN HYBRIDS — from Recommendations of Respective States
(Listed in order of yielding ability)

Northern Louisiana

Louisiana 7102, Dixie 11, Dixie 17, N. C. 27, Louisiana 468, Louisiana 521, Funk's G714, Funk's G720, Dixie 18.

Southeastern Oklahoma

Kansas 2234 (white), U. S. 13, Funk G-711, Keystone 222, Keystone 38, Tennessee 10 (white), Missouri 313, Ward 135 (white), Embro 36, Razorback U. S. 13, Crost Rite Mo. 148, Funk G-94, Pioneer 332, Illinois 200, Texas 12, P. A. G. 170, Keystone 39, Texas 18, Kansas 1583, Texas 20, Keystone 40, Shannon 1300, Kansas 1585, Ward 120A.

Texas

Blackland Prairies and portions of the State south and west of this area: Texas 28, Texas 26, Texas 24, Texas 20.

Timbered section of east Texas: Texas 28, Texas 20, Texas 26, Texas 24.

Gulf Coast Prairies except river bottoms: Texas 11W, Texas 9W. (These white hybrids have outyielded the yellow hybrids in this area. They are also adapted to all areas of Texas.)

If the hybrids listed above are not available, Texas A. & M. College recommends some of the older hybrids, such as Texas 18, Texas 12, and Texas 8.

Save the Little Pigs

"About 4 out of every 10 pigs never reach weaning age," says A. A. Heidebrecht, Oklahoma A. & M. College swine specialist.

This very high loss is due principally to improper care of the sow and litter at farrowing time, according to Mr. Heidebrecht. Farmers frequently let the sows shift for themselves at this critical time and many little pigs get no attention until they are old enough to come to the feed trough. Under these circumstances only the strong and the "lucky" survive.

Improper housing during the first few days after farrowing may cause the sow to lie on even the most vigorous and healthy pigs. Failure to carry out proper sanitation practices may cause the young pigs to be contaminated with parasites that will stunt their growth and prevent efficient use of feed throughout the feeding period.

Some of the more important "pig-saving" practices are:

- Provide a farrowing pen for each sow. This pen should be at least 6 x 8 feet and should have a guard rail around the inside about 10 inches above the floor.
- Two weeks before farrowing, the pen should be thoroughly cleaned, washed, and disinfected with lye water (1 pound of lye to 15 gallons of water).
- Four or five days before farrowing, wash the sow with soap and water and place her in the farrowing pen.
- Use only a small amount of clean, short straw on the floor of the pen at farrowing time.
- If weather is cool, an electric pig brooder should be provided in one corner of the pen.
- During farrowing an attendant should take the new-born pigs, clip the "wolf" teeth with a suitable instrument, and place the pigs under the brooder to prevent chilling.
- If the pigs are to be kept on cement for several days, place a shovelful of clean soil in the pen daily. This will insure an adequate supply of iron and prevent anemia.

WARNING!

The mild winter has been favorable for cotton insects. In fact, conditions have been nearly ideal and closely parallel weather conditions that preceded the 1946 season when 6,000,000 acres in Texas produced only 1,669,000 bales of cotton—an average per acre yield of only 134 pounds of lint. *Growing conditions were good, but insects got the crop!* In 1949 the average per acre yield of cotton in Texas was 264 pounds of lint and returned farmers an estimated average of $85 per acre. Failure to control insects in 1950 could reduce this income to less than $50 per acre. Can your community afford such a reduction in income? See February 15 issue of the *Agricultural News Letter* on cotton insect control.

Spray Early to Control Late Blight

Farmers are urged to apply control measures for late blight on tomatoes and Irish potatoes early in the season in order to reduce the damage from this destructive disease, which has cost the Nation's farmers as much as $50,000,000 in one season.

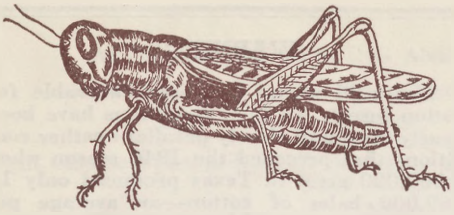
Late blight causes large watersoaked, greenish-brown or black spots on the leaves and during cool, damp, foggy weather may resemble "mildew" on the lower sides of the leaves. Growers should be familiar with these symptoms so that they can recognize the disease before it gains a foothold on their crops.

