

to ask if not all chemicals might be damaging to embryonic animals under the right conditions."

Following the general session conferees divided into sectional groups to hear more than 200 papers on weed science. J. D. Bird, rights-of-way specialist for the Georgia Power Company related his findings on reclearing utility ROW. He said that his utility company currently mows rights-of-ways every three years and uses a helicopter to spray swamps, hilly or rocky terrain or any other inaccessible area. Reclearing is done at about \$6 per acre per year. But he pointed out that reclearing in this manner was merely removing three years growth from the top and not affecting the root system. "Within one week after bush hogging the resprouting has started again," he said.

Bird said that brush chopping offers possibilities for reclearing ROW. Blades on the chopper penetrate the soil and cut the root system. "By cutting the root system we disturb the brush enough to slow down the growth and thereby lengthen the reclearing cycle," he said. "The use of herbicides in inaccessible areas also aids in lengthening the cycle."

The specialist concluded his report by comparing costs of mowing and chopping. He estimated that chopping costs \$18 per acre. "This compares to \$18 per acre for cost of bush logging for a three year cycle, or \$6 per acre per year," he said. "The chopping we expect to last four years at a cost of \$4.50 per acre per year."

John E. Gallagher of Amchem Products, Inc. reported on the performance of A-820, a preemergence compound for the control of crabgrass in ornamental turfgrasses. Results of tests indicate that the chemical gives good control of crabgrass in cool-season grasses at 4 pounds per acre and at 6 pounds per acre for warm-season grasses. Turfgrass

tolerance in field trials of A-820 was excellent, said Gallagher. There was only one instance of injury to bentgrass in any of the spring-applied tests and it was slight.

Also on the program was a progress report on the use of Krovar I, a bromacil-diruon mixture. F. E. Gonzalez and Tom Evans of the Du Pont Company said that tests under southern conditions indicated a broader spectrum of weed control with this compound. Broadleaves as well as grasses and hard-to-kill perennials were controlled using lower rates of the compound than similar rates of either chemical applied as a tank mix combination.

In relating the "public relations of public spraying," Lyle McCutcheon of Dow Chemical Company said that spray crews should be familiar enough with the chemicals they are spraying to be able to tell the interested public when asked. Make use of displays, bulletin boards and other means of communicating, he said.

In the area of aquatic weed control, William M. Bailey and Randy L. Boyd of the Arkansas Game and Fish Commission presented some observations on the White Amur in Arkansas. They report that the Amur has been one of the best biological control agents for aquatic vegetation of those tested. Spawning attempts were successful in tests in 1970. This provided fish for research which were stocked in isolated lakes for observation. Digestive tract studies indicated the fish was entirely herbivorous. There appeared to be no competition with other fishes, they said.

The conference closed with a number of resolutions passed. One that affects the industry as well as the general public was the resolution to request from the United States Department of Agriculture a yearbook on the cost of weeds.

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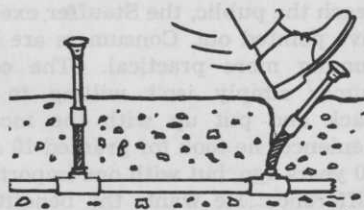
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Industry Executive Predicts Brighter Chemical Future

A spokesman for the agricultural chemicals industry has predicted a swing in public opinion toward a more reasonable outlook on the use of pesticides.

Harold L. Straube, vice president and general manager of the Agricultural Chemical Division of Stauffer Chemical Company, said that a reversal from the extremist views against pesticides is forthcoming. He based his predictions on four theories:

1. House passage of a new Federal pesticide control act that "does not represent extremes but promotes, instead, a common-sense middle ground in which the industry, responsible environmentalists and the government can work together."

2. Recognition by industry of the need for products that are ecologically safe.

3. Realization by the general public that the benefits of modern living also involve certain environmental risks.

4. More effective communication between the pesticide industry and the press.

Pesticide producers must not repeat past industry mistakes, warned Straube. He cited a communications breakdown with the general public and a lack of response to changing social needs as a notable industry mistake.

"We did not get our story across," he said. "We felt we could let our scientists answer questions that arose, and eventually people would understand the basic truths about pesticides." But the public was not aware of the benefits produced by agricultural chemicals.

