

ONIONS AS A WINTER CROP IN SOUTHERN ARIZONA

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Methods of Planting, Cultivating and Harvesting Onions in the Southwest for Spring and Early Summer Markets

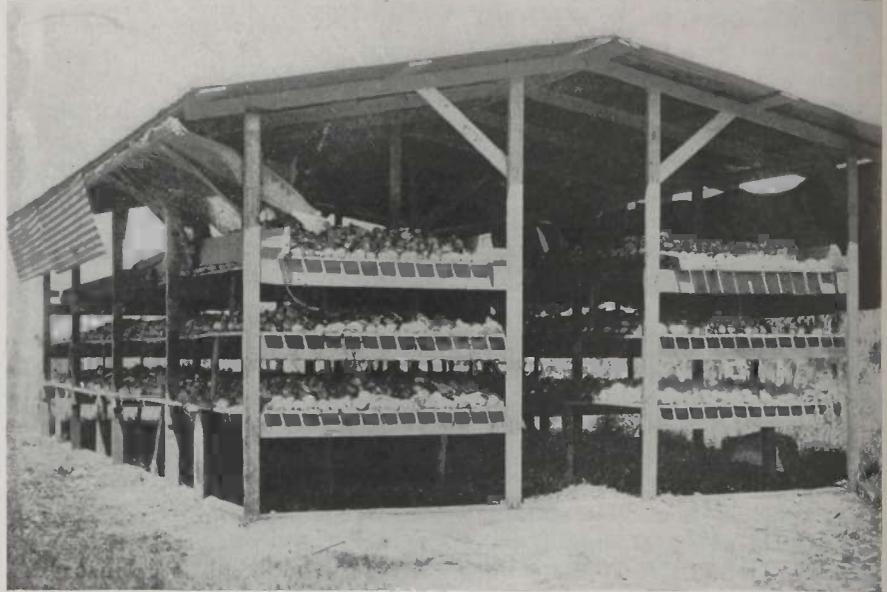
ONIONS are grown successfully as a winter crop in our warmer Southwestern valleys. If the crop is planted at the close of hot weather it will grow during the cool months when labor is most effective. The early varieties will mature in time for high prices in mining and coast towns.

While onions may be grown successfully on various types of soil, ranging from a sandy loam to a heavy adobe, the lighter loams are preferable because of less cost in preparing the ground, in giving the many cultivations needed, and in digging the crop. Onions require a fertile soil and are especially favored by an abundance of organic matter, which may be added cheaply in the form of well-rotted barnyard manure. If ridge culture is followed onions will not endure much alkali in the soil because the soluble salts on the surface accumulate around the plant.

Onions are grown either in ridges by furrow irrigation, or in flat culture by flooding. Ridges and furrow irrigation are preferable for light soils which are worked easily and subirrigated readily. The flooding method may be used for the irrigation of heavy soils.

For ridge and furrow culture the field should be perfectly level and laid off for rows from 100 to 500 feet long. This arrangement will permit sufficient irrigation without loss of water or flooding of the rows. After a heavy application of well-rotted barnyard manure has been added and the ground plowed the field is ready to be irrigated for planting. When sufficiently dry the field is disked and drag harrowed to secure perfect surface pulverization. When prepared this way, the soil may be kept cultivated more easily and the weeds controlled better.

Onions may be grown from sets, from seed sown in the field, or by transplanting young onions from seed beds to the field. Onions grown from sets may mature about two weeks sooner than those from seed, but there is a large percentage of multipliers among bulbs so grown. Also many blossom stalks are sent up, re-



A curing shed for the Sweet Spanish type of onion.

quiring much labor to remove and seriously admaging the selling and keeping qualities of the crop. There are several objections to the plan of growing seed in the field. The seeds must be carefully sown in perfectly prepared soil, because they are somewhat difficult to germinate. This entails much more expense for a large field than for seed beds only. Between the planting time in September and the first frosts, several weeks of weed producing weather intervene, necessitating several expensive cultivations. The labor of thinning and replanting is costly, and the cost of the seed is more.

The best and cheapest method is to sow the seed in beds and transplant later to the field. As soon as hot weather is over the seed is sown thickly in drills five inches apart in beds of well fertilized soil. The water furrows must be placed at intervals suitable for subirrigation. Two pounds of seed thus planted will provide enough onions for an acre. The seedlings should begin to appear in about nine days, if the soil is moist when the seed is planted. With proper irrigation and cultivation the onions will have about the same diameter as ordinary lead pencils in nine or ten weeks and ready to transplant,

for planting, the young onions are lifted as needed, the roots trimmed to an inch in length and the tops cut back about half. The plants are set in straight double rows, two or three inches from the edge of the water furrow, four to six inches apart in the row and with a space of nine to twelve inches between rows. It is sometimes advisable to space the rows fifteen inches apart so that there will be more room for cultivation. A revolving marker is driven along the rows to make holes for the plants. The trimmed plants are then dropped one at each hole, set about 1½ inches deep, and the soil firmly pressed about them by hand. The onions should then be irrigated lightly to insure an even start of all the plants. In planting seed directly to the field, the seeder is run along the edge of the water furrow, giving the same spacing as indicated for transplanted onions. When the plants have the same diameter as an ordinary lead pencil they are thinned to a distance of four to six inches in the row.

If the ground has been well prepared and ridges and furrows carefully constructed, the labor of irrigating and cultivating onions is not usually in December.

As soon as the ridges are prepared

excessive. Irrigation should be followed by cultivation both in furrows and on ridges, to kill weeds, lessen evaporation of soil moisture, and break up the salty crust which in most arid soils tends to form on interirrigated ridges.

