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Editorial

Weed Control

No single production problem facing American farmers is as expensive and difficult as weed control. In this fight against weeds, U.S. farmers annually spend an estimated \$2½ billion. This compares with only \$430 million in controlling crop insects and \$230 million in keeping down plant disease damage.

By developing low-cost ways of controlling weeds, ARS scientists are helping farmers, whether they farm large acreages or small, to be more efficient. Looking ahead, farmers in the developing nations will be able to take advantage of this technology.

Scientists are approaching this problem on a broad front and have already helped provide farmers with a wide range of sophisticated mechanical and chemical weed control methods. The future holds much more, as attested by several articles in this issue.

ARS plant physiologists at Beltsville, Md., for example, are investigating the effect that a light-filtering pigment found in plant leaves, phytochrome, has on weed seed germination (p. 7). This approach may enable scientists to learn how to trigger germination of seeds lying dormant in fields because of the absence of light.

Another approach is to develop crops that beat out weeds in the battle for survival. At Stoneville, Miss., scientists found that two varieties of soybeans have just such a built-in resistance to weeds (p. 16).

Biological control methods may help farmers and others who must control aquatic weeds in irrigation canals, ditches and waterways. Besides clogging many waterways to the detriment of boaters and water sports enthusiasts, aquatic weeds cause great water loss through evapotranspiration (AGR. RES., October 1967, p. 8).

ARS scientists at Fort Lauderdale, Fla., are studying two weed-eating snails imported from South America and seeking ways to mass-produce them for evaluation and ultimate use in the biological control of elodea, southern naiad, coontail and other aquatic weeds (p. 8).

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