

COOL HOUSE CROPS SESSION

Moderator - C. Wilton
Reporters - Harrison Flint
Phil Parvin

Q. Can Sodium Selenate be used on carnations?

A. (Naegele) Systox is safer on the plants. If you are used to selenate and can use it without plant injury, it is a good material.

Q. I have seen small white worms in the soil around the roots of my geraniums and snaps. How can I control them?

A. (Naegele) If they are really worms, they are probably larvae or fungus gnats and can be controlled with 1 lb. of 25% Lindane per 100 gal. If they have legs, they are probably symphylids, but can be controlled in the same way.

Q. Are any other materials better than Kelthane or Endrin for cyclamen mite control?

A. (Naegele) These are the best bets at present.

Q. How toxic are these materials?

A. (Naegele) Endrin is quite toxic, and should be handled with care. Kelthane is about as toxic as DDT. For this reason I prefer Kelthane to Endrin.

Moderator: Paul Newman of Olean, is using a shotgun dust mix. Maybe he would tell us about it.

(Newman) This is a one shot mixture of Fermate, Parzate, Sulfur, DDT, Aramite, and Lindane. This is applied every other week and 5% Endrin dust is alternated with it when necessary.

Q. Do you recommend Endrin for greenhouse use?

A. (Naegele) We recommend it only for cyclamen mite control and resistant cabbage looper control.

Moderator: Many greenhouses are becoming loaded with slugs and snails. How can they be controlled?

A. (Naegele) The only chemical which will really control them is metaldehyde. We suggest a 15% dust or 20% liquid. The advantages of dusts are that they last longer and it is easier to spot treat. The liquid can be mixed in a regular spray application but the mixture should be kept well agitated since it settles rapidly.

Q. What about baits?

A. (Naegele) They are O.K. but can become moldy and unsightly. Dr. Jefferson, what experience have you had in California with liquid metaldehyde or baits?

A. (Jefferson) I've had no experience with the liquid, but we know of about two baits which work well. One, made by Plant Products, contains an attractant and Greenlight makes one using alfalfa flakes with dieldrin instead of calcium arsenate.

Q. One grower controls white fly in the spring with P40 on Ageratum and Systox on stocks.

(Naegele) This is very interesting to me since these materials are not generally considered to be effective against white fly.

Q. Can you recommend a good power duster?

A. (Naegele) There are a number of good rotary dust-ers available which hold a pound of material or more. I prefer rotary types. Recently, California workers have developed an air powered duster.

Q. How can I keep snaps from wilting on bright days?

A. (Andreasen) Bright days following dark days is the trouble, not bright days alone. Little can be done. If they fail to recover after the bright day, it is probably due to poor aeration. Be careful to reduce the frequency of watering during dark weather, but increase it when the bright days come.

Q. You wouldn't use peat moss in snapdragon soil, would you?

A. (Andreasen) I see no objection to this. The advantages are less, however, at low temperature crops, since aeration requirements are less.

Q. What causes splitting of carnations?

A. (Andreasen) After a period of unfavorable growing conditions, the calyx hardens and stops growth. Then a period of favorable weather causes petals to grow more rapidly, and the unfurling petals form a ball which is too large to emerge from the calyx without splitting it. Splitting is predominant during the fall and spring due to fluctuating temperatures. In the winter, poor light limits both calyx and petals and less splitting results. Basically, the problem is to get plants genetically which produce a large calyx.

Q. What might explain splitting in the winter?

A. (Andreasen) This past December was extremely dark and led to the production of small calyces. The relatively bright weather this month caused greater petal growth and splitting resulted.

(Mrs. Ohye) Since I have been using intermittent mist, the plants remain at a more uniform temperature and I have had less splitting.

Q. Why is it that we saw fluorescent lights used on snap seedlings last year, but not this year?

A. (Flint) Hans Petersen, last year, had snaps of almost exhibition size. We are now concentrating on treatments which will emphasize additional speed instead of size. Mercury lights used every other night have given snaps which make the second grade from the top with an increase in speed as well. Incandescent and mercury applied every night give the fastest crop but a lower grade. There treatments are aimed at tailoring for a specific grade.

Q. Aren't mercury lights expensive?

A. (Flint) Mercury lights are about as cheap as fluorescent over a period of time and have the advantage of heat which helps to speed development.

