

## HORTICULTURE.

### Four Seasons in a Rented Orchard.

Editor "The Farmer's Advocate":

In a time of depression in trade, apple growers should average the returns of a few previous years, and not become disheartened when a season of few sales and low prices is forced upon us. Below I am giving four year's experience with an orchard rented from a neighbor. There are three acres in this orchard, and it consists of 111 trees of the following varieties: 37 Ben Davis, 27 Baldwins, 21 Spys, 15 Kings, 7 Grimes Golden, 2 Pewaukee, and 2 Pippins. The trees have been planted 24 years, and until the year 1911 received the usual treatment of all general farm orchards. In the spring of 1911 the orchard was leased at a yearly rental of \$55.50 or 50 cents per tree. The owner agreed to fertilize the orchard every second year with a good coat of barn-yard manure, the lessee to do all other work connected with the orchard, including pruning, spraying, cultivating, sowing cover crops, and of course harvesting and marketing the fruit. A regular lease, signed and sealed was drawn up.

Prior to 1911 the orchard never returned \$100 of a gross yearly income, and usually not more than 50 per cent. of the fruit grown was marketable. The codling moth and apple scab were very prevalent, although no scale had made its appearance. During the year 1911 the cultivation consisted in keeping the orchard under a sod mulch, that is in cutting with the mower at two or three different times all grass and weeds and letting them lie to act as a fertilizer and mulch. This worked out very nicely, as during the following very severe winter no winter injury by root freezing occurred, while in our home orchard, where the soil was plowed in early November, much root freezing and winter injury resulted. Next to clean, early-summer cultivation with fall and winter cover crops, we think the sod mulch system can be safely recommended. Following is the debit and credit account of the orchard for 1911:

Pruning .....	\$14.00
Hauling out brush .....	3.00
Spray material .....	5.00
Applying spray .....	5.00
Mowing .....	2.50
Harvesting apples .....	.75
Rental .....	55.50
<b>Total expense .....</b>	<b>\$85.75</b>
Value of apples harvested .....	\$4.50

These operations left a deficit of \$81.25, which certainly did not look very encouraging, and the failure to get a dividend caused a good deal of comment in the neighborhood.

Following is the account of expenses and receipts for 1912:

Pruning .....	\$ 2.50
Plowing, disking and cultivating .....	15.75
25 lbs. of rape seed .....	1.87
22 bbls. spraying material .....	12.50
Applying spray .....	14.50
Harvesting, packing, hauling, board of men, etc. ....	429.00
Rental .....	55.50
<b>Total .....</b>	<b>\$531.62</b>
400 bbls. of apples sold .....	\$777.50
110 boxes of apples sold .....	137.50
	<b>\$915.00</b>
Net profit for 1912 .....	\$383.38
Net profit for 1911 and 1912 .....	302.13

This gives a yearly net profit, after paying for rent, of over \$50.00 per acre, or without rent such as had the orchard been owned by ourselves, of \$69.00 per acre; more than the original cost of the land.

The year 1913 was the off year for the orchard, but net returns, after paying rent and all expenses, were \$50.50.

During the present season of 1914 a large gasoline power sprayer was purchased at a cost of nearly \$400.00, and used for all our spraying operations. This gives a constant pressure of 175 pounds, and with the fine, powerful spray produced, distributed both from the ground and the high derrick on the outfit, much more effective and economic work has been done.

The orchard this season is a perfect panorama of great, red, juicy apples, and notwithstanding the great depression in the apple industry, owing to the war, the entire crop has been sold to a wholesale firm in Port William at satisfactory prices, considering the conditions prevailing. To date (October 5th) we have packed and shipped from this orchard 52 barrels of Kings, 10 barrels of Pewaukees, and 8 barrels of Pippins. They are grading 90 per cent. No. 1. A conservative

estimate of the crop still to be harvested is 130 barrels of Spys, 165 barrels Baldwins, 185 barrels Ben Davis, and 100 boxes Grimes Golden. This would give 550 barrels and 100 boxes from the 111 trees, which we think is a very satisfactory yield.

At the comparatively low price at which the fruit has been sold this should give us a net profit for the year above all expenses and rent of over \$500.00, or about \$5.00 per tree. We had an offer just before war was declared, which was not accepted, as we were busy cutting oats at the time and had no time to draw up a contract, which would have increased our net return to over \$800.00.



Harvest Time.

