## Hawkweed Control with Turf Herbicides

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Hawkweed, Hieracium sp., is shown above in flower. Mature weeds, below, have tops of seed-bearing, small cottony tufts, resembling dandelions.



Hawkweed, or mouseear hawkweed, as this species is also called, can be difficult in lawns. Controls are listed in this article. Author Bingham also relates surfactant effect on control. It is possible to add surfactants, lower herbicide dose, increase control, and save money. Readers will recall WTT's feature on surfactants in the January 1965 issue. Ed.

 $\mathbf{H}^{\mathrm{AWKWEED}}$  (Hieracium pilosella L.) is a perennial plant which forms a carpet of stolons and leaves. Leaves form a basal rosette and are hairy on both surfaces. The stolons are threadlike and bristly. Hawkweed develops in dense spots spreading by both seed and stolons. In these studies seedlings emerged over a period from July to October. They formed basal rosettes of leaves but did not produce stolons during the first fall growing season. Stolons of older plants pegged down new rosettes during this same period forming a chain of rosettes linked together. Hawkweed overwinters in the rosette stage. They send up scapes about 6 inches tall and flowers during May and June. The flowers are bright orange, and the spotty appearance is noted distinctly at this time in many turf areas. Seed heads resemble dandelion but are much smaller. It presents a weed problem primarily in lawns, pastures, other turf areas, and abandoned open land in cool climates.

Hawkweed control studies were conducted near Blacksburg, Virginia, in an area that contained a heavy stand of this weed. Since hawkweed is a problem that occurs mainly in turf, herbicides normally used on turfgrasses were selected for these studies. Herbicides included were 2,4-D, dicamba, silvex, MCPP, 2,4,5-T, picloram, and ioxynil. They were applied at three stages of growth: (1) seedling establishment and stolon production of older plants, (2) maturing rosette and degenerating stolons, and (3) flowering stages (July, September, and June, respectively).

As is the case for many weeds, the flowering stage was observed to be the time that is least desirable for treatment with herbicides. This appears to be the most resistant stage of growth. Some control of hawkweed was observed with each herbicide, but dicamba and 2,4-D were most effective. A mixture of these herbicides was not substantially better than dicamba alone.

The herbicides were more effective when applied at a time during vegetative growth of hawkweed. Thus, it responded best to dicamba and 2,4-D when applied in July, next in September, and least during June.

Since hawkweed is a very bristly and hairy plant, the effect of various amounts of surfactant in the spray mixture was studied. In general, increasing surfactant increased the control obtained with each rate of dicamba used. A proprietary formulation of dicamba at one-fourth lb./A with 4% additional surfactant was as effective as one lb./A with no additional surfactant. The benefits of added surfactant decreased as the rate of the herbicides was increased.