"... If pesticides were withdrawn from U.S. agricultural production ... the price of farm products would likely increase by 50 to 75 percent," he said.

This message is now beginning to reach the public, the Stauffer executive pointed out. Consumers are becoming more practical. "The consumer simply isn't willing to go back and put up with the inconveniences he took for granted 10 and 20 years ago, but with one important difference: He wants the benefits—but at less and less risk to him and his environment. Products that meet these new requirements are now appearing on the market with more and more frequency."

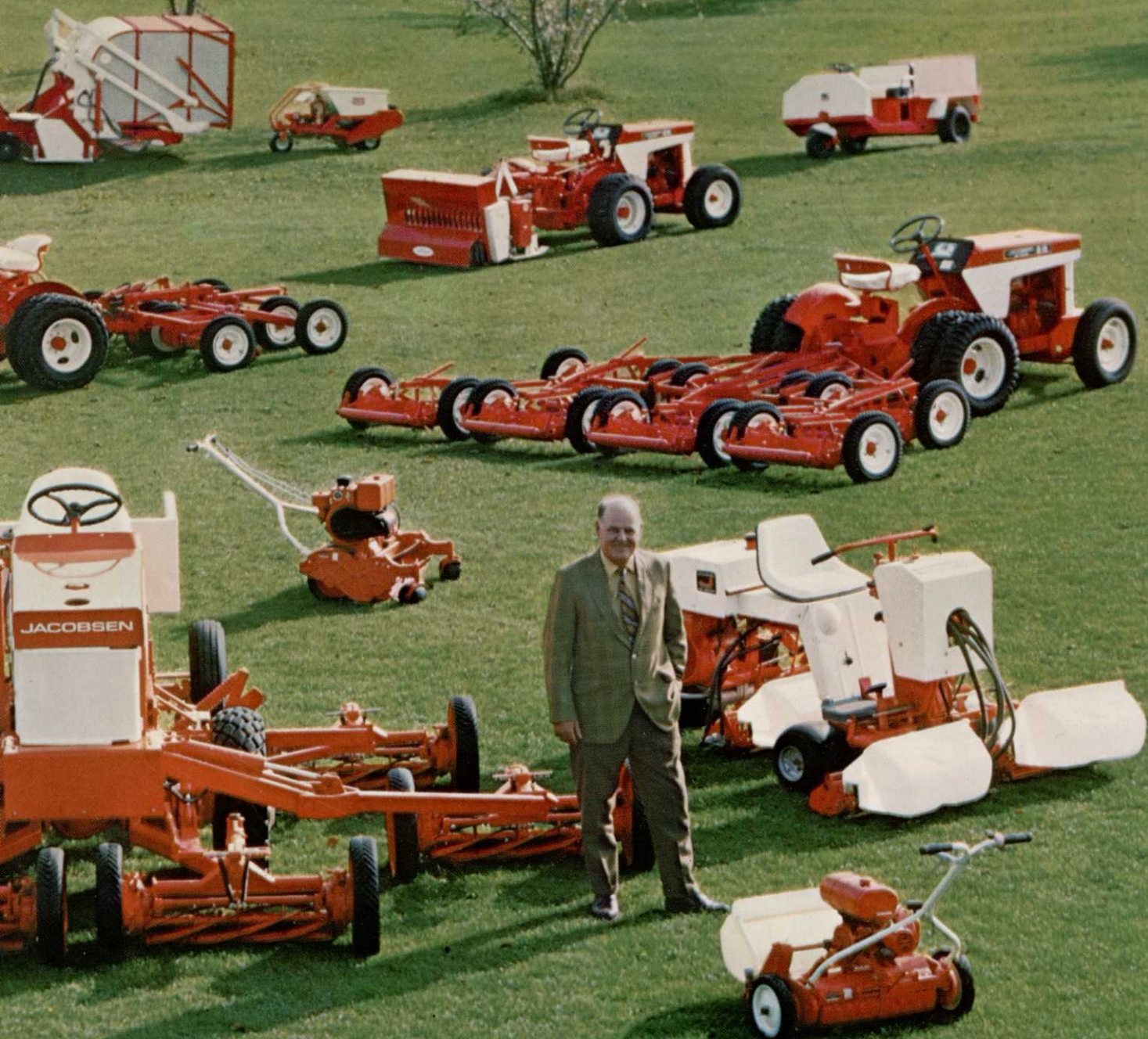
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Eron Invents Aerator and Water Treatment Device

