

ALABAMA
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**Information to Nurserymen in regard to
Fumigation of Nursery Stock.**

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INTRODUCTION.

To further protect the horticultural interests of Alabama the State Board of Horticulture at its regular meeting in 1909 added the following to the list of insects considered dangerous and as constituting infestation in trees and plants:

8. Brown Tail Moth (*Euproctis chryorrhoea*).

This pest is most liable to be introduced on nursery stock imported from Europe.

9. Gipsy Moth (*Porthetria dispar*).

Also most liable to be brought into the State on nursery stock from Europe. This attacks all trees and shrubs both evergreen and deciduous. All persons receiving nursery stock which has been imported from Europe should notify the State Horticulturist immediately upon its arrival. Such stock should not be opened until authorized by the State Horticulturist.

At the 1910 meeting of the State Board of Horticulture the following rules applying to nurserymen of Alabama and of other states were made:

Rule 9. All scions and bud sticks must be properly fumigated before being shipped within or into this State.

Rule 10. All Alabama nurserymen in order to receive the benefit of the State nursery inspection shall properly equip themselves for fumigating their stock at the time of each regular, annual inspection of nurseries and shall provide themselves with all materials necessary for doing such work.

DIRECTIONS FOR MAKING A FUMIGATING HOUSE.

A good fumigating house must be built air-tight to prevent the gas from escaping. Such a house can be constructed by a careful workman. A nurseryman handling from \$5,000 to \$25,000 worth of stock will require a house containing from 800 to 1,000 cu. ft. of space, while one doing less business will require a house containing from 200 to 800 cu. ft. of space.

The house may be built with the floor plan square or rectilinear—depending upon the size of the house needed—with the roof sloping one way. A house containing 850 cu. ft. of space would have the following dimensions, 10 ft. x 10 ft. floor, height 10 ft. in front and 7 ft. in the rear. The walls, floor and roof are made double with heavy building paper between. The studding is 2 in. x 4 in. pine, covered on the outside with matched flooring, free from knots, laid horizontally, then a layer of good quality building paper should be put on and the edges lapped about 6 in. Good inch boards are then placed vertically over this, battened with 3 in. strips. The roof rafters are placed inside the plates so that the first layer will fit close. The plates should be covered with building paper so that there will be no crevices for gas to escape. On this should be a layer of matched flooring, paper, and inch boards, then good roofing paper. The floor beams are covered with good boards, then paper, and lastly with flooring. A door 3 1-2 ft. x 6 1-2 ft. is placed in one side and a small window 2 1-2 ft. x 3 ft. for ventilating is placed at the highest point diagonally opposite the door. The door and window are made double with paper between them like the sides. They should be neatly fitted, the edges beveled and covered with strips of canton flannel so as to fit tightly when closed. Heavy hinges are necessary to hold them in place. The fastenings should be such as to allow the doors to be easily

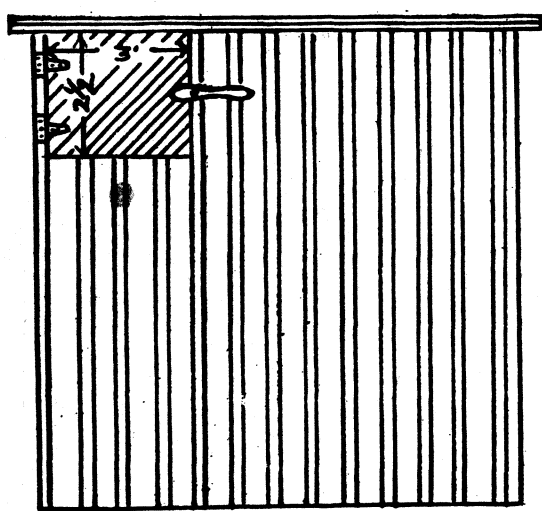


FIG. 1. Scale 1 inch = $\frac{1}{4}$ ft.

