Growing Cotton In Arizona

By Howard H. Stallings, ’25

Proper Preparation of Seed Bed, Good Cultivation, and Timely Irrigation, Are the Three Fundamental Principles Involved in Successful Growing of Cotton

Cotton is now a major crop in several of the irrigated valleys of the Southwestern States. Costs of production and marketing are higher under western conditions, but it is possible to secure large yields of superior fiber. Precautions are needed in the selection of land, in maintaining supplies of good seed, and in the cultural treatment of the crop. Failures are usually caused by neglect of cultural operations or of proper irrigation. An understanding of the requirements of the crop is essential to a better realization of the resources of production.

The highest yields are to be expected from Upland cotton when sufficient numbers of bolls are retained. The larger size of the bolls is an advantage for Upland cotton, but it is often counteracted by a greater tendency to shedding, so Upland varieties may yield less than Pima in adjacent plantings. To determine the relative productiveness of the two types of cotton will require careful comparison and checking of results for several years, to cover the range of seasonal conditions.

Cotton can be grown successfully on practically all of the irrigated lands in the Salt River Valley and adjacent districts. A fairly rich, deep, sandy loam soil is regarded as the best type of land, because the cultural operations and irrigation can be handled to the best advantage. Other types of soil will grow good crops of cotton in proportion to their fertility, texture, and other qualities. Soils that are too heavy take water very slowly, while very light soils lose water too rapidly, making it more difficult to grow good crops of cotton. While some of the raw desert lands have made good crops, better cotton can be grown, and at a lower cost, on land that has been in alfafa.

Land that is well leveled will require less water and will produce the most uniform cotton. The best grade to be given will depend somewhat upon the character of the soil, a steeper grade being permissible in light soils, which take water readily. Heavy soils will not become thoroughly wet unless the water can be held on the surface for some time, or unless small heads of water are run for longer periods.

Proper preparation of seedbed for cotton is necessary for the best yield of lint of a good quality. This preparation should begin as soon as possible after the removal of the preceding crop. Any coarse trash on the ground should be chopped fine before it is plowed under, to prevent it from interfering with the cultivation of the new crop. When well chopped this material can be easily plowed under. It will then decompose more quickly, and the plant food in it will become available for the use of the growing plants. The ground should be plowed to a depth of at least seven or eight inches, and then allowed to weather until within five or ten days of planting time, when it should be irrigated. The soil should be soaked to a depth of four or five feet. As soon as the ground has dried sufficiently after this irrigation, it should be harrowed with a spike-tooth harrow. Heavy types of soil, and soil left parti-

Good plowing—the first step in preparing a satisfactory seed bed.

Poor plowing—with such plowing as this it is impossible to prepare a satisfactory seed bed.
Cotton should be cultivated as soon as the plants are through the ground well enough to make the row.

larly rough after plowing, should be
harrowed with a disk followed by a
spike-tooth harrow. This treatment
will save considerable moisture, break the large clods, and to some
extent level the land. The best seed-
bed is one that consists of a finely
mulched surface two or three inches
in depth, with a firm, moist soil un-
derneath.

No definite date for planting can
be set, since much depends upon
the seasonal conditions. The rule is that
cotton should be planted as early as
possible with assurance of securing a
stand. Early planting is desirable,
not only to secure the longer season,
but because the young plants are
likely to follow more normal habits
of branching and fruiting if very hot
weather is not encountered during
the early stages of growth.

With Upland varieties, such as
Mebane, Alaca, Durango, or Harts-
ville, there is less need to plant early,
since Upland cotton requires less
time to develop and mature a crop.
In some cases good yields or Upland
cotton have been secured from fields
that were planted after the first of
June. Thus it is possible for Upland
cotton to follow winter crops of grain
or truck. However, early planting
of Upland cotton varieties is advised
when possible, so that a fair crop of
boils may be set on the lower
branches before hot weather.

On land enriched by previous crops
of alfalfa, cotton should be planted
in rows 3½ to 4 feet apart. On new
land, or land that has been in grain
but not in alfalfa, the rows need not
be more than 3 to 3½ feet apart.

