GREEN INDUSTRY NEWS

GREENHOUSE

Focus continues on economical heat

Dependence upon fossil fuels for greenhouse operations could be greatly reduced if researchers continue to make progress in developing ways to heat greenhouses with solar energy, according to Professor Louis D. Albright, agricultural engineer at the New York State College of Agriculture and Life Sciences at Cornell University.

Albright is hopeful up to 80 percent of the heating needs of greenhouses could be met with solar energy. The greenhouse industry currently spends more than a quarter of a billion dollars per year in fuel costs to heat about 10,000 acres of greenhouse space.

In an attempt to combat rising fuel costs Cornell researchers are developing a four-part system to heat greenhouses more economically. The system consists of the use of night covers, water bags, variable night temperatures, and a computerized environmental control unit which would automatically combine a number of energy-saving devices.

The researchers have already succeeded in reducing nighttime heating needs by as much as 90 percent by covering plants with a multilayer, high-insulation night cover called a "thermal blanket."

The blanket consists of five layers of cloth covered with aluminum foil. The air space created between the layers insulates the plants from the cold. The bag could provide a 67 percent savings in overall fuel consumption, according to Albright.

A second cover, designed to enclose the sides of the plant, is made of layers of cloth and a sheet of plastic containing air bubbles. The covers are drawn over and around the plants and provide an insulation R-value of 10 to 11, Albright said.

The researchers are also testing long plastic water tubes, called Q-Mat, designed to collect and store solar energy during the day and help heat the greenhouse throughout the night. The so-called "water bags" are placed between rows of potted plants, actually touching the pots, and can be easily adapted to a wide variety of greenhouse growing systems, according to Albright.

"It functions as a collector, a thermal storage, and a retrieval heat exchanger, all in one. Calculations show that the device could meet night heating needs, except those nights following very cloudy days," he said.

The third phase of the research involves studying the affects night temperature variations have on plants. In three tests with lettuce where temperatures were programmed to decline steadily from 77° to 59° during the night, researchers found the plants did just as well as when the termperatures were constant.

"The night temperature variation already tested is a big step in the direction of conserving energy and making greater use of solar energy," Albright said. "With the lowest greenhouse temperature at dawn, coinciding with the lowest outside temperature, late night heating needs are decreased."

In the final phase of the study researchers are developing a computerized environmental control system containing a microprocessor which would automatically combine the three energy saving devices already mentioned. A prototype of the control system is expected to be developed within a year and researchers at Cornell are hoping to construct two identical greenhouses in 1979 to test all four components in an integrated system.

"In effect, the greenhouse will become a programable plant growth chamber, resulting in more efficient use of solar energy," Albright said.

INSECTS

Natural control found for Japanese beetle

An extremely potent natural control for the Japanese beetle has been discovered in the seed of the Indian-African neem tree, according to Dr. Thyril Ladd, of the USDA Science and Education Administration's Japanese Beetle Research Laboratory in Wooster, Ohio.

Neem said the oilseed extract, which has a garlic-like odor, repelled a group of beetles so strongly that they starved before taking a bite of sassafras leaves applied with the extract. The beetles were also repelled for 14 days from soy beans treated with the extract, while untreated plants in the same field were totally consumed.

Dr. Ladd said the seed extract "is a natural material and is not expected to be a hazard to the environment." Although there are only two neem trees known to be growing in the United States, one in Miami and the other in Coral Gables, Fla., there is a good possibility the tree will grow well in southern Florida.

TURFGRASS

Disease meeting to be in Columbus, Ohio

Cosponsored by Ohio State University, the Ohio Agricultural Research and Development Center and Chemlawn Corporation, A SYMPOSIUM ON TURFGRASS DIS-

EASES will be held at the University Holiday Inn in Columbus, Ohio on May 15-17.

Leading turfgrass disease specialists from the United States and Canada have agreed to participate. Anyone interested in current problems associated with control of turfgrass diseases is welcome to attend and should benefit from the speakers' comments.

The proceedings of the meeting will be published and should serve as a valuable reference on turfgrass diseases. For further information, write: A SYMPOSIUM ON TURFGRASS DISEASES 1979, 2865 E. Orange Rd., Galena, OH 43021, or call: Dr. P.O. Larsen at 614/422-6987 or Dr. B.G. Joyner at 614/885-9588.

TURFGRASS

Pest slides available from NY Turf Assoc.

Two 35-millimeter slide sets, one concerning turfgrass insects of the Northeast and the other about turfgrass diseases, are available from the New York State Turfgrass Association.

Dr. Haruo Tashiro of the Cornell University Agricultural Experiment Station developed the 76-slide program concerning turfgrass insects and Dr. Richard Smiley, also of Cornell, compiled the 66-slide set about the identification and control of turfgrass diseases.

The sets can be purchased from NYSTA at a cost of $20 for New York residents and $25 for out-of-state residents. Checks should be made payable to the New York State Turfgrass Association and mailed to Ann Reilly, Executive Secretary, 210 Cartwright Blvd., Massapequa Park, NY 11762.

WEED CONTROL

Changes in Ronstar G for poa, application

A label change that allows late summer or early fall application and an improved granule size should help turf managers in their fight against turf weeds, especially poa annua, with Chipco Ronstar G, according to Rhone Poulenc.

