that all bearing orange trees were killed to the ground, and even an olive tree eighteen inches in diameter. The coincidence of the fatal date of February 7th will be noticed as marking also the great freezes of 1835 and 1895.

Note No. 2.—P. P. Bishop, in an address before the Fruit Growers' Convention, about 1872, said: "At Christmas, 1868, and again at Christmas, 1870, we had the two severest frosts that have been known in Florida since 1835. At each of these dates many young buds were ruined, many young seedlings frozen to the ground and much fruit destroyed."

Note No. 3.—The above estimate of 250,000 boxes is excessive; probably 100,000 will be nearer the mark.

AFTER THE GREAT FREEZE.
The Orange Groves, and How to Treat Them.

Paper prepared by H. S. Williams, of Rock Ledge, Brevard County, Chairman of the Standing Committee on Citrus Fruits, and read by the Secretary.

[See Minutes on Page 3, Item 28.]

Mr. President, Ladies and Gentlemen of the Florida State Horticultural Society: The situation that confronts your Committee on Citrus Fruits is a peculiar as well as a serious one. Instead of discussing the varieties best adapted to our various soils, our climate, and our markets, we find ourselves in the anomalous position of facing the problem—What shall we do to grow them, so as to have a crop of fruit to base a report upon; and what shall we do to bring our groves up to their normal condition in the least possible time?

Let me state at the outset, that while I am not pessimistic by any means, yet I am far from endorsing the optimistic idea put forth so often and so persistently in the columns of our agricultural press, that the freezes of December, '94, and of February, '95, "were blessings in disguise." There is no blessing about it to the individual or to the State. If the few—and we can almost count them on our finger-tips—whose groves escaped serious injury consider it a blessing to themselves, we pity them, for the few who can congratulate themselves if benefited by the misfortunes of the many deserve our sympathy. The two great freezes of the last winter combined, formed the most dire disaster that has ever befallen any State in our history. We class it, only on a larger scale, as we do the cyclones that sweep over the Northwest, the great freshets of midsummer that inundate the cultivated river bottoms, the fire that consumes uninsured property, or the equally disastrous hurricanes that have their birth in the West Indies and are so graphically described by the poet Cowper—

"Wild tornadoes
Destroying towns, plantations, meadows,
Filling yonder sea with wrecks."

A recent letter in one of our Jacksonville dailies says: "The freeze was a blessing in disguise to us, for we are now shipping hundreds of crates of vegetables, and in a week or so we will be shipping thousands." Could the optimistic crank go farther than that? Speaking for myself, I would much rather ship a
fair crop of oranges, extending over a period of three months, coming in competition with the crop of the whole State, than a crop of vegetables that will last but three weeks and not half pay the expense of gathering.

Mr. President, let us face the situation without having to whistle—and whistle out of tune at that—to keep our courage up. The most serious situation that can possibly be imagined, confronts us. For myself, I am yet dazed when I look over my leafless groves, and mentally compare them with what they were in December last. If forty acres of the choicest varieties of oranges, nearly all up to eight years old, killed to the ground, all others as a rule killed back to the main trunk; all lemons, mangoes, and sub-tropical fruits generally, killed root and branch; pineapples badly injured—representing all told the hard labor of over twenty years—is a blessing, then I want none of it. One great drawback to our recovery is that no one is competent to give us advice, because no one has passed through such an experience before. It is a new situation; consequently a most embarrassing one. If Mr. John Frost—let us speak of him with all due courtesy—had stopped his antics with his December fiasco, we would have borne it without murmuring; but his February spree was the proverbial feather on the camel’s back. We can only bring reason and common sense to our aid, and then take the chances. What I am doing, and what I propose to do, is this. First, however, let me describe the condition of my trees. From eight years old and upward, they are as a rule sending out shoots along the main body and on the main upright limbs from ten to fifteen feet high. All the lower lateral limbs are dead, or nearly so, up to the main trunk. With a keen, light ax, I am cutting off the limbs some six inches or so from the live wood, and the main tops at least a foot above the sprouts.

