Canada Goldenrod \textit{(Solidago canadensis)}

**DESCRIPTION:**
Canada goldenrod is native to North America, but it can become very aggressive in disturbed habitats. It produces wind-born seeds prodigiously allowing it to successfully colonize new areas. Once established they spread rapidly by roots; their fibrous root system produces rhizomes that form dense colonies. These colonies can exclude all other plant growth and grow to a substantial size, making them a concern for land managers. Though this species is an important fall nectar and pollen source and hosts many insect species on its roots and foliage, its aggressive nature means that it should be controlled if it is reducing the plant diversity of a prairie or savanna. We would recommend excluding it in all cases from smaller native gardens.

**IDENTIFICATION:**
Canada goldenrod looks similar to several other species in this genus, so careful identification is important. Usually a large monoculture of yellow flowers in early-fall is a sure sign that you are dealing with Canada goldenrod. They can grow to 3-6’. The leaves are alternate and become slightly smaller towards the apex of the plant, though, unlike some goldenrods, the entire stalk is thoroughly covered by leaves. The margins of the leaves are toothed or smooth with a lanceolate to broadly linear shape to them. White hairs can be found on the stems and the underside of the leaves are pubescent. Multiple flowering stems emerge from the top of the plant with compact heads of tiny yellow flowers which bloom in late summer and fall. The flowering heads are arranged only on the upper part of the stems.

**CONTROL METHODS:**

**Organic:** Small populations can be hand pulled preferably when soils are moist. Pulling each stem will only remove with it a small portion of the root mass, but thorough and repeated pulling will control this species. Grubbing out roots can be more effective. Be sure to seek out all of the spreading lateral roots and expect to repeat the weeding. A sharp hand shovel such as a soil knife or hori-hori is useful for this task. Perhaps the most successful technique for control of large colonies is carefully timed mowing early in the blooming period. 2-3 years of annual mowing as well as interseeding of more desirable species can effectively wipe-out a colony.

**Chemical:** Glyphosate herbicide (Round-Up®, etc.) can be sprayed on the foliage, but care must be taken to avoid damage neighboring plants. A broadleaf specific herbicide such as triclopyr (Garlon®, Weed-B-Gon® etc.) can be used where there is a risk of injuring native sedges or grasses. Cutting the goldenrod stalks and dabbed the “stump” with 20-30% solution of glyphosate can clear a colony and greatly reduce herbicide drift. Lastly, the “leaf spritz” technique utilizes a 15-20% solution of triclopyr in oil sprayed on only a few leaves per plant. This is an easy, effective and efficient (use of chemicals) technique, but it can be tedious for large colonies. Always use herbicides as instructed on the product label.

**NATIVE ALTERNATIVES:**
We recommend a diverse selection of prairie species to replace and compete against Canada goldenrod in order to develop a more stable and productive plant community for the site. Some specific recommendations are Showy goldenrod \textit{(Solidago speciosa)} and Stiff Goldenrod \textit{(Solidago rigida)}.

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