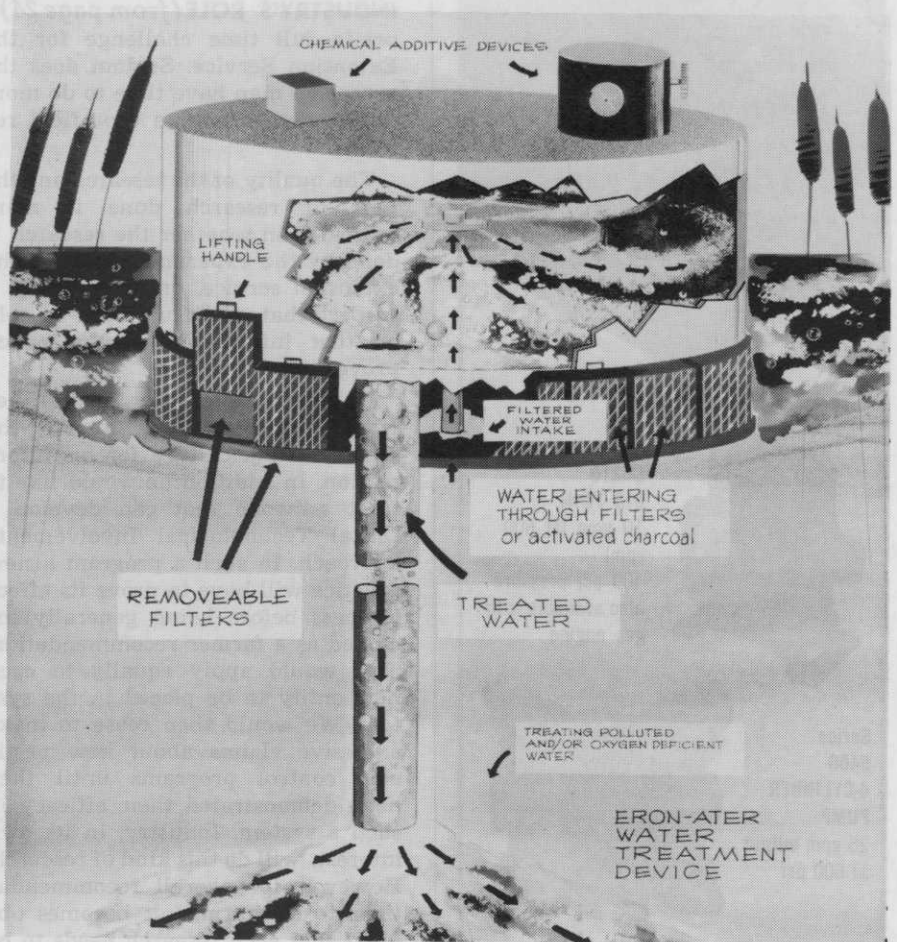
A prototype of an aerator and water treatment device is being developed by Robert E. Eron, Eronventions, St. Petersburg, Florida. The new machine provides a highly efficient transfer of oxygen or other chemicals to polluted water.

According to Eron, the aerator has, within its closed exchange chamber, a specially designed impeller located at the upper end of the water intake tube. The impeller slings finely divided water outwardly with considerable and controlled turbulence. Thus, the interfacial exposure of the water is increased.

Eron told WEEDS TREES and TURF the aerator floats on the water surface. The unit weight is less than 200 pounds and the unique design allows for only one moving part. It is powered by storage battery.