(Andreasen) The fluorescent-coated mercury lamp gives light of similar quality and cost to some fluorescent tubes.

Q. When is the light applied?

A. (Flint) For 30 days only, while in 2 1/4" pots.

Q. What amount of light do mercury lamps give in foot candles?

A. (Flint) At about 30 inches from the plants, they will give 300-400 foot candles. This distance is not necessarily the best. Perhaps in commercial practice, with wider benches, lights could be used at a greater height.

Q. How many foot candles would you recommend?

A. (Flint) It is impossible to state a minimum for a certain amount of hastening, since the heat from the lamps can be as effective as the light for this purpose. The use of appreciable amounts of light is necessary to maintain quality. Probably at least 40-50 foot candles with incandescent lamps and quite a lot more with mercuries is desirable.

Q. Will methyl bromide or chloropicrin kill nematode eggs in galls?

A. (Williamson) Methyl bromide will; chloropicrin won't.

Q. What can be done to prevent nematodes from coming back up in ground benches after fumigation?

A. (Williamson) Nematodes don't move down and up very quickly as compared with symphylids. There is no method for preventing movement at present other than ground beds with concrete bottoms. For nematode control, Nemagon and VC 13 look promising. These should be applied before or at planting rather than waiting for injury to show up.

Q. Is there any way of treating rose plants to be sure nematodes aren't introduced on the roots?

A. (Williamson) Roses won't take hot water and there is no other treatment at present.

Q. When nematodes are introduced, do they show up soon?

A. (Williamson) It takes two to three years for them to build up.

Q. Are some soils difficult to treat well?

A. (Williamson) Heavier soils are the more difficult. Greenhouse soils are usually not much trouble to treat or to clear of the chemical afterward.

Q. Are all root galls caused by nematodes, for example, those on daisies (Marguerites)?

A. (Williamson) No. They may be caused by crown gall bacteria on daisies and a number of other plants.

Q. How do you treat them?

A. (Williamson) Steam the soil or use chloropicrin or methyl bromide. There is no definite cure for the infected plant.

Q. Are the bacteria within the plant?

A. (Williamson) No, on the surface.

Q. How about fermate bath control?

A. (Williamson) No, fermate is not a bactericide.

Q. Is there anything new in control of Fusarium on carnations?

A. (Nelson) Fusarium stem rot can be cured in the propagating bench by a captan drench. Cuttings should be cleaned in this way before benching in steamed soil or the steaming is useless. Use 1 lb. of captan/100 gal. on 100 sq. ft.

Q. Have any growers had boron deficiency in carnations?

A. A Canadian grower had it and cleared it up with Plant Products 20-20-20 Special (trace elements).

Q. What is the N source in high analysis fertilizers?

A. (Andreasen) Ammonium nitrate and urea.

Q. Does urea show up in soil tests?

A. (Andreasen) Not at first but since there is also nitrogen from ammonium nitrate and since urea gradually is broken down, we don't worry too much about it. Some of the urea from Germany has contained a toxic material, Biuret. This has caused some problem in field operations in California.

(Butterfield) We have had quite a lot of boron trouble, especially in houses which were converted from manure to peat in 1948.

(Andreasen) Peat is an advantage when you are getting rid of soluble salts but a disadvantage if you expect it to supply minor elements once furnished by manure.

(Andreasen) The word "peat" means nothing. Peat moss has legal status and must consist largely of decomposed moss, not cattails or wood. Peat moss comes from northern regions, primarily, but local bogs may have small amounts of peat moss. We recommend peat moss in soil because it lasts longer than other peats. Use the most fibrous grade available.

Q. Will stockpiling peat cause it to lose its effectiveness?

A. (Andreasen) Slightly, but not enough to be noticeable.

Q. Have any growers used too much boron in correcting deficiencies?

A. (Butterfield) There were two cases of serious outbreaks of Boron toxicity on snapdragons when growers did not follow recommended dosages.

Q. What are the symptoms of boron deficiency on carnations?

A. (Butterfield) Laterals will come through, splitting leaves 4 to 5 nodes down. Also, proliferation of branching at top and a ring on the calyx. In severe cases, good vegetative growth but no buds.