“Why not saw them off at once?” I am asked. For this reason, with the weight of the limbs removed, I can saw off the stumps just where I want them, without danger of splitting the live wood and without destroying too many sprouts. Speaking of sprouts, the query confronts us, Is it best to thin them out? In reply, I will state that I will wait until late in the season before deciding. It is the one chance of a lifetime to test the theory of “the survival of the fittest”. But again, everyone has noticed that the top shoots are small and of a most feeble growth. I want a stout, healthy growth at the extremity, so as to heal over as far as possible. In my opinion, we do not as yet know how far down the main tops will die, nor will we know until the trees take a second growth. In June, many of the trees that are putting on a feeble growth now will die down to the roots.

Of our younger trees, where they are throwing out one or more vigorous shoots from the collar, we are sawing off the dead stock, reducing the growth to one stalk, and coating the stump with coal tar. About 60 per cent. of my younger trees, from one to five years set, are throwing up strong suckers, and we propose budding them next season. I have no faith in the sprig grafting down at the collar, as has been advocated in the papers.

After the trees are fairly started, how shall we treat them? Already we are told some growers have fertilized heavily with what are called complete fertilizers. This, in our judgment, is a waste of time, as well as a waste of money. Let us reason from analogy. Our trees are in the condition of a very sick man. To carry out the comparison fully, we will say, like one who was very sick, partly recovered, then suffered a relapse, which has left him at death’s door. As soon as the patient commenced to improve again and had a little appetite, would you feed him on beefsteak, boiled cabbage, and hot biscuit? Instead, how cautiously the careful nurse will tempt that appetite with the most delicate morsels most easily digested. Even so with our trees—let
us nurse them back to life and health in the most careful manner. Good rains will give them all the nourishment they want, in our reasonably fertile hammocks, for some months to come. We would not express an opinion as to what would be best for pine land groves. I shall give my trees from ten to fifteen pounds of pure, unleached hardwood ashes and hoe in, say some time in June.

Now for a few random thoughts. About the only blessing we can see in this case is the destruction of the scale and other insect pests that were preying on our trees. We greatly fear, however, that this benefit will miscarry, for there is great danger of re-introducing all the kinds destroyed, and many more even worse, by getting trees and budding-wood from California. We think our wisest policy is to wait, and depend on ourselves for nursery stock. The ordeal through which the trees have passed tells us very plainly which are the hardiest varieties with us. Hart’s Late is one of the tenderest. Tangerines, Pineapple and Maltese are almost, if not equally, as tender. The boasted hardiness of the Satsuma proves a myth. My oldest grape-fruit are putting out shoots some ten feet high, but they lack color and vitality.

As was to be expected, the remarkable and unparalleled situation has called forth many prophesies as to the future orange crops of the State. We have seen the figures for the present year ranging from three hundred thousand up to half a million boxes. In my judgment, the crop will not exceed fifty thousand boxes. All the oranges produced will grow in three, or at the most in four, counties. If my own county ships a thousand boxes, she will exceed my expectations.

As one who has followed me can readily see, I am sadly demoralized over the situation, but I am not disheartened. Acting upon the belief that the experience of the last winter will not be repeated for many years to come, I shall replant and nurse my trees back to life and productiveness, if that is possible, for with me the citrus crop is the only money-making crop I can grow. I claim I have made a success of orange growing in the past, and there is an old saying that we can now take home with some degree of comfort, “What man has done, man may do”.

THE ORANGE GROVES OF THE WEST COAST.

The Winter of 1894-95 and Its Effects.

Paper prepared by A. L. Duncan, of Dunedin, Hillsborough County, Member of the Standing Committee on Citrus Fruits, and read by the Secretary.

Mr. President, and Members of the State Horticultural Society: The freezes of December 28th and 29th last injured our young lemon and grape-fruit groves seriously; also young orange trees, especially in low places. However, we estimated on February 1st that our crop of oranges for the next year would be about one-third of that for the past season. The freezes of February 8th and 9th found our trees full of sap, and as a rule leafless, and the damage was severe in the extreme. Our old sweet seedling trees have lost about two-thirds of their tops, and budded groves set out about ten years ago have been