

## 421-Page Book Published On North American Nut Trees

"Handbook of North American Nut Trees" is the title of a new, 421-page book published by the North American Nut Growers Association.

Editor and contributing author is Dr. Richard A. Jaynes, Connecticut Agricultural Experiment Station associate geneticist in charge of chestnut breeding research. Other contributors include two station specialists and various authorities across the country.

Jaynes is in charge of the chestnut-breeding research program centered at the Hamden, Conn., Sleeping Giant chestnut plantation. This research has yielded blight-resistant hybrid chestnuts which show promise as forest trees, nut-producers or ornamentals, a station spokesman claimed.

Copies may be obtained from the Connecticut Agricultural Experimental Station, P.O. Box 1106, New Haven, Conn. 06504.

## Biological Herbicides Rated 'Safe, Effective,' by USDA

One more step toward safe and effective biological weed killers may have been taken when U.S. Department of Agriculture scientists discovered rhizobitoxine, according to a recent announcement.

Rhizobitoxine is a plant toxin found in some plants, and is produced by certain strains of the bacterium *Rhizobium japonicum*. It was reported that scientists of the Department's Agricultural Research Service have now produced small amounts of the substance in the laboratory.

Rhizobitoxine is a broad-spectrum herbicide toxic to many weed and crop species. Because it attacks young growth and new leaves, but has little effect on older growth, it appears promising for use after weed emergence but before crop emergence, and might also be used as a directed-spray application to reach weeds under the leaves of established crops without damaging the crops, it is claimed.

Preliminary tests were conducted by Dr. Lowell D. Owens, ARS soil scientist at Beltsville, Md.; Dr. John F. Thompson, ARS plant pathologist at Ithaca, N.Y.; and Dr. S. Guggen-

heim, National Heart Institute at Bethesda, Md.

Dr. Owens says rhizobitoxine works like this:

"When a plant is in the process of building protein, the molecule cystathionine must be cleaved by an enzyme to allow the building process to run its course. Rhizobitoxine 'looks' like cystathionine to the enzyme that does the cleaving and causes it to cling to the toxin rather than to the molecule. In fact, it seems to prefer the toxin. Growth is stopped at that point."

Dr. Owens explains that the breaking down of protein in animal digestion does not involve the cystathionine-cleaving enzyme, and therefore the herbicide should not affect animals or even the smallest birds. It also has the advantage over many other post-emergent herbicides of breaking down by microorganisms in the soil after two or three days, he maintains.

So far, experiments indicate that rhizobitoxine is effective as a herbicide only when dissolved in a 50:50:1 solution of ethanol, water, and glycerol, to aid in leaf penetration. Rates of rhizobitoxine as low as 0.2 pound per acre have been found effective in the tests, it was stated.

The report concluded that if further studies are equally promising, eventual use of the herbicide will depend on whether it can be manufactured easily and cheaply.

## AAN Landscaping Film Among 10 Most Popular

"New Guidelines for the Well-Landscaped Home," a sales promotion film produced by the American Association of Nurserymen, has been named by the U.S. Department of Agriculture as one of its top 10 most popular films for the second consecutive year.

The 16mm, color/sound film describing the proper steps in landscaping a home also has been awarded citations from the International Film and TV Festival of New York, and the American Horticultural Society. Produced two years ago, it has been shown numerous times by USDA and cooperating film libraries, on television and by various civic organizations.

According to an Association spokesman, "this valuable film has proved to be one of the best promotion vehicles the Association has produced."



## SPLENDOR IN GRASS is 0217<sup>®</sup> brand Fylking Kentucky bluegrass

Jewel among lawngrasses, Fylking has an entire complement of splendid features. Unusual density due to abundance of sideshoots creates a weed-free lawn. A ground-hugging carpet of green splendor, its outstanding color continues all season because it's so disease-resistant. Winter hardy and drought tolerant, Fylking grows thicker in summer. Doesn't produce ugly seed-heads, mixes well with other varieties, gradually dominating. Fine, thick texture can be cut as low as 1/2 inch for home putting greens, or 3/4 inch for beautiful home lawns. Specify 0217<sup>®</sup> Brand Fylking Kentucky bluegrass lawn seed—at your seed distributor.



**FYLKING  
KENTUCKY  
BLUEGRASS**

For More Details Circle (106) on Reply Card