Packing apples in the orchard of E. F. Augustine, Lambton Co., Ont.

I might add that our wealthy apples in our home orchard last season, which were wrapped and box-packed, sold wholesale in Port Arthur market at the rate of \$6.00 per barrel, netting us at the rate of \$4.00 per barrel. Formerly when we sold to buyers in the orchard, we thought ourselves fortunate if we secured \$1.00 per barrel for this variety.

Lambton Co., Ont.

E. F. AUGUSTINE.

### Greenhouse Construction.

Realizing the importance and significance of market gardening and vegetable growing, the Ontario Department of Agriculture, delegated S. C. Johnson, Vegetable Specialist, to investigate con-



One Stage in the Distribution of Fruit.

This illustration shows fruit being asembled at an Ontario shipping point, but it must still pass through many hands before it reaches the consumer.

ditions in the United States, and bring home to the growers of Ontario ideas that would be of practical importance to them. Part of the time house industry, and results of that research have been compiled in Bulletin 224 entitled, "Greenhouse Construction." This work might carry suggestions to prospective builders, such as the average cost per square foot of ground covered or average cost of heating per cubic foot under the different systems, but on the whole the bulletin shows exhaustive investigation; it is well

compiled and illustrated, and should be read by every one interested in greenhouse work.

The type of house receiving greatest consideration in this bulletin is that of iron frame construction, and preference is given to those of considerable width. A house 40 feet wide need have no central supports from the ground, and a house 75 feet wide will only require two lines of supports with braces and struts. The latter class appears most economical, for it easily admits of extension and the use of a horse and horse-implements.

In greenhouses of any make it is well to have the eaves high enough that laborers will not be striking their heads on the roof members, and in order to procure this freedom from trouble

it is necessary to have the walls about 6 feet high. Twenty-four inches of this might be of solid wall formation. The entire height of the wall also affords means for ventilation, which is one of the most important factors in greenhouse construction and management. It seems impossible to procure too much ventilation, and in modern houses the walls, ridge and gable end are constructed in such a way that ventilation can be carried on from all three quarters.

In houses where a summer crop of cucumbers is to be grown the side ventilation and good height of walls is very necessary. There are various ways of procuring this ventilation on the side, and many growers prefer one continuous run three or six lights in length and two or three lights wide. Others claim to have equal success with about one-half the amount of ventilation given by means of making the ventilators come alternate with equal sized spaces of stationary glass. Side ventilators are used either opening directly beneath the eave plate or opening from a header set right below the eave. Possibly those preferring the ventilators to be continuous and opening from the header are in the majority.

There are two ways of installing the ridge ventilation, namely from the ridge board or from a header set between the sash bars. Where ventilators open from the header there is greater danger from the rain getting in even if the ventilator is partially closed. Where the ventilator opens from the ridge the air can come in with very little danger of any rain getting in. An important point to be considered in ridge ventilation, whether ridge or header type, is that both lines should work separately in order that in the case of a strong wind from one side the ventilators on that side may be closed while the others will remain open, and the complete ventilation of the house may still be carried on. Some growers complain that the ridge type of ventilators allow an inward rush of air which has caused severe checks on the plants, while in the header type the air admitted is distributed evenly throughout the house.

Some controversy arises over the advisability of joined or separate houses, but taking all things into consideration the separate house has much to recommend it over the joined type of construction.

Before the heating system is installed it is necessary to decide whether the crops shall be grown on solid boards or benches. For many years it was taken for granted that the crops must be grown as close to the glass as possible,

and for sides, a from the feet in late, for of consi may be is quit quicker such op even tra satisfact find tha fully on by grow Hot heating hot wa pressure 30,000 efficient, pressure, heat has to better the use

## FA

The farm the a Such me would co the city, farm he got in er's wife as the cl much on to winter

Hon. tario, in lowing re "Agricul province, tion of th has been i increased tion of fo the Empe Additional consumer unnecessary tained by

How to ada and s population ing for so on the in now occup our output area of fe absurdly s possibilities if farmed the Empire others are ing popula has been d tions are tion to the vines in v remedied? viction of mediate fu food produ aspect is no different fo crisis preci realize the suggested Those who nerve to me them and v that is not and more bring this justments tl ditions and determined at the dispo it, and mar pugniant m And these c government compulsion

In ventur confess that or leading. opinions or 4th, when v may express subject to re a better gras