

Plants call for help

Researchers have discovered that certain types of volatile chemicals are released by some plants when they are being eaten by pests, and that these chemicals are attractive to beneficial insects and mites. For a review of the literature including many references, see William Quarles, "Herding Beneficial Insects with Pheromones and Attractants," *The IPM Practitioner* 30(5/6), May/June 2006, 1-8.

One such chemical is methyl salicylate (which is an ingredient in Ben Gay™ salve...). Experiments have shown that methyl salicylate is capable of attracting a wide range of beneficials, including predatory mites, lacewings, big-eyed bugs, anthocorid bugs, syrphids, pirate bugs, and lady beetles. Wouldn't it be great to be able to use methyl salicylate to attract indigenous beneficials or to encourage purchased beneficials to stick around after being released? Now you can do exactly that with the controlled-release packets of methyl salicylate (developed by AgBio, Inc. PredaLure® is approved for use with organically certified crops).

Reduce Mowing Frequency to Cut Your Lawn's CO2 Output

(It is the mower, not the lawn!)

Based on trials conducted in Canada, one way to reduce carbon dioxide emissions from turfgrass is to *mow less often*. Mowing...every week during the growing season resulted in up to four times as much carbon dioxide emissions annually as mowing only three or fewer times during the growing season. In fact, the Canadian researchers measured annual emissions of about 0.4 pounds of carbon dioxide per square foot ... the area of turfgrass in the U.S. alone is around 50 million acres (roughly triple the acreage of irrigated crops), with total annual carbon dioxide emissions possibly as much as around 900,000,000,000 pounds if mowed frequently versus only around 220,000,000,000 pounds if mowed infrequently. If your lawn has an area of 2,000 square feet, reducing mowing frequency might cut its annual carbon dioxide emissions by as much as 600 pounds. Since carbon dioxide emissions resulting from burning a gallon of gasoline amount to nearly 20 pounds, the annual reduction in emissions due to less-frequent mowing is similar to the reduction in emissions due to *cutting back driving of a gasoline-fueled vehicle that averages about 20 miles per gallon by 600 miles*. (Note: An argument for electric or human powered mowers?)

Reference: S.E. Allaire (Centre de Recherche en Horticulture, Université Laval, Quebec, CANADA G1K 7P4), C. Dufour-L'Arrivée, J.A. Lafond, R. Lalancette, and J. Brodeur, "Carbon Dioxide Emissions by Urban Turfgrass Areas," *Canadian Journal of Soil Science* 88(4), August 2008, 529-532. (Agricultural Institute of Canada, Suite 1112, 141 Laurier Ave. W., Ottawa, Ontario, CANADA K1P 5J3.)

Online Publication on Fire and Nonnative Invasive Plants

The U.S.D.A. Forest Service recently announced availability online (only) of the 355-page *Wildland Fire in Ecosystems: Fire and Nonnative Invasive Plants*, Rocky Mountain Research Station General Technical Report 42, vol. 6, 2008.

The publication is available at www.fs.fed.us/rm/pubs/rmrs_gtr042_6.html.

Here's a description of the contents, as provided by the Forest Service:

This state-of-knowledge review of information on relationships between wildland fire and nonnative invasive plants can assist fire managers and other land managers concerned with prevention, detection, and eradication or control of nonnative invasive plants. The 16 chapters in this volume synthesize ecological and botanical principles regarding relationships between wildland fire and nonnative invasive plants, identify the nonnative invasive species currently of greatest concern in major bioregions of the United States, and emerging fire-invasive issues in each bioregion and throughout the nation. This volume can help increase understanding of plant invasions and fire and can be used in fire management and ecosystem-based management planning.

“Fungicide Efficacy in Eradicating Powdery Mildew and Reducing Cleistothecium Formation on Grape Leaves,” A.C. Schilder (Dept. of Plant Pathology, Michigan State University, East Lansing, MI), N.K. Rothwell, K.L. Powers, and M.D. Anderson.

...The materials were sprayed as recommended on the vines in September, when there was mildew on about 20% of total leaf area. One week after spraying, the severity of mildew was reduced most (75%), relative to the severity on untreated vines, by highly refined oil; the severity was reduced 59% by organic acids, 53% by calcium polysulfide, and 39% by potassium bicarbonate; reductions in severity were not as great with other treatments. Two weeks after spraying, mildew severity was reduced by 88% by highly refined oil, 82% by organic acids, 73% by calcium polysulfide, and 79% by potassium bicarbonate. Populations of the overwintering form of mildew were reduced most (82%) by calcium polysulfide, 78% by tebuconazole, 70% by potassium carbonate, and 66% by organic acids.