Satisfactory results may be ob-
tained with either a 1-row or a 2-row
planter, the latter giving a more uni-
form depth of planting.

The depth of planting is varied to
meet the conditions. For normal
everly early planting seed should be not
less than 1 inch or more than 2
inches deep. If the soil is in perfect
condition and there is moisture
enough to insure prompt germina-
tion and bring the young plants
above ground, 1 to 1¼ inches
is a sufficient depth to plant. Later
plantings may need greater depths,
from 2 to 2½ inches, especially on
light, sandy soils that dry out
quickly.

A shallow cultivation is given as
soon as the plants are out of
the ground, to break any crust which
may have formed, to dry and warm
the surface soil, and to kill the
weeds. It often is possible on clean
lands to make the first cultivation
with a drag or spike-tooth harrow.
Otherwise a disk cultivator is prefer-
able for the first or first two cultiva-
tions. For later cultivations small
shovels and sweeps are preferable,
because they kill more weeds and
leave the land in better condition.
Ordinarily the land should be left
level when the cultivation for the
season has been finished. If, how-
ever, the land was not well leveled
before the crop was planted, ridging
the rows will assist in irrigation and
thereby lessen the expense of grow-
ing the crop. Deep ridging is almost
certain to cut many of the feeding
roots and hereby injure the plants.

Cotton is usually thinned when the
plants are from 2 to 8 inches high.
Delayed thinning helps to pre-
vent the development of vegetative
branches, and has the effect of
throwing the cotton into the fruiting
period earlier than otherwise would
be the case. In Arizona cotton is
thinned so as to leave the vigorous
plants 10 to 24 inches apart in the
row. The wider spacings are used
on the richer land, where the cotton
has a tendency to overgrow.

Much of the success of growing
cotton depends upon proper irriga-
tion. Perhaps the most important one
is made before the cotton is planted,
at which time the ground should be
soaked to a depth of at least 4 or 5
feet. If this is done, and irrigation
is then withheld for a considerable

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time after planting, the plants develop a deeper root system and are more vigorous, and better able to withstand unfavorable conditions. Frequent, light irrigations early in the season result in shallow rooting of the plants. Sufficient moisture should be supplied to keep the plants in a healthy growing condition. Severe drying of the ground after the plants begin blooming causes them to shed squares, flowers, and small bolls. Irrigation or heavy rainfall after the plant has been suffering for water stimulates growth which also causes the plants to shed their bolls. Irrigation should be continued in the fall until the blossoming period is almost ended, but it is advisable to allow the soil to dry out to hasten the maturity of the crop as the time for frost approaches.

In Arizona cotton is picked two or three times a season. The first picking begins as soon as a sufficient number of bolls are open to justify the labor expense. If cotton is not picked within a reasonable length of time after the bolls open, some of the lint is blown out by the wind and becomes damaged and the quality of all of it is lowered. Cotton lint unduly exposed to rains and heavy dews becomes stained and loses a high percent of its oil, thus becoming light and fluffy. Such lint lacks strength and quality, and in normal times is cut heavily in price.

1925 EGG-LAYING CONTEST
REVEALS HIGH PERCENTAGE

Professor Harry Embleton, Poultry Husbandman at the University of Arizona, has just completed tabulating the March results of the Arizona egg-laying contest. In every respect the results are higher than corresponding results of last year, or any preceding year.

The percentage production to date is 54.1%, compared with 52.3% for last year. This is quite an increase, considering that this year's contest has nearly twice the number of birds entered as last year, and three birds did not lay at all during the month of March.

The Del Rio Poultry Farm's entry forged to the front this month, winning with 301 eggs to its credit. Only one egg separated the second best pen from the third. C. A. Brion's entry was second, with 295 eggs, and Lee Appel's entry was third with only one less than that.

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10-oz., 72-inch Canvas, per yard 1.05
12-oz., 72-inch Canvas, per yard 1.30
No. 8 60-inch Heavy Duck, per yard 1.75
No. 8 72-inch Heavy Duck, per yard 2.25
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