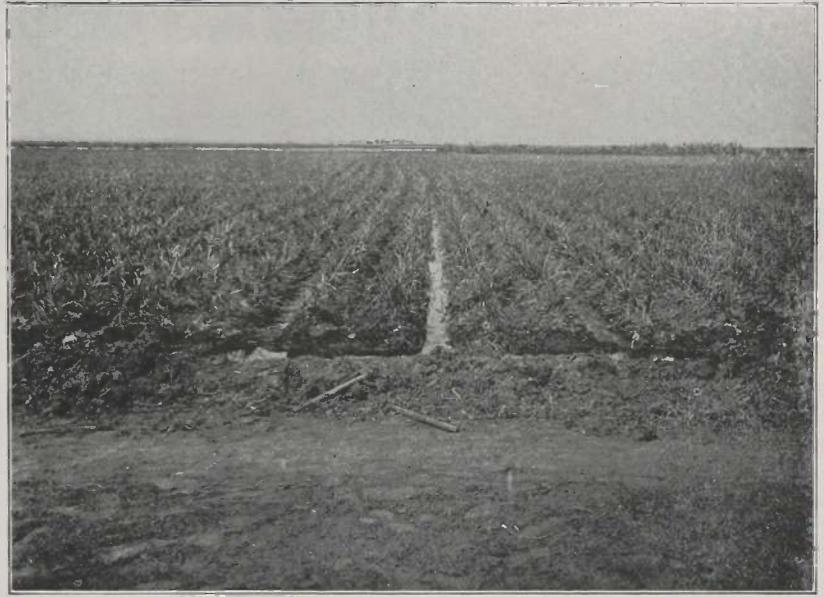
The onions are sometimes bothered with insect pests. The "onion thrips" is the most serious pest thus far encountered. Control methods used at the present time are not very satisfactory. Dusting the onions with calcium cyanide or a dust containing nicotine as the principal killing agent is a method sometimes used. Liquid Black Leaf '40' spray is also used. Another common onion pest is the cut worm. Poisoned bait, composed of a pound of Paris Green to 40 or 50 pounds of bran and sweetened either with cheap sugar or molasses with sufficient water added to make a stiff mash, placed in the infested areas, will kill countless numbers of the worms.

Since onions require between seven and eight months to mature, it is essential to use the earliest varieties of onions in order to reach the early markets in April and May. Some good varieties of onions are the White Bermuda and Red Bermuda. These are mild, early onions and are good producers; but must be sold promptly as they do not keep long. The Crystal White Wax is a mild onion, but matures a little late in the season. The Sweet Spanish is a large mildly flavored onion that yields very heavily. It matures in the latter part of the season, usually in September. Onion seed must be fresh and should be secured from reliable dealers.

As the young onions attain marketable size, maturity may be hastened by withholding irrigation water and drying out the soil. The tops may also be broken over by means of a small roller. Three weeks may be gained in time of ripening by using these methods. The higher prices paid for an earlier crop will more than make up for the lessened yield.

Next to transplanting and cultivating, harvesting is the most costly item in connection with the crop. Flat culture onions are more costly to harvest, requiring the aid of a digging tool, especially in adobe soil.

Ridge culture onions, however, if the soil is light and has been kept mellow by cultivation, may be pulled by hand, and the tops and roots trimmed with a sharp knife in one



A field of Valencias in Southern Arizona.

operation. The trimmed onions are collected in small piles, coered lightly with grass or weeds to prevent sunburn and left a few days to cure. If they are to be kept for some time they must then be stored in thin layers or crates in a cool, shaded well ventilated place. Fifty-pound onion

crates are convenient to handle, insure good keeping and usually are demanded by the trade.

With a considerable early market demand in California and Arizona towns, early onions may be considered a fair chance as a winter crop for the southern Arizona grower.

FARMER CAN HANDLE SIMPLE ENGINEERING

Engineering is often looked upon by the farmer as a field with which he is not concerned. This is not true, however, for he can do many farm engineering jobs for himself through the application of common sense and arithmetic, with the aid of some simple equipment.

In locating boundaries of his land, locating fences and roadways, choosing sites of buildings, piping water from the spring, developing home light and power, building a septic tank for sewage disposal and many similar tasks, fundamental principles of engineering are involved.

The way to use simple and inexpensive equipment is easily learned. Every farmer should have a reliable tape and a level of some kind, if only a mounted carpenter's level, says A. B. Crane, extension specialist in agricultural engineering at the State College of Washington.

A good level with a circle attached for measuring angles can be bought for \$16 to \$25. A measuring tape of steel ribbon, 50, 66 or 100 feet long, is very convenient. A lighter cheaper

one, with brass threads woven lengthwise to keep it from stretching or shrinking, will serve satisfactorily. A 100-foot steel tape will cost about \$6.

A GOOD BULL IMPROVES THE HERD

A prepotent purebred bull, from a line of heavy-producing ancestors, is a large factor in determining the quality of the future herd. He will build it up to a profitable basis. A scrub bull, whether grade or purebred, will make the cows scrubs and will eventually put his owner out of business.

CULLED OUT HIS BEST COW

That cow testing association records avoided the blunder of disposing of his best cow is told by a Missouri farmer. He says: "I hesitated to join the C. T. A., as I thought the cost would be greater than the benefit. After one year, I am convinced that it costs more to be out. Two years ago I decided to sell some cows. I picked out one that I thought was rather low in production, but the cow did not sell. A year on test proved her to be the best cow I have."