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FORMULAE FOR TREATING NARCISSUS WITH DISINFECTANTS,
AND FOR MAKING UP DISINFECTANTS USED IN BULB TREATMENTS.

OREGON
COLLECTION

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1. HOT WATER TREATMENTS.

The treatments discussed under this heading are considered effective where the presence of nematode or fly justifies the use of hot water. Do not confuse Semesan and Ceresan; the names are similar but the active ingredients are very different.

a. Hot Semesan treatment.

The normal strength solution of Semesan may be used in exactly the same way ordinary water is used for hot water treatments. This solution is prepared at the rate of one pound of Semesan in 48 gallons of water and may be used 4 times provided that at the end of each treatment the original volume of water be restored by adding double strength Semesan. Double strength Semesan is prepared by mixing 1 pound of Semesan in 24 gallons of water.

In the case of the Semesan solutions it is best to make a thick paste or "milk" in a separate container and pour this into the large volume of water in the tank or other receptacle. If the initial mixing is done in a barrel an ordinary clean garden hoe may be used to advantage as a stirring rod.

b. Hot Ceresan treatment.

Ceresan is prepared as a suspension of twice the strength required for normal Semesan, therefore, the formula for a large container is 1 pound of Ceresan to 24 gallons of water. This approximates an 0.5 per cent solution. Smaller lots may be prepared at the rate of 2 ounces to 3 gallons of water.

This solution, really a suspension, may be prepared like Semesan but as it tends to settle great care must be taken to thoroughly stir it up each time in the tank just before treating. It is customary to replenish the amount with a double strength solution as is recommended for Semesan. A double strength solution in this case would be 2 pounds in 24 gallons of water.

c. Temperature and Time.

All treatments are at 110 to 111.5 degrees Fahrenheit for 3 to 4 hours according to the size of the bulbs as recommended for nematode treatments.

2. COLD TREATMENTS.

Narcissus bulbs respond nicely to cold treatments with many of the ordinary mercury disinfectants. These cold treatments are considered desirable when nematodes are not present and fly infestation is absent or not conspicuous yet the bulbs show rot lesions, poor roots, or a tendency to become soft. Bichloride is very efficient when used at the standard formula of 0.1 per cent solution (1 to 1000) which means 1 ounce in 7 1/2 gallons of water or 1 pound in 120 gallons. This can be used in wooden vessels only. Soaks of 1 1/2 to 2 hours will suffice for any except very large bulbs. Semesan and Ceresan soaks, however, are considered more efficient from the standpoint of bulb increase and as a general procedure are advisable.

a. Semesan and Ceresan cold treatments.

Both of these chemicals are used at the strength recommended for hot water treatments but the time required is 2 1/2 to 3 hours. Disinfection processes take place at "cold water" temperature but it must be understood that cold treatments with mercury compounds have no effect on fly larvae and nematodes.

3. MISCELLANEOUS FORMULAE.

The following formulae are useful in figuring out proportions for preparing treatment solutions.

2 ounces in 15 gallons of water will give a 1/10 of 1% solution = 0.1%.

1 ounce in 3 gallons of water will give 1/4 per cent solution = 0.25%.

1 pound in 48 gallons of water will give 1/4 per cent solution = 0.25%.

1 pound in 24 gallons of water will give 1/2 per cent solution = 0.5%.

5 ounces to a cubic foot approximates a 1/2 per cent solution = 0.5%.

231 cubic inches equal 1 gallon.

Note: All mercury compounds are poisonous. Reasonable care should be taken in handling both the powders and solution.

Formalin is a 40% solution of formaldehyde.

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