

*E*ach autumn goldenrods adorn roadsides, native landscapes and gardens across North America. For gardeners, these bright flowers signal the end of summer and the beginning of the cool, sunny days of



and terminals of the wiry, zigzagged stems. The zigzag goldenrod is rhizomatous, but spreads at a moderate pace. Stems remained mostly upright to the end of summer. Plants were grown in a partially shaded site that received full sun at noon.

*Solidago phacelata* 'Golden Fleece' is a compact goldenrod easily recognized by the heart-shaped basal leaves topped with airy floral sprays. Tight crowns typified the early-season habit, but centers often began to open by midsummer. The irregular growth habit was accentuated by the size differences between the basal and stem leaves. The plants began to spread at a modest rate in the third season. The floral display was not as impressive as some other goldenrods, but flowers were produced into late October and sometimes into November. No foliar diseases were observed, although chlorosis was a common problem, especially on the basal leaves.

The clump-forming stiff goldenrod, *Solidago rigida*, had bold-textured, basal leaves and tall stems with gently arching terminals. The crosier-like tips of the stems unfurled to display pale yellow flowers in flat-topped clusters, to 12 inches across. The flowers were not as abundant as other species but created a pleasant contrast to the gray-green leaves. Stems remained erect through most of the summer, but usually took on a relaxed appearance by late August. The potential for floppiness was noted, although fully flopped stems were observed in 1996 only. Powdery mildew was observed at low levels in all years, but was not considered an ornamental or health issue.

Increased disease problems and/or winter injury contributed to the fair ratings for about one-fourth of the goldenrods. The fine-textured foliage of *Solidago graminifolia* formed a billowing mass, and was totally free of rust and powdery mildew. Stems were routinely relaxed-to-floppy, but never to an unfavorable level. Flower production was fairly low for the size of the planting, and the lack of ray florets contributed to a minor floral display. Fifty percent of the plants died during the winter of 1994-95, but the remaining plants rebounded with vigorous growth in the following years. By the second year of the evaluation the plants had already spread 4 feet into the adjacent plot and turf grass, and in the fourth year had enveloped a large section of the plot, resulting in a mass 8 feet wide and 27 feet long.

*Solidago* 'Crown of Rays' was similar in

plant habit, size and floral character to 'Baby Sun' and 'Goldkind', but had more powdery mildew and some winter injury. The vase-shaped habit remained mostly tight and upright, although some loose, open centers were observed as the season progressed. Flower coverage was lower than the other garden hybrids, and the spent flowers reduced the ornamental impact for the remainder of the season. Withered leaves on the lower portion of the stems were also a problem. Plants were cut to the ground in 1995 only, and a secondary bloom was noted in October. Powdery mildew was observed at 50% or less in all years, and 25% of plants were killed in the winter of 1995-96.

The arching stems of *Solidago caesia* tended to be on the weak side, often relaxing to the point of falling. Wreath goldenrod was not bothered by any insects or diseases, but did suffer some damage in the first winter. Seedlings were also observed in the later years of the evaluation.

*Solidago gigantea* was vigorous, flowered well and was fairly resistant to powdery mildew but received a lower rating due to its inferior habit. Although its stems were not the tallest, they were among the worst for floppiness. The plants started the summer in good form, but by midseason the crowns opened and all stems eventually lodged on the ground. The stems were cut back each year in late summer, resulting in a regeneration of healthy basal leaves and a small amount of rebloom in September.

Throughout most of the season, the stems of *Solidago riddellii* were upright, with healthy, straplike basal leaves. Despite the fact that 80% of the plants died during the winter of 1994-95, the remaining plants were floriferous, with lustrous foliage and upright habits. Mildew was observed at low levels in most years.

The largest goldenrod was *Solidago rugosa*, topping out at almost 8 feet tall. Unlike 'Fireworks', the species had a spreading habit with the potential to be invasive. It flowered about two to four weeks later than 'Fireworks', and the small inflorescences seemed out of scale for a plant of its size. The small leaves were burgundy to bronze in spring and light green in summer; stems were burgundy too. Powdery mildew was moderate in most years, and the lower leaves began withering early in the summer. The amount of stem left bare by withered leaves varied from one-third to three-fourths of the height.

The remainder of the goldenrods received poor overall ratings based on higher levels of rust and powdery mildew, sevresul0.0629 Tc(were uur0.0.

and tattered leaves diminished the ornamental display. Lodged stems and low flower production were also inferior attributes. *Solidago roanensis* was planted in the shady plots because it is native to mountain woodlands. Almost 90% of the plants were killed during the winter of 1995-96, and the remaining plants were inferior with open crowns, lodged stems, low displate11srotic leaves and minor

Declining health due to severe p6wgleddery mildew and rust contributed to the ultimate demise of *Solidago virgaurea* 'Praecox'. Successive years of winter injury resulted in complete loss during the third winter. *Solidago glomerata*, *Solidago macrophylla* and *Solidago bicolor* were not adaptable to the condiras of the test site and died early in the evaluation nd ject. *Solidago glomerata* declined steadily during its first season and