

the tops and branches." And yet in every district, as is shown with great particularity, the work of restoration has been bravely pushed, and three-fourths of the groves ultimately will be re-established.

The extent of the damage by the February freeze and the present conditions are set forth in the bulletin county by county, the best methods of treatment are presented, and the following comprehensive summary is then added:

THE FREEZES.

The trees were but little injured by the cold wave of December, 1894, being dormant and protected by the foliage. Had this freeze not occurred, then that of February 1895, would have done but slight, if any, damage to the trees, since they would have remained in a large measure dormant, and have had their protecting leaves. The intervening warm, damp weather, and the defoliated condition of the trees induced a sappy growth, thus preparing the tree to become an easy victim to the power of the blizzard. It took twin blizzards to damage Florida's orange groves.

WILL IT PAY TO RESTORE GROVES?

Some twenty years ago men thought it would pay to purchase land, clear away the forests, buy nursery stock, plant groves, cultivate and fertilize them for seven or eight years in order to produce this Florida orange. Did it pay them? Could you look back some twenty years or more and see the hardy pioneer enduring his hardships in his rough surroundings and compare the scene with the beautiful homes now scattered all over the land, filled with cultivated and refined people your answer would be: "These men did better than they knew." All now realize how excellent was the investment. Groves, judiciously managed, had a value of \$500 an acre, and for many groves this price would have been declined.

These pioneers had everything to do; a large venture to make, requiring years to complete it and test its value; homes to build; the soil to test; transportation to secure. In nothing did they fail. Their fruit has now a world-wide reputation. These pioneers toiled through weary years up to their success.

The orange-grower of today finds much in readiness for him. The land is in order; there are well-established roots in the soil. To restore these groves will be far less labor and expense than the pioneer undertook. Surely it will pay to restore them, since so much is already done in that direction.

WHEN WILL FRUIT BE SHIPPED?

Early in the seventies when the great orange growing period began, the crop of the State was about 100,000 boxes. Groves were rapidly increased in number, both by transplanting nursery stock and by budding directly into the native sour trees as they stood. Behind this work was capital and hope, which pushed it along with astonishing rapidity. Indeed the developments were marvelous. Under these auspicious conditions nearly twenty years were required before a crop of 5,000,000 boxes was reached. This epoch of production was closed upon the night of February 7, 1895. The crop of the State for this season does not exceed 50,000 boxes. Instead of from new material, as was the case before, the coming groves must be made from the wreckage left by the wave of adversity. It is true the people are rallying from the blow, and hope springs again, backed by indomitable courage and energy. While recuperation in some instances must of necessity be slow, for the most part the growth on

these well-established roots will be rapidly developed into fruit-bearing trees. There will be no marked increase in the crop of the State until the budding done in '95 begins bearing, which is not probable earlier than '98. Of course the trees that were not killed to the ground will, in the meantime, add their production, and thus give some increase. These trees, however, will not reach their full bearing for at least five years. Ninety-five per cent. of the old orange producing surface was destroyed. The remaining five per cent. was so injured that, instead of producing 250,000 boxes, its proportion, only 50,000 boxes were marketed. The crop of '96 may reach 125,000. This will increase each year, so that 1,000,000 boxes will possibly be the crop in 1900.

THE BEST LOCALITY.

In any district ask the question: What proportion of the groves will be abandoned? Most generally the reply will be: "That this section in the past has shown itself to be eminently adapted to the growth of the orange, and our people believe there is no better place." So universal is this sentiment, one must conclude that many places are the best in which to have a grove.

ABANDONMENT.

This is a sad contemplation. After all these years of labor, hope and realization, how sad it must be to say—it must be given up. By reason of the course of natural events, which no power could stay, and because of no fault of theirs, some will be forced to abandon or so conduct the work of recuperation that restoration will be delayed. So we see many a grove neglected, not from choice, but from necessity, and it may be correct to say that as much as one-fourth of the old orange area will not again produce fruit for many years to come. It is more than probable that a decade, or even a longer period, will elapse before Florida produces such a crop as the blizzard of December 28th, 1894 destroyed.

