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CRAYFISH

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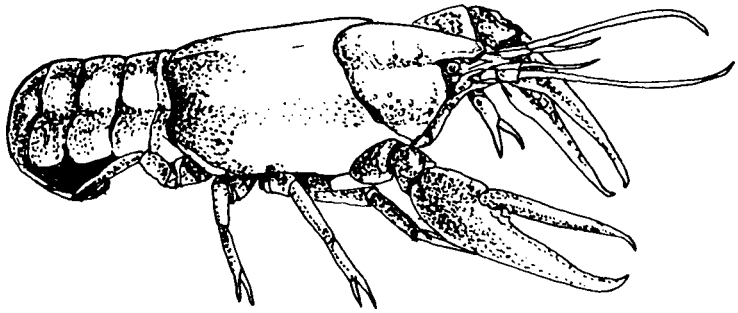

Fig. 1. Crayfish

Damage Prevention and Control Methods

Exclusion

Not practical.

Cultural Methods

Deep tillage destroys burrows and generally results in lower populations.

Drainage of rice irrigation systems and fields during fall and winter months reduces populations.

Repellents

None are registered.

Toxicants

None are registered. Check individual state regulations for Special Local Needs registrations 24(c).

Approved turf insecticides used for insect pest control will also control crayfish in lawn and turf areas.

Fumigants

None are registered. Check state regulations for Special Local Needs registrations 24(c).

Trapping

Not effective in eliminating populations. May be used in capturing crayfish for bait or food.

Identification, Range, and Biology

Crayfish, also called crawfish, crawcrab, crab, stonecrab, crawdad, creekcrab, and other local names, are native to fresh waters on all continents except Africa, where they have been widely introduced. There are over 400 species in the family Astacidae worldwide, and approximately 300 species in the United States. In size, shape, and color, the variation is extremely wide among species. The detailed life histories and habits of all species of crayfish are beyond the scope of this handbook.

PREVENTION AND CONTROL OF WILDLIFE DAMAGE — 1994

Cooperative Extension Division
Institute of Agriculture and Natural Resources
University of Nebraska - Lincoln

United States Department of Agriculture
Animal and Plant Health Inspection Service
Animal Damage Control

Great Plains Agricultural Council
Wildlife Committee

Crayfish are economically important in a number of states for use as fish bait and for human consumption. In Louisiana, the crayfish is a major economic crop and comprises the second largest aquaculture industry in North America. Over 130,000 acres (56,000 ha) are devoted solely to crayfish culture.

Damage

Most damage associated with crayfish is the result of crayfish burrowing in home lawns. Burrows created by burrowing species of crayfish are damaging to turf areas and may be hazardous to mowing machinery. Newly planted rice fields may be damaged by foraging crayfish where local populations are high.

Crayfish populations in commercial baitfish ponds can reduce reproduction by feeding on the eggs of the baitfish as they are deposited on spawning mats. During pond harvest, crayfish caught in the nets injure and destroy baitfish as they are being harvested for market.

Unwanted populations of crayfish have been established in the wild because of the release of bait crayfish. Some populations have reached extremely high levels. Crayfish can reduce game fish populations by preying on eggs and fry. They also can degrade habitat by destroying aquatic vegetation.

Legal Status

Crayfish may be protected by law in some states. Harvest of crayfish may also be regulated by state wildlife conservation agencies. In areas where damage occurs, control measures are generally unrestricted. Check with your local agricultural or wildlife authorities before initiating control. Unwanted populations of crayfish have resulted in regulations against the use of crayfish as bait in some northern lakes.

Damage Prevention and Control Methods

Cultural Methods

Deep cultivation helps reduce burrowing crayfish populations in rice fields and other grain crops. Drainage of rice irrigation canals and fallow fields during fall and winter is also helpful in reducing crayfish populations in these areas.

High populations of crayfish are generally associated with years of high rainfall. Unseasonably dry weather conditions usually reduce crayfish numbers.

Rapid drainage of baitfish ponds during early spring helps eliminate crayfish by exposing them to predators before burrowing activities begin. Principal predators include snakes, racoons, mink, otter, skunks, bass, catfish, ibis, and herons.

Toxicants

There are no General Use Pesticides registered for crayfish control. In some states, however, Special Local Needs registration under section 24(c) of FIFRA have been established for certain insecticides for burrow treatment.

Toxicants, where legal, may be used at any time of the year when crayfish are active, but best results are obtained in early fall when adults are in their burrows. To be effective, applications of toxic chemicals must reach the water in the burrows. Additional treatments may be necessary where burrows in dikes or dams open at the bottom into a pond or stream.

Fumigants

None are federally registered for crayfish control. Check with your local wildlife or agricultural agency for Special Local Needs registrations.

Trapping

Wire cage traps, baited with fish, chicken, or other meat can be used to capture crayfish, but they are not cost-effective in damage control situations.

Acknowledgments

Figure 1 by Emily Oseas Routman.

For Additional Information

Hobbs, H. H., Jr. 1972. Crayfishes (Astacidae) of North and middle America. Identification Manual No. 9, Biota of Freshwater Ecosystems, US Environ. Prot. Agency. Washington, DC. 173 pp.

Momot, W. T., G. Howing, and P. D. Jones. 1978. The dynamics of crayfish and their role in ecosystems. Am. Midl. Nat. 99:10-35.

Pennak, R. W. 1978. Freshwater invertebrates of the United States, 2d ed. John Wiley and Sons, New York. 803 pp.

Pflieger, W. L. 1987. An introduction to the crayfish of Missouri. Missouri Dep. Conserv. Jefferson City. 16 pp.

Williams, A. B., and A. B. Leonard. 1952. The crayfishes of Kansas. Univ. Kansas, Sci. Bull. 34:961-1012.

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