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## Biological Control for Annual Bluegrass

East Lansing, MI — A new method of weed control, using biotechnology instead of chemical-based herbicides, may soon allow farmers, homeowners, and lawn care specialists to control annual bluegrass with a bacterium that is harmless to humans, animals and other plants.

“The bacterium is specific only for its host plant — it will infect only annual bluegrass plants,” says David L. Roberts, the Michigan State University plant pathologist who discovered the bacterium. “The bacterium enters through small natural openings in the leaf blade and grows through the plant’s vascular system.”

Roberts discovered the bacterium when examining annual bluegrass samples to determine what caused the plants to die. This was the first time this strain of the *Xanthomonas* bacterium had been identified in North America. It could be new to the continent, or researchers may simply not have identified it in the past.

“At first I didn’t even realize the potential of the bacterium,” Roberts says. But after diagnosing the problem, he began to wonder if the bacterium could be of some benefit. Laboratory testing proved Roberts’ suspicion that the bacterium could be used to control annual bluegrass.

After application, the bacterium begins growing within the plant, destroying its ability to transport water. After three or four days, the plant begins to wilt. After a week, the plant usually turns brown and dies, or it is suppressed to the point where it is no longer a problem.

When applied to lawns or other areas of mixed grasses, the bacterium does not affect other plants, regardless of the concentration, Roberts says.

“I suspect the bacterium is absolutely safe for use around humans,” Roberts says. “Similar bacteria in the genus *Xanthomonas* have been found on vegetable and field crops that people have eaten for years without any problems.”

Research shows that the bacterium is very effective in controlling annual bluegrass. Because it grows inside the plant, it does not have to compete with other microorganisms in the soil or on the plant’s surface. This increases its ability to destroy the host plant.

Tests show it make take two or three applications per season to control a large population of annual bluegrass. Increased dosages and repeat applications of the bacterium are safe, however, because it infects only the host plant. With chemical herbicides, precise application methods and rates are critical to prevent damage to valuable plants.

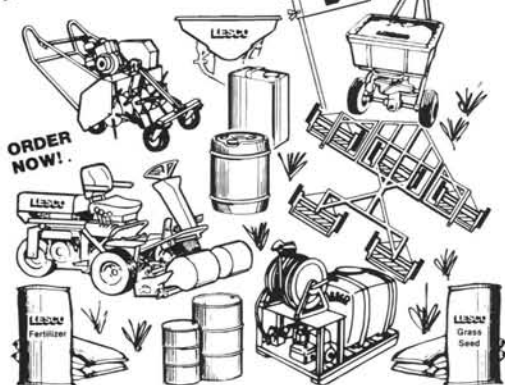
Roberts believes the greatest potential of the bacterium will be its use as a biotechnology model for a carrier in the development of a series of bioherbicides for specific weeds. Different strains could be developed for dandelions, crabgrass and fox-tail control, giving farmers and homeowners alternatives or substitutes for chemical-based herbicides.

Roberts, through Michigan State University, has applied for a patent on the biological control bacterium and will soon be contacting companies to develop it for commercial use. He anticipates it could take four or five years to conduct additional research and to get Environmental Protection Agency approval.

“One advantage this bacterium has is that it is essentially a naturally occurring organism — it’s not something that has been genetically engineered,” Roberts says. “It’s something we have taken from nature. All we’ve done is increase the population

(cont’d. on page 6)

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(Biological Control cont'd.)

of the bacterium so it can more easily occupy its niche when applied."

Roberts says several companies have shown "intense interest" in developing the bacterium because of increased EPA registration demands on traditional herbicide chemicals.

"I think any of the really progressive chemical producing companies will show an interest," Roberts says. "Companies that get involved in the biotechnology arena are going to benefit in the long run."

**Credit: Patch of Green, Nov./Dec. '87**

## 1988 Committee Appointments

|                       |           |   |
|-----------------------|-----------|---|
| Education:            | Chairman: | Joel Purpur<br>Al Fierst<br>Dennis Wilson                             |
| Arrangements:         | Chairman: | Dennis Wilson<br>Bruce Williams<br>Dave Meyer                         |
| Golf:                 | Chairman: | Dave Louttit<br>Ray Schmitz<br>Joel Purpur                            |
| Membership:           | Chairman: | Dave Meyer-Ray Schmitz<br>Bruce Williams                              |
| By-laws:              | Chairman: | Ray Schmitz<br>Jim Evans  |
| Employment:           | Chairman: | Mike Nass<br>Jim Evans<br>Roger Stewart<br>Len Berg<br>Bruce Williams |
| Finance & Publicity:  | Chairman: | Bruce Williams<br>Dave Meyer<br>Roger Stewart<br>Jim Evans            |
| Long Range Financial: | Chairman: | Al Fierst<br>Bruce Williams<br>Roger Stewart                          |

## Draw Podner

by Edwin Wollenberg, Retired Supt.

Whenever you want to find a new trend in this great country we live in, all you need to do is look to some part of the country where people spend a lot of time out in the sun — the hot sun.

A few months ago, for instance, Florida replaced Missouri as the real Show Me State.

According to Florida's new gun law, everyone from Jacksonville to Key West and the Gulf of Mexico and the Atlantic Ocean, now can strap on a sidearm in plain view without any kind of permit.

Ever since I was a youngster out of knee-pants, I dreamed of being a cowboy — or like Wyatt Earpe and Matt Dillon. Some of the dream faded very rapidly when, while visiting a friend at his ranch in San Fernando Valley during the Big One, and the most "docile" horse in his remuda, took off with me through a grove of olive trees. I haven't been on a horse since, but the thought of being a gun-slinger ala cowboy never escaped me.

So, when I get down to Florida this winter, I know what I can do with my old .45. That's right — stick it where the sun shines. And as a respected and decent citizen, I won't have to slink around like low-lives in the Midwest, with their guns tucked into glove compartments or waistbands.

At long last, I can come out of the closet with my Colt, smoking. And to prove an old adage; "Everything comes to those who wait", I'm glad I didn't discourage.

Thanks to the foresight of the Florida State Legislature, everyone from Yuppies in Fort Lauderdale to seniors in St. Petersburg and Tampa can walk tall and maybe with a little practice, even shoot straight.

Even if they don't, no big deal.

When you give it some thought, and don't dwell on it too long — you realize there's something honest, and straightforward, about wearing a gun in public.

It's as if you're sending a message; "Hey, you big wacky and difficult world. Check me out. I'm alive and real. This is real flesh and blood. And if you want to keep yours, don't ever look cross-eyed at me again, and try to disturb my good nature. Now, you have a real nice day".

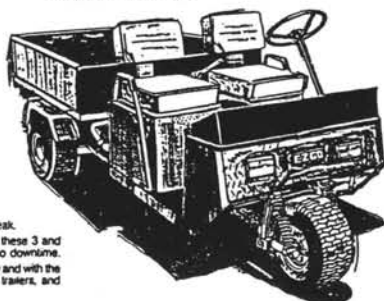
When you walk into a fast-food joint, isn't it reassuring to know right off the bat that the friendly, freckled-faced girl at the counter is packing a piece? — a gun, that is.

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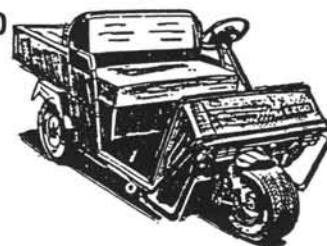
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