
For Your Interest Only

Benlate disaster. (Abstracted from the *Avant Gardener*, February 1993) Benlate has long been considered the best systemic fungicide available. Somehow a contaminant got into some batches and caused millions of dollars in damages (reportedly Dupont has paid \$490 million in settlements). Now the largest commercial grower of clematis, a popular ornamental in the United States, has lost 85% of its 1.1 million plants to Benlate contamination. Just 35 varieties have been left from 330.

What is the aroma that is released when hot peppers are heated in cooking oil? The substance that makes peppers hot, capsaicin, breaks down into vanillin and some other substances. Vanillin is the main flavor in vanilla. (Abstracted from *Organic Gardening Magazine*, p. 25, April 1993.)

DON'T CURB CALCIUM WHILE TRYING TO PREVENT KIDNEY STONES. (Adapted from *Science News*, Vol 143, March 27, 1993). Most kidney stones are made up of crystals of calcium and a naturally occurring substance in some plants called oxylates. Many plants contain such high amounts of oxylates that we must temper our enthusiasm for those plants. Amaranth leaves and carambola fruit are good examples.

The conventional wisdom is that people with kidney stones should cut back on calcium in their diet. According to a study reported in the March 25 *New England Journal of Medicine*, men who ate a diet rich in calcium had a 34% *lower* risk of kidney stones than men who followed a restricted calcium diet.

"This goes against everything we have been taught," said one of the authors, kidney specialist Gary Curhan. He suggests that the reason may be that oxylates in the diet combine with calcium *in the intestine* in normal diets, creating insoluble crystals that are excreted. A low calcium diet would allow more oxylate to enter the bloodstream and eventually form insoluble crystals with calcium in the kidneys.

Dr. Curhan is not recommending added calcium, but that calcium not be reduced. I cannot help but wonder, though, whether taking extra calcium when I am going to be eating high oxylate foods might result in more of the oxylates being excreted harmlessly.

On a side note, the same study also found that men who ate a potassium-rich diet had a 50% lower risk of stones than those who ate the least amount of potassium. Bananas, oranges and grapefruit are good sources of potassium.

ECHO (AT LEAST TEMPORARILY) HAS AN EMAIL ADDRESS. We subscribed to an email (electronic mail) service specializing in the former Soviet Union. We may discontinue the contract at the end of the northern Russian growing season. Because they have gateways to other email services, you can presumably write to us if you have an email account. Our address, at least through September, is seed@sovusa.com. If there is enough interest in using email among our network, we would gladly maintain an email account (perhaps with a different company). Let us know.

GARLIC TO KILL SNAILS? Drs. D. K. Singh and A. Singh at the University of Gorakhpur in India

looked at the molluscicidal properties of an extract of common garlic, *Allium sativum*, against snails. Aquatic snails, *Lymnaea acuminata*, that serve as intermediate host for parasites which cause fascioliasis of cattle were chosen for the experiment. Ten snails were placed in each glass aquarium. The required amount of garlic cloves was minced in 5 ml water, homogenized for 5 minutes [in a blender], and centrifuged at 1000 g for 10 minutes and added to the water. [Ed: For other than experimental use, this procedure could be greatly simplified. E. g. filtering could probably replace centrifuging.] Each experiment was repeated six times. Concentrations are expressed as weight of garlic clove per liter.

The LC50 value (the Lethal Concentration required to kill 50% of the snails) was both dose and time dependent. Thus with an increase in exposure time, the LC50 of garlic decreased from 55 mg per liter at 24 hours to 30 at 48 hours and 12 at 96 hours. The LC90 (the concentration to skill 90% of the snails) at 96 hours was 36 mg garlic.

How does this compare with commercial molluscicides? The 96 hour LC50 of two synthetic molluscicides is higher (i. e. less effective): phorate is 15 mg and carbaryl is 14 compared to 12 for garlic. However, the standard molluscicide niclosamide has five times higher toxicity in 24 hours (LC50 = 12 mg) than garlic (55 mg). The authors believe that if the active ingredient were further purified, it would probably be more toxic than the best synthetic.

SWEET AND BITTER CASSAVA AND CYANIDE CONTENT. Dr. M. Bokanga writes in the March 1993 issue of *IITA Research* that "varieties of cassava classified as sweet may have a high cyanogenic potential and those classified as bitter may be low." He measures cyanide as "cyanogenic potential" because pure cyanide does not occur in cassava -it is produced upon processing or eating. A panel rated several cassava varieties as bitter or nonbitter. Taste was not a reliable indicator of cyanogenic potential. Nonbitter varieties ranged from 0.91 to 10.6 mg cyanide per 100 g fresh weight of cassava. The range for bitter varieties was 5.0 to 39.9 mg.