WHAT SHOULD HAVE BEEN DONE.

It is the general consensus of opinion that last February, immediately after the freeze, the damaged trees should have been cut to the ground, forcing a growth from the sound roots instead of allowing the energies of the tree to be wasted in the effort to produce growth upon injured wood, ultimately to die back. Failing to do this a year has been lost for many trees. Since the dying-back process has occupied the entire season, the growth that is to make the tree has yet to come from the sound roots.

WHAT KILLED THE TREES.

As remarked, many trees put forth a fine growth on trunks and limbs. During the summer by far the greater portion died back. Some said the fermented sap killed this growth; others that the borers did the work. Neither fermented sap nor borer killed the tree; it was sick unto death when the sap fermented, and the borers knew it.

EFFECTS OF CULTIVATION.

Undoubtedly the cultivation of the groves promoted the growth of the trees; so that it is generally believed that regular cultivation should have been followed. Those who had followed the mulching method also have generally a fine growth. The groves that were neither cultivated nor mulched have not in many instances given a satisfactory show of sprouts.

STUMPS THAT HAVE NOT SPROUTED.

On examination of such stumps the roots will still be found to be green. If the earth be removed so as to expose a portion of the roots, in the spring there

is no doubt of their sprouting. The orange is a tree that is wonderfully tenacious of life. Like the cat, it will "come back."

PRICES.

As to prices for the unequalled Florida orange in the coming years there is but one opinion. The presence of Florida oranges in the market in limited quantities emphasizes the truth that this fruit is wanted, as is shown by a comparison of prices of fruit received from other parts. As production for many years will be far below the demand, prices will no doubt be remunerative for years to come. Those who, therefore, rebuild their groves have the strongest assurance of a period of prosperity, even surpassing that just passed.

An Improved Method of Transplanting Onions.

Those who are engaged in growing the onion for market may be interested in a cheap and easy way to transplant the young onion plants. The black seed may be sown in a hot bed or cold frame any time during December, and even as late as January or February in Virginia, and when the plants grow to the size of a small lead pencil, they are to be transplanted in the field. The seed may also be drilled into the open ground from the first of February to last of March, and where they come too thick they may be thinned out and transplanted into other rows or where the seed has failed to come. The usual method of transplanting with a dibble by hand is tedious and hard work. By this improved method referred to and discussed in Bulletin No. 36 of Texas Station, the labor and cost saved over the old method are considerable on one or two acres. After the ground is well prepared by plowing, harrowing, rolling and fertilizing, a small turning hand plow is used to throw open a small furrow. Small boys may be employed to drop the plants along in the rows against the straight sides of the furrows and the same plan may be used to throw the dirt back on the roots of the plants. While the plow is doing this, the boys may walk along after the plow and tramp the dirt on the roots. It does not make any difference if the plants be leaning over some, because in a very few days, perhaps the next morning if the weather be favorable, they will straighten up and start to grow again.

The largest yielding variety and also the highest flavored one I have found is the El Paso. It does not keep so well as some others. Prize Taker is a heavy yielder and also keeps well. These two varieties are all one is apt to need for a fine crop.

R. H. PRICE,

Texas Experiment Station.

For the Florida Agriculturist.

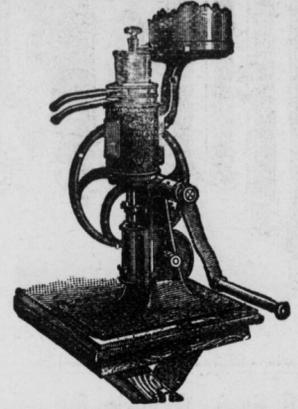
Wire Rings for Celery.

In your issue of January 22nd, I noticed an article headed "Wire Rings for Celery."

I have grown celery many years and I have never found anything better than the sides of old tin cans. Gather up a lot of old cans, such as milk and tomato cans, build a fire and melt the side open and the ends off, and you have something that costs you nothing, and the very best thing you can get to bleach your celery to the very top. As your celery grows keep moving up your can and fill in with earth below, or you can use three or four cans on top of each other. If your plants are too feeble compress the can to suit.

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