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USAEC and USACHPPM Evaluate Innovative Weed Control

by Brian Norris

Update Editor

The U.S. Army Environmental Center (USAEC), in conjunction with the U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM), is evaluating weed control technologies that will lead to reduced pesticide use and costs.

In one such USAEC-funded project, the pest management office of the McAlester Army Ammunition Plant (McAAP) is testing a state-of-the-art technology to control weeds on railroad rights-of-way. A scaled down version of the railroad system will also be used to control weeds in parking lots and around buildings.

Dr. Lynn Hoch, a contract entomologist with USACHPPM, is working on a number of Army precision pesticide targeting projects.

“This technology uses advanced optics and computer circuitry to detect the presence of weeds,” Dr. Hoch said. “When a weed enters the system’s line of sight, it signals a spray nozzle to deliver a calibrated amount of herbicide to the vegetation. This methodology permits the herbicide spray equipment to treat only vegetation, not bare ground.”

The key to the system is a special spray head unit that senses the reflected light “signature” of chlorophyll in plants and sprays the vegetation within a 12-inch strip of ground. Up to 16 of the units can be configured on a spray boom to give a 16-foot swath of coverage.



The Army plans to use a larger version of the Weedseeker system, mounted on a railroad trailer, to control weeds at McAllister Army Ammunition Depot.

“This technology is especially effective wherever weeds occur intermittently, such as on airport runways, paved parking lots, and railroad rights-of-way,” Dr. Hoch said.

Field trials conducted by other organizations using this technology have shown that the system realized up to a 57 percent reduction in the amount of herbicides needed to control intermittently growing weeds when compared to conventional broadcast pesticide application.

“When applied to the problem of McAlester’s railroad lines,” Dr. Hoch said, “this system will reduce herbicide use as well as labor dollars since the treatment time and amount of pesticide needed to treat the 250 miles of railroad lines will be significantly reduced.”

For the next several months, USAEC, USACHPPM and McAAP will continue the evaluation of the precision pesticide spraying system for weed control.



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