

## Polluted Air Retards Growth of White Pine

Air pollution very definitely can stunt the growth of a tree.

Forest Service scientists have comparative white pines to prove it, suggests an article in the Cleveland Plain Dealer by William D. McCann.

McCann reports that healthy 15-foot white pines and foot-high sickly trees of the same species are growing a short distance from each other on the grounds of the U.S. Forest and Insect Disease Laboratory at Delaware, O.

After eight years' study, forest researchers conclude that sulfure dioxide and ozone, either singly or together, have stunted the trees, McCann writes.

"Sulfur dioxide is poured into the air primarily by the burning of fossil fuels such as coal and heavy oil," he explains.

"Ozone, a poisonous gas, is often caused by auto exhausts fumes going through a chemical change in the air."

Abnormal trees transplanted to a healthy atmosphere recovered; healthy trees deteriorated when placed in a polluted environment.

Dr. Leon S. Dochinger, chief plant pathologist, even found that when sickly trees were placed half in and half out of a control chamber, the protected half (through filtered air) grew thick, healthy needles while the unprotected half remained scraggly.

Some trees are affected more than others, with stunting found hundreds of miles from the source of the pollution, McCann reports. Other pines stay healthy in the polluted environment. Graft tests indicate that these pollution-resistant characteristics are hereditary.

There are many questions yet to be answered concerning the effects of pollution on trees. But Dr. Dochinger is quoted as concluding that "if dirty air can keep a tree from growing, what can it do to us?"



"My son took me in business."

## Insect Report

WTT's compilation of insect problems occurring in turfgrasses, trees, and ornamentals throughout the country.



### TURF INSECTS

#### AN ANT

(*Pogonomyrmex salinus*)

UTAH: Collected at Kelton (northwest of Locomotive Springs) and 1.5 miles east of Kelton, and in Kelton Pass, all in Box Elder County. This is a new State record.

#### SWEET POTATO FLEA BEETLE

(*Chaetocnema confinis*)

ARIZONA: Damaged dichondra lawns in Maricopa and Pima Counties during 1968 and 1969. This is a new State record.

#### A PLANT BUG

(*Lopidea chelifera*)

UTAH: Collected on *Bassia* spp. at Santa Clara, Washington County. Also taken at Saint George in lesser numbers. This is a new State record.

#### SOUTHERN CHINCH BUG

(*Blissus insularis*)

TEXAS: Heavy and widespread in Jackson and Brazos Counties, damaging San Augustine grass.

#### A WIREWORM

(*Conoderus lividus*)

SOUTH CAROLINA: In soil around roots of Coastal Bermudagrass at Brays Island, Beaufort County. Up to 5 larvae per shovelful of soil. About 8 acres out of 25 damaged.

### INSECTS OF ORNAMENTALS

#### CARMINE SPIDER MITE

(*Tetranychus cinnabarinus*)

ARIZONA: Heavy on violets at Tucson, Pima County.

#### A PSYCHID MOTH

(*Apterona crenulella*)

NEVADA: Collected on weeds and ornamentals at Genoa, Douglas County. This is a new county record.

#### FLETCHER SCALE

(*Lecanium fletcheri*)

WISCONSIN: Hatch complete on arborvitae at Middleton, Dane County. Most crawlers emerged. Much lower than usual in Dane County.

#### BROWN GARDEN SNAIL

(*Helix aspersa*)

OREGON: Damaged nursery stock at Medford, Jackson County. Steadily on increase for several years.

### TREE INSECTS

#### PEACH TREE BORER

(*Sanninoidea exitiosa*)

PENNSYLVANIA: Infested most trees, girdled many, in about 500 weeping flowering cherry trees 1-4 inches in diameter in nursery at Manchester, York County. Most borers emerged; some still in larval and pupal stages.

#### JACK-PINE BUDWORM

(*Choristoneura pinus*)

WISCONSIN: About 40 percent pupated in Douglas County. Some pupae in Douglas and Bayfield Counties by July 5; little or no defoliation. Third to fifth instars in Vilas County. Pupation just beginning July 9 in Marinette County.

#### A PINE NEEDLE-SHEATH MINER

(*Zelleria haimbachi*)

OREGON: Damage above normal to home and Christmas tree plantings in Clackamas and Multnomah Counties. Damage severe locally to native ponderosa pines at Medford, Jackson County.

#### NANTUCKET PINE TIP MOTH

(*Rhyacionia frustrana*)

KANSAS: Infested 50-60 percent of commercial pines in Sedgwick and Cowley Counties.

#### PINE TUSSOCK MOTH

(*Dasychira plagiata*)

WISCONSIN: About 70 percent of larvae pupated; rest, sixth instars spinning cocoons July 10. MINNESOTA: About 30 percent pupated in east-central area. High counts still persist in this area; 1970 control program possible.

#### WHITE-MARKED TUSSOCK MOTH

(*Hemerocampa leucostigma*)

WISCONSIN: Adults began emerging July 7 at De Forest, Dane County. Final instars still present July 16.

#### BLACK PINE-LEAF SCALE

(*Nuculaspis californica*)

CALIFORNIA: Heavy on lodgepole pines at Avenal, Kings County.

#### LARCH SAWFLY

(*Pristiphora erichsonii*)

MARYLAND: Collected on larch planting in Anne Arundel County. This is a new county record.