

## DOSAGE.

The exact quantities which will at the same time exterminate the mealy bug without danger to the crop must be ascertained by the grower himself, by working up gradually to a dose which proves sufficiently strong to kill the insects and weak enough to avoid burning the tender foliage and green grapes. The most effective quantities will be found to differ considerably on account of the variation of gastightness of the houses, which should be rendered as tight as possible.

In the green stage  $\frac{1}{3}$  oz. per 1,000 cubic ft. might be tried to start with, and when the grapes are beginning to colour—a much safer period— $\frac{3}{4}$  oz. is better. When the grapes have been picked 4 oz. per 1,000 cubic ft. can be used. These amounts will probably have to be increased, as many of the houses are far from gastight, a condition which renders the use of cyanide in vineries attached to or near dwellings a dangerous practice.

In every case a second fumigation after a period of about twelve days is necessary to kill the insects which may hatch out in the interval, as the gas does not apparently affect the eggs.

## CONDITIONS AND APPLICATION.

Fumigation should be started one hour after sunset, and the house opened up in the morning before the sun strikes the vinery. Strong light combined with cyanide-gas causes burning of the foliage. The foliage should be dry, as moisture takes up the gas and the dilute acid causes burning. The soil of the vinery should be only slightly damp, and no standing water should be left in the house, as this would absorb the gas and weaken the dose. If the soil is dry, it can be watered not later than twenty-four hours before fumigation. The temperature should not be above  $70^{\circ}$  or below  $55^{\circ}$  F. A calm night is necessary for successful fumigation, as strong winds are apt to increase the leakage of gas.

Put the required quantity of calcium cyanide in a wide-mouthed jar, or, in the case of a long house, in several jars placed at intervals, and, walking from the closed end of the vinery, scatter the contents evenly over the soil; then close and lock the doors, placing a warning notice on them. As the gas is given off slowly from the calcium cyanide, there is ample time to scatter the chemical, without danger, at an ordinary walking-pace. The gas will have practically disappeared by the following morning.

To calculate the amount of calcium cyanide required measure the body of the house, which may be, say, 80 ft. long, 25 ft. wide, and 4 ft. high, which works out at 8,000 cubic ft. Then measure the top part of the house, taking a vertical line to the apex from a line drawn from top-plate to top-plate—say, 8 ft.—of which take half and multiply the square of the body by it:  $80 \times 25 \times 4 = 8,000$  cubic ft. Then the total cubic contents of the house—8,000 plus 8,000 cubic ft.—equal 16,000 cubic ft.

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*Correction.*—Referring to the list of imported grape-vines published in last month's *Journal* (page 107), the abbreviation "E" given at the head and used in the list stood for "a week earlier than 1"—not "later," as printed.