Q. Do you go by a single symptom or a combination of symptoms?

A. (Butterfield) We can only use them in combination.

Q. What time of year do these symptoms show?

A. (Butterfield) Usually in the fall (Oct. and Nov.)

Q. Is an empty calyx a symptom?

A. (Butterfield) The stigma is evident with one-sided, crooked flowers.

Q. (Langhans) Don't you think it best to recommend the growers to try small plot applications if a boron deficiency is suspected?

A. (Butterfield) Yes, we recommend trial applications.

Q. Can we get into trouble by the continuous use of 20-20-20 with minor elements?

A. (Butterfield) Probably not, but we should have a

better check on the minor element content of fertilizers. Massachusetts is now beginning to require this on the fertilizer bag.

Q. What is the recommendation on weed control for English ivy in the field?

A. (Bing) Ivy shows fairly good tolerance to chloro IPC. Can calibrate a fertilizer spreader to apply cheaply and quickly. Best to apply immediately after weeds appear since a lower rate is effective.

Q. (Butterfield) What effects does temperature have on chloro IPC?

A. (Bing) This material is effective even at low temperature. Use granular material to keep it off the plant leaves and apply when the leaves are dry.

Q. Is chloro IPC effective in summer?

A. (Bing) Yes, on such things as mustard, chickweed and annual grasses.

(Langhans) Paul Newman has an interesting fertilizer proportioning system. Perhaps he will tell us about it.

(Newman) We use 20-20-20 in the water every time we water at a rate determined by soil tests. We use "proportionizer" injector used by cities to inject chlorine into water supplies. We do not attempt to maintain the high recommended levels.

Q. (Langhans) What about soluble salts after constant liquid feeding?

A. (Newman) Our soluble salts run about 35 to 60. We use 3/4 gallon per square foot and this drips out the bottom considerably.

(Langhans) If you water lightly, you could get in trouble with salts. It is, therefore, necessary in a system like this to leach slightly with each watering.

Langhans showed exhibit of stocks grown at 50° and pointed out that organic nitrogen does not become available fast enough at this low temperature.

Q. Can I keep my callas in production the year 'round or will they go dormant anyway?

A. (Seeley) You can do it by watering and fertilizing. This will not effect winter and fall production.

Q. Is there any way to control root rot after callas are planted?

A. (Dimock) No, but you can help the plants live with it by running dry. For rhizome treatment, formaldehyde is one of the best, though menuric chloride and Ceresan are as good. Dry the rhizomes, scrub with a brush and cut out rotten spots. Allow to heal for 1-2 days and soak in 1:50 formaldehyde for 1/2 - 1 hour.

Replant in sterilized soil in pots or other containers on a clean bench and I'll guarantee no root rot.

Q. Is fermate O.K. for treating the bench?

A. (Dimock) No, Ferbam is effective against many types of fungi, but not against the type causing calla root rot. Clean wooden bench and paint with Cuprinol.

Q. Do you recommend fermate for carnations?

A. (Dimock) Fermate is O.K. but we feel zineb materials such as Parzate give better control of most carnation leaf fungi.

Q. (Butterfield) Is the parzate injury we saw on the tour widespread on geraniums?

A. (Dimock) No, geraniums aren't commonly sprayed with parzate.

(Baudendistel) Only one variety so far, in our tests, Better Times. Other plants have shown it though.

Q. (Moderator) Do you prefer sprays or dusts for botrytis?

A. (Dimock) Where residue is objectionable we prefer spray.

(Woodcock) A good spreader is important in minimizing spray residue.

(Newman) We prefer dusts since the deposit becomes shaken off the plant when it is cut. We can put on a light, inconspicuous coating with the small aluminum crank-type duster.

Q. (Butterfield) We have some trouble getting growers to spray because of expense. Can we push the economy of dusting?

A. (Newman) Dusting is more efficient as far as labor costs are concerned

(Dimock) This is certainly much cheaper if the residue is not objectionable. Dust on the plants is a heck of a lot more effective than spray on the shelf.

Q. Should we dust at bench level or in the air over the plants?

A. (Woodcock) Depends upon the equipment you have. Dust should be applied so that the plant is covered with a fine film.

Q. Is coverage as good with dusts on both sides of the leaf?

A. (Dimock) No, definitely not. Lower surface coverage is very poor with dusts.

(Moderator) Thousands of Midget dusters have been sold and ranges are cleaner now. People will dust when they won't spray.