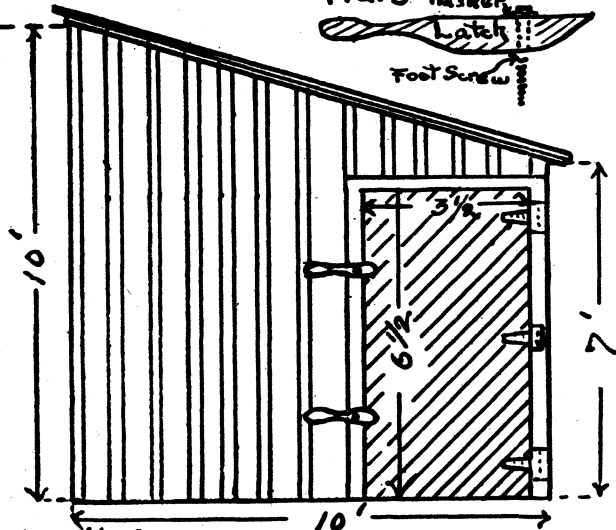


FIG. 2.

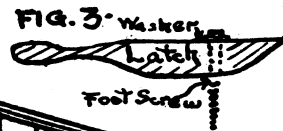


FIG. 3. washer

Latch

Foot Screw

closed or opened. The fastening can be made of wood and held in place by a foot screw. This should be 18 inches long. (See fig. 3).

Fumigating Box. It is almost necessary to have a box for fumigating small lots of nursery stock such as roses, scions, and budsticks. The box should be air tight and made of matched flooring, building paper, etc.

A box 5 1-2 ft. x 3 ft. x 3 ft. will contain approximately 50 cu. ft., while a box 7 x 4 x 3 1-2 ft. will contain approximately 100 cu. ft.

The sides and ends of the box should be made double like that of the house and the frame work of the box may be the same as that of a shipping box for nursery stock. It should contain one opening or door hinged on one side and be supplied with clamps to fasten down tightly. The edge of the door or lid should be covered with cloth so as to make it fit closely. The jar for the reception of the chemicals is placed in one corner of the box and no stock should be placed directly over it.

DIRECTIONS FOR FUMIGATING THE STOCK.

This should be done under the direction of a competent person. An earthen jar should be provided, glazed on the inside and of about two gallon capacity. A glass graduate with the ounces plainly marked on the side should be provided, also a pair of small scales which will weigh ounces. The best grade of chemicals must be used. The Cyanide of Potassium should be 98 per cent pure. This can be obtained of leading druggists or the Chase Nursery Co., Huntsville, Ala. The Sulphuric Acid should be what is known as commercial, 98 per cent pure, and can be obtained as the above.

The trees should be placed in the house and care should be taken not to crowd them. A space should be left near the center of the room for the jar. It is best to have the trees placed on slat frames so as to allow the gas to circulate freely under and through the trees. These slat frames should be from 4 to 6 in. in height; they can be easily

made by tacking strips of flooring onto 3 ft. lengths of 2 x 4 in. pieces set edgewise.

The window should be fastened before preparing the charge. The water should always be placed in the jar first and then the acid poured in slowly allowing it to run down the side of the jar. It is then ready for the addition of the potassium cyanide. It is best to place the cyanide in a small paper bag, dropping it, bag and all into the jar containing the water and acid. Then close the door quickly, taking care not to breathe the gas while in the room.

CAUTION. The fumes of this gas are deadly poison and the operator should be very careful not to breathe while in the house after dropping the bag of cyanide into the jar. The door and window should remain closed 40 minutes and they should remain open at least 15 minutes before entering the house.

Table showing dimensions of different sized houses and boxes and the amount of chemicals to be used in one charge for nursery stock:

HOUSE.				
Length	Width	Height (front)	Height (rear)	Cubic contents
5 1-4 ft.	5 ft.	8 1-2 ft.	7 ft.	203
8 ft.	7 3-4 ft.	9 ft.	7 ft.	510
10 ft.	10 ft.	10 ft.	7 ft.	850
12 ft.	12 ft.	11 ft.	7 ft.	1300
BOX.				
5 1-2 ft.	3 ft.	3 ft.	49 1-2
7 ft.	3 1-2	4 ft.	98
CHARGE FOR GENERAL STOCK.				
Cubic contents	Water (fluid ozs.)	Sulphuric acid (fluid ozs.)	Cyanide Potassium (ozs. by wt.)	
50	1 1-2	1-2	1-2	
100	3	1	1	
200	6	2	2	
500	15	5	5	
850	25 1-2	8 1-2	8 1-2	
1300	39	13	13	
CHARGE FOR EVERGREENS, ROSES AND BUD STICKS.				
50	1	1-3	1-3	
100	2	2-3	2-3	
200	4	1 1-3	1 1-3	
500	10	3 1-3	3 1-3	
850	17	5 2-3	5 2-3	
1300	26	8 2-3	8 2-3	