How to Really Lick Insects?

Use them as food!! And the web site to guide your culinary choices is www.food-insects.com, where you'll find chapters from Dr. Gene DeFoliart's comprehensive book on edible insects (that is, "insects that have been documented as being eaten by humans") worldwide (begin with chapter 2, "Insect Foods of North American Indigenous Populations North of Mexico") as well as an archive of *The Food Insects Newsletter* (with many mouthwatering articles such as "Harvest from the Sky; Joy as Hopper Swarms Arrive [in Zimbabwe, Africa]," "Rice with Cooked Wasps: [Japanese] Emperor Hirohito's Favorite Dish," "Honey Ants and Australian Aborigines," "Collecting Ant Pupae for Food," and "The Eating of Stick Insects for Food").

New Jersey," Thomas Orton, Stephen Garrison, and Sara Garrison (Rutgers Cooperative Extension, Agricultural Research and Extension Center, 121 Northville Rd., Bridgton, NJ).

Growth of asparagus spears in the *fall* can be enhanced by the "mother stalk" growing method, where some of the early spears are allowed to remain unharvested. The authors compared the results of three treatments on yields of

selections of 'Jersey Giant' and 'Jersey Centennial' asparagus grown with drip irrigation: *conventional method*, with all spears harvested during the first seven weeks after the first spears appeared, and no harvesting later in the growing season; *mother stalk method 1*, with the first three spears not harvested, with all additional spears harvested until late October; *mother stalk method 2*, with all spears harvested for two weeks after the first spears appeared, then the next three spears not harvested, with all additional spears harvested until late October. In each treatment, the unharvested spears were staked so that they would remain standing. Total yields were considerably higher with either of the mother stalk methods than for the conventional method; mother stalk method 2 gave higher yields than did mother stalk method 1. Regardless of method, but especially with the conventional method, yields were higher for the 'Jersey Giant' selection than for the 'Jersey Centennial' selection. Additional research is being undertaken to see if the mother stalk methods reduce yields over a period of years relative to yields with the conventional method.

"Plant Information Online" Site Updated ... and Now Free!

Until recently, this web site (at <http://plantinfo.umn.edu>) required a paid subscription for access to its huge database, but now access is *completely free*. And when we say "huge," we mean it—the PIO database lists North American sources of seeds and plants for more than 100,000 cultivated plants, contact details (and links if available) for more than 2,000 North American retail and wholesale nurseries and seed suppliers, and references to more than 350,000 images of approximately 136,000 wild and cultivated plants that have been published in books and journals worldwide since 1982. Also, links to external web sites containing information on gardening in particular areas in North America have been added recently. "Plant Information Online" is edited and compiled by staff at the Andersen Horticultural Library and Magrath Library, University of Minnesota.

Garden Tips

- When starting hard seeds (sweet pea, morning glory etc), an easy way to speed germination is to soak the seeds overnight in a strong solution of black tea.
- Pre-planting any suitable crops and then transplanting when they are up and strong greatly increases success in the early spring garden.
- Avoid thinning of many crops by creating seed tapes using Elmer's white school glue and toilet paper or crape paper for the tape. Place the tiny seeds using a moistened toothpick to pick up a single seed at a time. The seed tape is then air dried, labeled and stored in a dark, dry, cool container. When planting, be sure to cover the paper completely to avoid moisture wicking away from the seeds. This is true for peat pots also.
- Just before planting, nip out the top of peppers, tomatoes, peas, beans to increase lateral branching for more fruit and sturdier plants.

- To reduce the skinny stretching of indoor seedlings brush the tops gently daily. A feather works well. The light damage to the apical area causes the stem to bulk up, much as growing outdoors in wind would. Also, keep lights almost touching the seedlings. Too little light plus too much heat equals weak growth. Seeds need no light or fertilizer until they start true leaves.
- Chamomile tea, dry sand on the surface or sphagnum moss on the surface all reduce or eliminate damping off. A constant breeze, as from a fan, also helps greatly.