Louisiana State University recommends the following control measures for late blight on both tomatoes and Irish potatoes:

Sprays: Dithane D-14, Dithane Z-78, or a Copper fungicide, such as Bordeaux mixture. Begin spraying Irish potatoes when they are 4 to 6 inches tall and continue at weekly intervals until the danger period of cool, moist weather has passed. Spray tomato plants 2 or 3 weeks after setting plants in the field and at weekly intervals, as with potatoes.

Dusts: Copper dusts or Dithane Z-78 applied in the same general method as the sprays can also be used but are less effective than spraying.

Adding DDT or Calcium Arsenate to the materials already mentioned will control the Colorado potato beetle on Irish potatoes.



Grasshoppers May Threaten Again

Grasshoppers may threaten southwestern crops again this year if warm, dry weather prevails during April and May—the usual hatching time of these pests.

Entomologists point out that recently completed surveys show heavy infestation of grasshopper eggs in the Brazos and Trinity valleys of Texas and in the Panhandle area. They urge farmers and ranchers to be prepared to launch an all-out poisoning campaign against the 'hoppers.

Neighborhood and community-wide campaigns are most effective. Farmers and ranchers should be ready to spray or dust field margins, fence rows, and roadsides when hatching is complete—usually about 7 to 10 days after the first 'hoppers appear. Do not wait until they have moved to cultivated crops. Once these insects have moved out of the areas where they hatch, it is extremely difficult and expensive to gain effective control.

Control measures this year will emphasize the use of poison sprays or dusts rather than poison bait. Sprays have proved to be more effective than dusts. Insecticides recommended are: (1) Chlordane — 1 quart 45-percent emulsion or 2 pounds 50-percent wettable powder per 50 to 100 gallons of water—to spray one acre, and (2) Toxaphene—1 quart 55-percent emulsion or 2½ pounds 40-percent wettable powder per 50 to 100 gallons of water—to spray one acre. If dusts are used, apply 15 pounds per acre of either 10-percent toxaphene or chlordane dust when grasshoppers are small. Increase the dosage to 18 or 20 pounds per acre, or use 10 pounds of 20-percent toxaphene per acre, if grasshoppers are large.

Fertilizers for Rice

Topdressing rice fields with nitrogen fertilizer when the rice plants are from 6 to 9 weeks old has given increases in yields of more than 7 barrels per acre in experiments at the Rice-Pasture Experiment Station at Beaumont, Texas. The practice of topdressing rice with nitrogen fertilizer has become quite common throughout the rice belt, and all farmers are urged to consider this practice as a method of increasing their rice yields.

Results of recent tests at the Beaumont Station conducted on Beaumont clay soil—a common soil used for growing rice—indicate that highest yields are obtained if the fertilizer is applied when the soil is dry, that is, neither flooded with irrigation water nor in a very moist condition from rains or earlier irrigation. The tests also show that increasing the amount of nitrogen fertilizer above 60 pounds per acre gives only a slight increase in yield.

During the period 1946-48, average yields were as follows: No fertilizer—12.09 barrels per acre; nitrogen fertilizer, dry soil—19.18 barrels per acre; nitrogen fertilizer, wet soil —17.92 barrels per acre; and nitrogen fertilizer, flooded soil—13.76 barrels per acre.

MEETING

Annual Dairy Day will be held at Oklahoma A. & M. College, Stillwater, Oklahoma, on April 1. F. B. Morrison, professor of animal husbandry and animal nutrition at Cornell University and author of *Feeds and Feeding*, will be the guest speaker.

PUBLICATIONS

Texas Agricultural Experiment Station, College Station:

Grazing Studies on the Amarillo Conservation Experiment Station, 1943-49, Bulletin 717, by Charles J. Whitfield and others.

Chemical Control of Johnson Grass at the Blackland Station, Progress Report 1201, by E. N. Stiver and others.

Cotton Defoliation at the Blackland Station, Progress Report 1203, by E. N. Stiver and J. R. Johnston.

Yield and Nitrogen Content of Legumes, Progress Report 1204, by E. B. Reynolds.