Preemergent application during the fall, when poa annua germination is heaviest, will allow those who consider it a weed to regain control. The new granule size will make application more precise and will minimize dust.

The herbicide is recommended for premergence control of germinating crabgrass, poa annua, goosegrass, Florida pursley, oxalis, stinging nettle, carpetgrass and pigweed. It can be used in established stands of perennial bluegrass, bermudagrass, perennial ryegrass and St. Augustinegrass.

It is available as a two percent granular formulation in 50 pound bags. The rate for turf applications is 200 pounds per acre of the two percent formulation. Additional information may be obtained by contacting Rhone-Poulenc Inc. Ag Division, P.O. Box 125, Monmouth Junction, NJ 08852.

TURFGRASS

High salt, pH tolerant grass found in Colorado

A new perennial grass variety that could be on the market as early as this year, thrives in situations where the soil pH is a very high, salty 8.2-8.5

Fults *Puccinellia distans* is intended initially for use along highway rightofway and roadside boulevards. There are also plans for use of the variety on fine turf areas such as golf courses with salty soils, or places that have alkaline irrigation water.

Northrup King Co., Minneapolis, presently has production and marketing rights. The company is contemplating seeking Plant Variety Protection under federal law.

Fults was discovered when Stan Metsker, then superintendent at the Boulder Country Club, Boulder, Colo., noticed patches of a grass growing in salty areas of the fairways. Professor Jesse Fults of the Colorado State University Weed Research Lab, identified the grass as *Puccinellia distans*, and was responsible for the initial collecting, purification and seed increase of the variety. The grass was ultimately named after Professor Fults.

Fults has been seeded in roadside trials in Wisconsin, Iowa and Illinois, and has shown excellent persistence in salty areas where even tall fescue has failed to survive, according to Larry Vetter, manager of the Professional Turf Products Division for Northrup King.

A seed mixture for fine turf areas could also include Fults, plus Kentucky bluegrass, fine-leaved perennial ryegrasses, and/or fine fescues such as the salt-tolerant Dawson red fescue, Vetter added.

He said that a combination of these species willl provide quick cover, good turf quality, and long-term persistence. It can also be seeded with bentgrass. Fults is expected to have uses on golf courses in areas where irrigation water is highly alkaline.

Fults is a low-growing bunch-type grass. Maximum unmown height, inclusive of seed heads, is between 12 and 16 inches. Plants are leafy and the leaves narrow. The color is dark green, which tends to darken on alkaline soils.

ASSOCIATION

New York Nurserymen elect new officers

Henry Weller, Congdon & Weller, North Collins, was elected president of the New York State Nurserymen's Association at the annual meeting, January 11.

Jack Lander, Jack Lander's Landscaping, Newburgh, was elected first vice president and Arthur H. Steffen, Arthur H. Steffen, Inc., was elected second vice president.

Frank Ferraro, Bianco & Ferraro, Washington Mills, is the new treasurer. Secretary is James Cross, Environmentals, Inc., Cutchogue. Alfred Krautter, Sprainbrook Nursery in Scarsdale, is director-at-large.

ASSOCIATION

Florida Turf-Grass elects new officers

Members of the Florida Turf-Grass Association recently elected new officers at their 26th Annual Conference and Show in Orlando, Fla.

Those elected to serve in 1979 were C. Wayne Sloan (president), Harvey E. Phillips (vice president), and James D. Carter (secretary-treasurer).

Sloan is assistant vice president of community facilities for Gulfstream Land & Development Corp., Phillips is superintendent of the Belleview Biltmore Hotel & Golf Course, and Carter is president of Bingham Seed Co. Six directors were also elected at the conference.

FERTILIZER

Organic waste said to be incomplete

A report recently released by Secretary of Agriculture Bergland says most organic wastes are incomplete fertilizers and must be supplemented.

Stressing the value of organic waste for controlling erosion and improving tilth, the report concluded that it cannot provide enough nitrogen, potassium and phosphorus.

The majority of wastes used are animal manures and crop residues. Other organic wastes, including sludge, and municipal and industrial, are not used according to the report.

LANDSCAPE

Management clinic to be in Louisville, Feb. 18

The Landscape/Garden Center Management Clinic will be held at the Galt House in Louisville, Ky. Feb. 18-21.

The clinic will feature a wide variety of activities including panel discussions, speeches, award presentations, new product exhibits, and audio/visual presentations.

A number of prominent individuals in both the landscape and garden fields are also scheduled to speak at the clinic. Landscape architect and author Gary O. Robinette will discuss "Landscape Design to Reduce Maintenance Needs," Paul Uenaka, of the Springdale Garden Center in California, will cover "Professionalism in the Garden Center Business," and Dave Bowen, of High Yield Management in Boulder, Colo., will discuss "Motivating Employees for Profit."

Pre-registration fee is $70 per person for the total four-day program and $55 for the two-day landscape and garden center clinics. Registration at the clinic costs an additional $5.

The clinic is being co-sponsored by the National Landscape Association and the Garden Centers of America.

For further information contact the Landscape/Garden Center Management Clinic, 230 Southern Building, Washington, D.C. 20005.