

Understanding Goldenrod

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A late summer stroll around the parks often reveals human activity. One sad, recurrent find is goldenrod ripped up along trails. This unfortunate and *illegal* practice stems from people mistaking goldenrod for ragweed—and these individuals leave the innocent, drying husks next to the alive-and-well true ragweed! Webpage searches for “ragweed” incorrectly include goldenrod photographs, epitomizing both the rampant confusion between these distinct plant groups and the error-ridden internet. Let’s learn the truth about these two plant members.

A diverse plant genus, ragweed (*Ambrosia* sp.) occurs in different sizes—some species top at several centimeters tall while others become bushes. Some ragweed species live an annual lifecycle whereas others re-emerge over the years. Although now they flower (and hence infuse the air with spiky pollen granules) from August through October, the past 20 years have seen the blossoming window expand throughout much of North America. Ragweed’s key reproductive strategy relies on the *wind*: an indirect, abiotic pollination technique. Without a straight delivery system to move pollen from one flower to the next, these plants generate vast amounts of light microspores—up to a billion granules per plant per season! Without needing to attract pollinators, ragweed flowers remain odorless and inconspicuous, sometimes looking like a nondescript green extension from the stem. Trying to alleviate allergies by pulling local ragweed is a pointless endeavor since some of the wispy pollen comes from specimens hundreds of miles away. To combat hay fever, consult your doctor; this webpage lists some examples of effective measures:

<http://www.webmd.com/allergies/features/ragweed-pollen?page=2>

Ragweed and goldenrod (*Solidago* sp.) belong to the large aster family and bloom during the same seasonal period, but the similarities stop there. To reproduce, goldenrod invests energy into brilliant, sun-colored flowers (Figure 1). The floral show attracts a vast number of different pollinating insects (Figure 2); native bees enter a single-minded feeding frenzy and remain safe to observe as they feed. Since these perennials depend on pollinators, the heavy pollen remains on the flower until transported by an animal. Plants with this direct pollination strategy tend to manufacture much less pollen than species chancing procreation to the wind. **Goldenrod pollen is not distributed by the wind and not the cause of the common hay fever.**

Most goldenrod species populate open meadows. As true for many common, fast-growing species, numerous critters rely on goldenrods for food or shelter. However, be careful about selecting them for your sunny native garden since the vast majority of *Solidago* species grows aggressively. Some cultivars, such as the wrinkle leaf goldenrod “Fireworks” (*S. rugosa*), make a good, controllable backyard addition. In partial shade and forest edges, try bluestem goldenrod (*S. caesia*). Growing these plants provides a great opportunity to get to know them and their dependent wildlife.

In the field, Invasive Management Area (IMA) volunteers study goldenrod and ragweed. Both of these native plant groups are left to support the local ecology. If you would like to join us for a workday to learn about native species and help the environment, send an e-mail to me asking to be on my volunteer distribution list.



Figure 1. This typical goldenrod specimen blooms with tiny yellow flowers lining the floral branches.

Further information:

General Goldenrod Information <http://www.fcps.edu/islandcreekes/ecology/goldenrod.htm>
 List of Many *Solidago* Species <https://en.wikipedia.org/wiki/Goldenrod>
 Ragweed Pollen and Fall Allergies <http://www.webmd.com/allergies/features/ragweed-pollen>
 Plant Pollination Strategies (USDA) http://www.fs.fed.us/wildflowers/pollinators/Plant_Strategies/
 Climate Change Indicators in the United States: change in ragweed pollen season
<http://epa.gov/climatechange/science/indicators/health-society/ragweed.html>



Figure 2. Goldenrod fields (A) sustain enormous biodiversity. Various creatures consume the foliage while others shelter in it. On the blossoms, certain species eat pollen and others drink nectar. Some of the large insect groups benefiting from goldenrod include (B) beetles (pictured is a locust borer, *Megacyllene robiniae*), (C) flies (a beneficial syrphid fly—a bee mimic), and (D) bee members (a paper wasp).

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