Boiling is not an adequate method for detoxifying cassava, but it does reduce it, according to the authors. "Boiling cassava roots, which is considered minimal processing, reduces the cyanogenic potential by at least half." This conflicts with the book Toxicity and Food Security reviewed in EDN 38-2. Other processing methods (EDN 38 pp 2-5) can reduce it by more than 90%."

EGUSI CAN REDUCE WEEDS IN CORN. We first offered egusi seeds in 1984 (EDN 7-1). A recent article on weed control by the International Institute of Tropical Agriculture (IITA) in Nigeria says, "In most parts of West Africa, farmers grow egusi, *Citrullus lanatus*, a spreading herbaceous plant grown widely for its seed, at a

wide spacing to maximize fruit size. Studies at IITA and elsewhere show that crops such as maize and cassava interplanted with egusi need to be weeded only once (within 2-3 weeks) after planting if the melon is grown at densities of 20,000 plants per hectare." Without egusi the field had to be weeded 2-3 times. "Ground cover by egusi suppresses weeds until the melon is harvested, by which time the crops have developed a canopy cover of their own."

[ED: Egusi, related to water melon, looks and grows much the same way. Vines do not climb.]

PLANT PROTECTION IMPROVEMENT PROGRAM (PIIP) FOR BOTSWANA, TANZANIA, AND ZAMBIA. Johan Morner, the PPIP Manager, writes that "PIIP is currently striving to increase its contacts with non-governmental organizations (NGOs)" that are working in the above three countries. If you work in this region and are involved in any of the activities listed below, you may be able to obtain financial and/or technical support from PPIP. It is funded by the Swedish International Development Authority. PPIP support can be given to national institutions, NGOs or individuals.

"Examples of the types of activities that might qualify for support are (1) training courses on new pest control methods, (2) pest surveys and yield loss assessment in small-scale farming, (3) research into new and appropriate pest control -indigenous methods, natural pesticides, cultural practices, (4) development of extension materials and methods on appropriate pest control practices and the safe use of pesticides."

For further information contact the PPIP Coordinator at one of the following addresses. IN BOTSWANA: Dept. of Agricultural Research, Private Bag 0033, Gaborone, Botswana, phone 267-35 97 80, FAX 267-31 42 53. IN TANZANIA: Sokoine Univ. of Agriculture, Dept. of Crop Science and Production, Box 3062, Morogoro, Tanzania phone 255-56 4079 FAX 255-56 3599. IN ZAMBIA: Univ. of Zambia, School of Agricultural Sciences, PO Box 32379, Lusaka, Zambia FAX 260-1 25 05 87. IN SWEDEN: PPIP Coordinating Unit, Swedish Univ. of Agricultural Sciences, PO Box 7044, S-75007 Uppsala, Sweden, phone 46 18 67 25 16, FAX 46 18 67 28 90.

SEED FOR QUEENSLAND LETTUCE. Pat and Connie Lahr gave us a packet of seed for this lettuce after a visit to Australia. I was sufficiently impressed with our initial crop to make it a priority this year to harvest enough seed to offer to our overseas network.

Not much information comes with the seed. My apologies to our Australian readers if any of this is in error. Pat believes it is grown primarily by an association of organic market gardeners. As far as he knows seed is not sold commercially. It is a big leaf lettuce that appears to be exceptionally resistant to bolting. Leaves are large, somewhat resembling a cos type lettuce, with an attractive yellowish hue. In Australia they say it produces 8 weeks in summer, up to 14 weeks in winter and that it is best to use lower leaves.

My main interest is their apparent resistance to heat. We have not done carefully controlled experiments, but 'Queensland' appears to outlast most of our lettuce varieties when the warm season arrives. Both times we have grown it I have

wondered, "Is this ever going to bolt so we can save seed?" (A key to preventing bolting is to make sure the plants are never water stressed. It might well be that they would bolt quickly if we did not have irrigation.)

Members of our network working in Third World development can request a free trial packet. Be sure to save your own seed if it does well. Others please send \$1.75.

SERVANTS' MISSIONARY SERVICE. Kristin Kroll (Food for the Hungry, Kenya) writes that the periodic letters she sends to her supporters in the States are handled by this unique organization. Their sole purpose is to publish and mail "prayer" letters of Christian missionaries. To encourage supporters to write notes to you, they place at the bottom of each letter a "**Short Note**". This can be returned to them in the envelope provided and they send it air mail with others. Kristin says, "They do a nice job, really quickly, it does not cost much, and a lot of people who never would have written send in the "short notes."

Founders Ron and Sue Faircloth say your letter can be sent to them by mail, FAX or email or on computer disk. They can scan drawings into the computer. Average turn around time is 5 days. For a list of prices and policies, write them at Servants Missionary Service, Inc., P. O. Box 3488, Columbia, SC 29230-3488. Phone 803/754-2929; FAX 803/786-8903; Compuserve # 70413-2445.