One aim of the aerator is to utilize the chamber of the device to build up a pressure head of treated water, says the inventor. This allows the pressure differential to force the

(continued on page 39)



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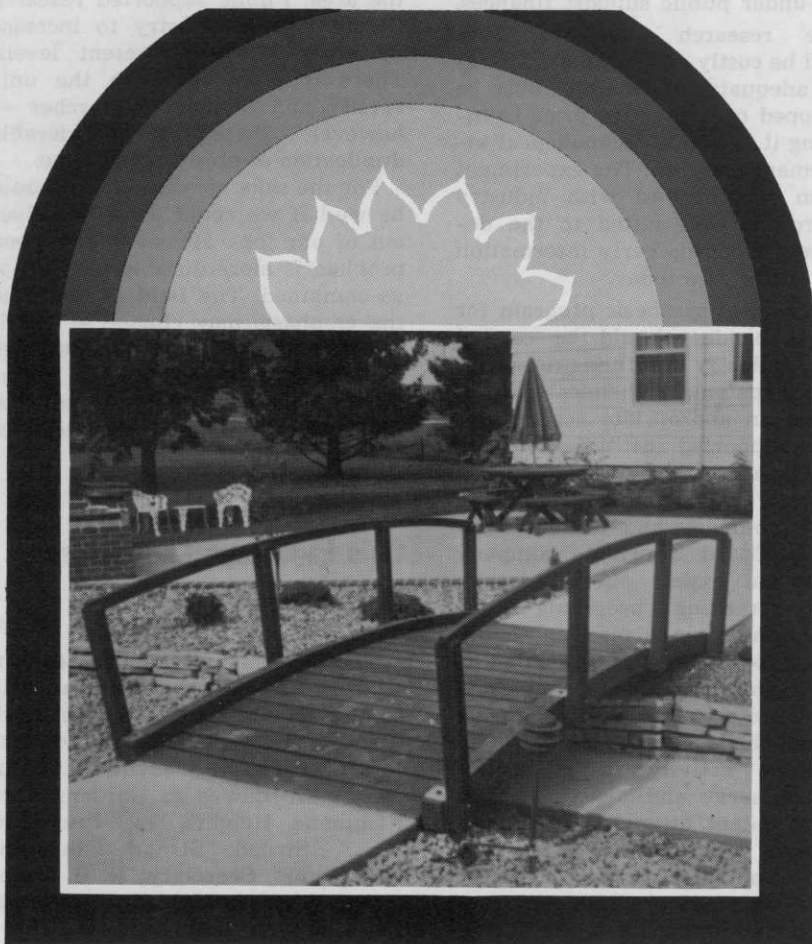
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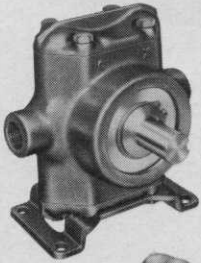
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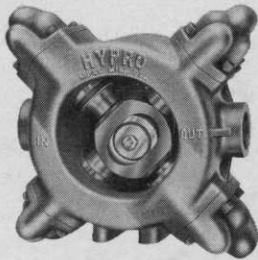
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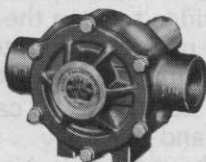


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INDUSTRY'S ROLE (from page 24)
appropriate full time challenge for the Extension Service. Seldom does the extension man have time to do more than a demonstration type field research.

The quality of the research and the type of research done is more critical than whether the research is done by the experiment station, the extension service, or by industry. I suspect that all of us learn to rely on that information source which proves to be accurate.

It is my belief that the farmer would prefer to look toward the schools of agriculture for his information. In addition he would like to trust someone that can develop a "Total Technological Involvement" approach. In such a program a new practice will have to prove its effectiveness before being generally included as a farmer recommendation. This would apply equally to each new entity to be placed in the system. We would then cease to make excessive claims about new pesticide control programs until they have demonstrated their efficacy in such a system. Industry, in its own interest, will do this kind of research. However, for overall recommendations to the farmer, it becomes obvious that such research needs to be done under public support finances.

The research suggested here would be costly and complex. Therefore, adequate information must be developed on a practice prior to including it in a total technological involvement program. The experiment station supplement with industry research is well suited to the development of this early information — as is the case today.

A chemical synthesis program for new herbicides should be carried out by industry. Synthesis programs aimed at patenting chemical entities are not an appropriate activity for public supported institutions.

