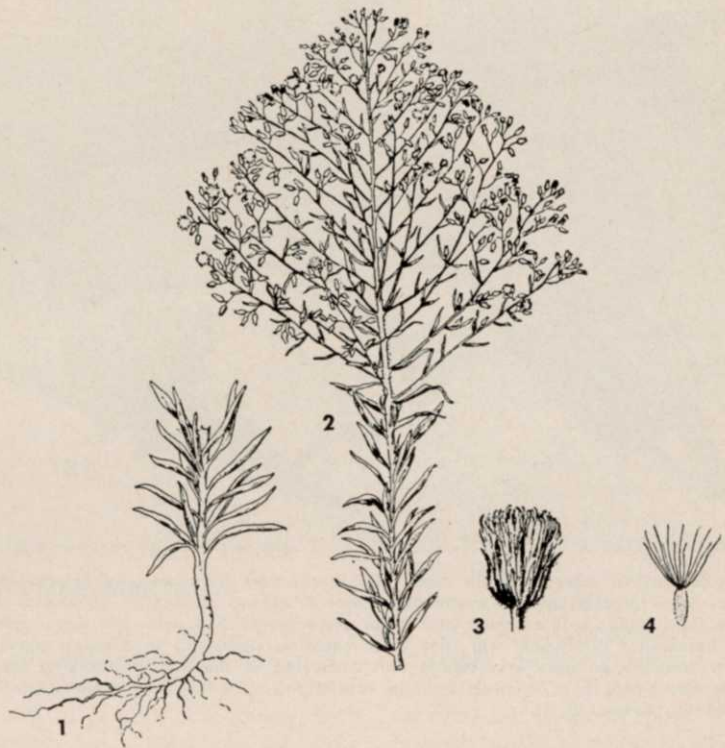


the turf smut problem, was eradicated within infested plants of Kentucky bluegrass by root absorption of a new systemic chemical, Plantvax, (2,3-dihydro-5-carboxanilido-6-methyl-1, 4-oxathiin-4,4-dioxide), supplied by the United States Rubber Company, Naugatuck, Connecticut. Bluegrass plants growing in soil treated with Plantvax in November 1965 have remained smut-free through February 1967. This chemical has also given long-term control of stripe rust (*Puccinia striiformis*) in bluegrass plants. Plantvax provided fair inhibition of stripe smut in bluegrass plants as was also found in tests at Connecticut. Recently another new systemic fungicide, Demosan, (1,4-dichloro-2,5-dimethoxybenzene), manufactured by the E. I. duPont de Nemours & Company, Wilmington, Delaware, has been found to inhibit stripe smut in infected bluegrass plants by Dr. Ray Lukens in studies at the Connecticut Agricultural Experiment Station.

The above results and the current level of chemical testing activity justify optimism that systemic fungicides will become available which will furnish control of stripe smut by inhibition of the fungus. In such fungistatic action the chemical suppresses the fungus within the plant, so that no symptoms of the disease are evident. Although the pathogen may not be killed, the fungus activity is greatly reduced. As a result the plants resume normal growth and thereby escape damage while appearing to be "smut-free." The first systemic chemical products for stripe smut may be of this type, and they will probably furnish effective control for one to several months by a single application. Thus, only a few applications per year should suffice for satisfactory control. At the present rate of progress, however, true eradicator systemic chemicals that will kill the fungus within the plant should also become available.

That promising results on chemical control are being obtained is highly encouraging for continued use of Merion, because most turf experts agree that Merion bluegrass will probably continue to be a favorite turf-

## HORSEWEED (*Erigeron canadensis*)



Horseweed is called mare's tail and is also sometimes known as Canadian fleabane, common fleabane, or bitterweed.

A native plant, horseweed is common throughout North America and grows in waste areas, along roadsides and in pastures. Readily takes over abandoned areas. Thrives mostly on rather dry soils from July through October.

An annual which reproduces by seed, horseweed grows from 1 to 6 feet in height. Leaves are narrow, alternate without petioles, and 1 to 4 inches long, lower leaves sometimes having toothed edges (1). Stems are stout, hairy, erect, and unbranched at the base but with many branches at the top (2). Leaves arranged close together along stem resemble a horse's tail and give plant its common names.

A number of tiny white ray flowers, usually more than 100 per head, are produced by the plant. Yellow disk flowers form a loose head at the top (3). Seeds are slightly curved, and have a number of slender white bristles on one end (4) which permit the wind to carry them. The seed proper is about  $\frac{1}{16}$  inch long.

Horseweed is somewhat resistant to 2,4-D but one pound per acre is fairly effective when plants are small and growing rapidly. Higher rates or repeated applications are usually needed for effective kill. Both 2,4,5-T and Silvex at 1 pound per acre rates are more effective than 2,4-D. At a rate of 2 pounds per acre and with repeated applications, 2,4-DB is fairly effective.

Prepared in cooperation with Crops Research Division, Agricultural Research Service, United States Department of Agriculture, Beltsville, Maryland.

(DRAWING FROM NORTH CENTRAL REGIONAL PUBLICATION NO. 36, USDA EXTENSION SERVICE)