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## Compositae and SO<sub>2</sub>

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they learn to conduct scientific inquiries that clarify the ecological role of weeds in natural and man-made communities. Extension of such investigations may reveal new sources of food, fiber, medicine or plant growth regulators, but most important they provide a basis for the appreciation and understanding of the scientific method and the world of life around us, particularly that portion that we tend to ignore because of bigotry. These valuable lessons are taught with a minimum amount of expense; the major investments are in time, patience, energy and imagination.

### Citations and References

1. Baker, H. G. 1974. The evolution of weeds. In *Annual Review of Ecology and Systematics*, ed. R. F. Johnson. Annual Reviews, Inc., Palo Alto, California.
2. Bonner, James. 1949. Chemical warfare among plants. *Scientific American* 180(3):48.
3. Martin, A. C. 1972. *Weeds: A Golden Nature Guide* Western Publishing Co., Inc., Racine, Wisconsin.
4. Quick, C. R. 1961. How long can a seed remain alive? In seeds: *The Yearbook of Agriculture, U.S.D.A.*
5. Rice, E. L. 1967. *Chemical warfare between plants. Bios*38:67.
6. Wilkinson, R. E. and H. E. Jaques. 1972. *How to Know the Weeds (2nd ed.)*. Wm. C. Brown Co., Dubuque, Iowa.

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### Compositae and SO<sub>2</sub>

The Exxon Company employs biomonitoring to check air quality in the vicinity of some of its oil and gas installations. Native plants are used as monitors since they are far more sensitive to certain types of air pollution that man and his domestic animals and crops. The major pollutant being monitored is sulphur dioxide. Some plants which are sensitive to sulphur dioxide may react to concentrations in the parts per million range. State and federal air standards do not permit ground level concentrations of sulphur dioxide to exceed one part per million when averaged over a three-hour period.

Native "weeds" are used for monitoring these low levels. Of the sulphur dioxide sensitive species many are in the family Compositae. Some of the most sensitive species are bind weed (Convolvulaceae), fleabane (Compositae), prickly lettuce (Compositae), ragweed (Compositae), native sunflowers (Compositae), and blackberry (Rosaceae).

The level of sulphur dioxide required to damage any plant may range from 1.5 parts per million for gladiolus to 15.0 parts per million for sorghum.