A synthesis program done in a university under the direction of a private company and primarily for the benefit of a private company should not expect public support. Early screening programs done under similar arrangements should also not be done at public expense. Few, if any, public supported institutions are organized with adequate organic chemists and biologists to determine activity in an entire chemical series and, also, have well trained patent attorneys to suggest synthesis programs, to write the patent, and then to protect it. A poorly conceived program may succeed in "muddying the water" suffi-

ciently to destroy all commercial interests in the area.

With development costs as they are today, no company can bear the development costs without some patent protection, and under conditions that give the full seventeen years originally intended in the patent laws. Thus, an important discovery may never be developed if it lacks full and complete patent protection.

It should be obvious that the patent system must be allowed to function fully. Without such protection, research and development monies will disappear. Not only will there be no new products for industry, but there will be no new products for agriculture, and mankind will not have the benefits of cheaper and more abundant food supplies.

I was surprised to learn the amount of "mechanism of action" and other so-called "basic" research that goes on in industry. Here it is taken for granted that this type of research must be done to gain label clearances, and it may be helpful in extending the chemical activity of any one chemical series.

Much of industry's research is not published due to the fact it may be continuing to develop leads within the area. Public supported research should expect industry to increase its research above present levels. There is room for both the university and industry researcher — however, there is considerable duplication of effort at this time.

For the sake of mankind, it would be well if we could work ourselves out of our jobs. However, the weed problem is more durable than all of us combined. The field of play and the emphasis may change — but it will remain a professional challenge in spite of the best talents in industry, the university, and the Agricultural Research Services of USDA.

Ohio Landscape Contractors Elect Officers

The Professional Landscape Contractors Association of Ohio recently elected new officers. They are: N. H. Strnad, Strnad Landscape Contractors, Cleveland, President; V. Apanius, Better Lawns & Gardens, Inc., Richmond Heights, Vice-President; N. T. Strnad, Strnad Landscape Contractors, Secretary; R. C. Swinerton, Swinerton's Landscaping, Eastlake, Treasurer.

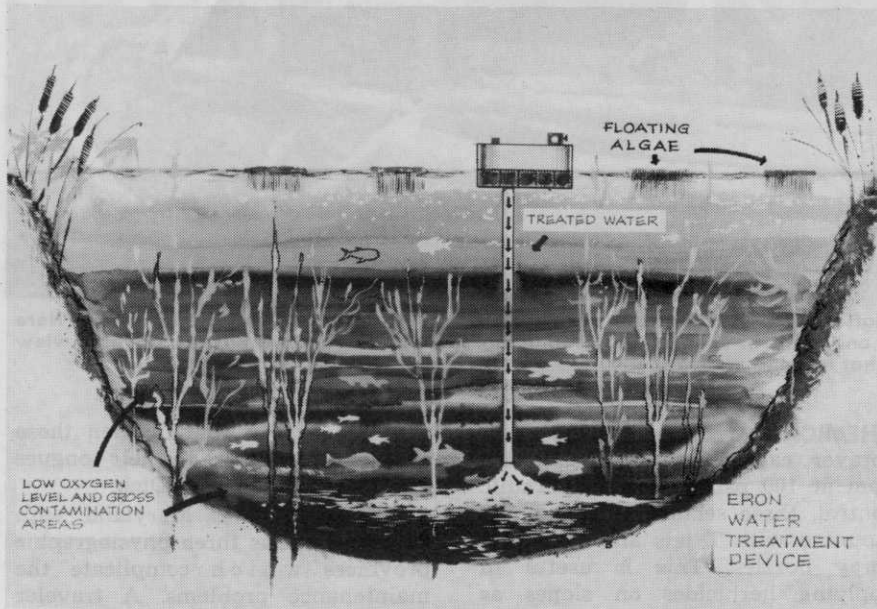
ERON (from page 37)

treated water down to the bottom of the water. This feature can permit the unit's use in treating sewage and industrial wastes.

The aerator can also be used in mixing and adding concentrated

chemicals to water. An applicator can apply chlorine, bactericides, herbicides, and medications through the aerator thus insuring a good mixture and safe dilution.

Eron says that the aerator is useful in applying gasses to liquids without polluting the air environment.



Canada Thistle Threat To Green Industry

Canada thistle, one of the most serious weeds in the midwest is a problem to farmers, nurserymen and industry alike. Many utility line, rail and highway rights-of-way and other noncropland are contaminated with this problem weed.

Canada thistle is a perennial plant and spreads by seed and a vigorous root system. It's difficult to control by chemical and cultural methods.

Amitrole, a good herbicide for controlling Canada thistle, can still be used on non-cropland, says Edward Stroube, extension agronomist at Ohio State University. It should be applied before the thistles reach the bloom stage for best control. Picloram (Tordon) is an excellent material for thistle control on non-cropland and can be applied anytime there is green foliage on the thistle plants. Tordon should not be used near desirable trees or shrubs nor near a water supply, Dr. Stroube cautions.

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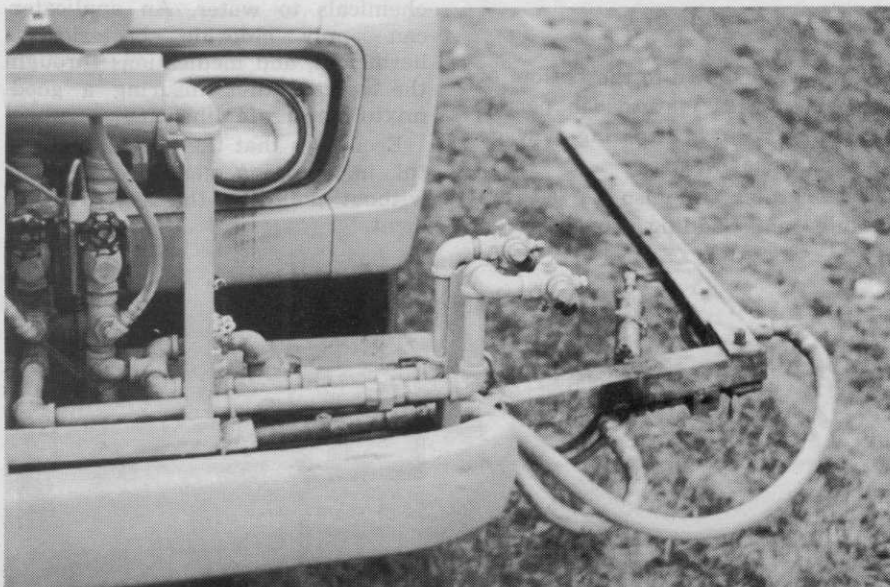
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Moffett and his crew have designed and made spray booms for their trucks. Here is one made of channel steel. Mounting on front of truck permits the driver to view what is being sprayed.

CHEMICALS (from page 28) sprayer capable of producing 100 gpm at 100 psi. It has a hydraulic control, three section 24 foot boom mounted with T jets and broadcast spray nozzles. This is useful in applying herbicides on slopes as steep as 3:1 and in areas where the spray must be restricted to prevent herbicide damage.

"We had to modify our spraying equipment in order to meet highway needs," notes Dick. "We wanted larger tanks that would hold thousand gallons. We also made our own booms."

He says their spray equipment is worked; it doesn't just sit around. Crews spray eight to nine hours a

day, 130 days a year. "When those sprayers are turned in their tongues are hanging out," says Dick.

Like some states, Maryland, with 23 counties, has three physiographic provinces which complicate the maintenance problems. A traveler coming from east to west can pass through Coastal Plain Piedmont, and Appalachia provinces. Each province has its own geographic differences including soil types and vegetation species. Incorporating a chemical program to encompass all vegetation problems is quite an undertaking.

"We try to start our spraying operation by early to mid April," says Don Cober. "We go to the southern counties first to combat early vege-

Spraying personnel were former rights-of-way maintenance men. Donald B. Cober, agronomist, (left) engages in a discussion with: (l-r) Gilbert Mills, lead landscape chemical applicator; Marshall Von DenBosch, landscape chemical applicator; Clarence Gough, landscape chemical applicator; John Dusty Rhodes, Jr., landscape maintenance supervisor; and Robert Duke, lead landscape chemical applicator.

