

Norman Sachnik, president of Mano Co., Houston, demonstrated his Foamicide equipment. Foam is produced by using Foamwet surfactant and a specially designed foam generator. The generator consists of a nozzle assembly that includes air intake holes. Spray velocity pulls in air through the holes and mixes it with the solution to create the foam. Advantages, Sachnik said, are that less water is required; improved coverage is obtained; longer contact on the leaf surface is achieved and consequently giving better herbicide efficiency; and drift hazard is reduced.



Texas Weed Conference

FACTORS AFFECTING WEED CONTROL

MAN IS ACTING under a "God-given right" to seek better ways to do things, yet people in the pesticide field are often apologetic and assume a defensive attitude, Dr. Roland Laning of Dow Chemical Company told the fifth Texas Industrial Weed Control Conference.

A part of man's right to improve his position in the world, Dr. Laning asserted, is environmental management, a duty and responsibility "that is a good thing . . . and we should be proud of it."

Many of the current critics have never experienced the hardships of earlier generations, continued Laning, manager of Dow's herbicide field research and development. They do not catch the significance, for example, of the grower who advertises that his apples are "safe to eat in the dark."

In industrial weed control, some uppermost objectives are safety and convenience, he said. Yet the dilemma can be characterized by people who don't want electric outages and also don't want the kind of "scar" across the land necessary for transmission lines.

Dr. Laning expressed solid sup-

port for continuing research to monitor the effects of pesticides, but "I would argue strongly with the interpretations" of some recent findings.

To be consistent with the public reaction and subsequent governmental restrictions on 2,4,5-T, he said, there is basis for action against Vitamin A. Given in a dosage 100 times greater than the prescribed rate, Vitamin A has been known to cause mammals to give birth to deformed offspring, he said.

One pound of salt used improperly can kill five men, he added. One pound of salt on an acre of land won't harm any animal life. Neither will 2,4,5-T, he said.

Laning's address set the scene for the first full day of the increasingly popular and somewhat unique three-day event on the campus of Texas A & M University. A record 150 professionals attended, coming not just from Texas but from the entire Southwest. The conference is heavy on discussion of practical problems and perhaps is the only one of its kind devoted solely to industrial weed control. Programming is conceived by a steering committee of

Rotary mowers made by E. L. Caldwell & Sons at Corpus Christi and Servis Equipment at Dallas proved their worth in tall grass, weeds and dryland willow. Both had three rotary sections and cut a 15-ft. swath.





Fred McClure of Applied Research and Development Co. of Addicks, Tex., demonstrated the versatility and ruggedness of his company's four-wheel drive, articulating tractor. The "Outlaw," as this model is called, has been adapted as a right-of-way spray rig. It also can be used for mowers, and navigates deep water and swampy areas where other vehicles would become mired.

men actively engaged in industrial weed control. Dr. Wayne McCully of A & M's Range Science department is chairman.

The conference recognizes all levels of experience, beginning with a session on "herbicides for beginners" and this year with a follow-up session on factors affecting herbicides. Program participants come from all aspects of the industry. Manufacturers report on and demonstrate new and improved lines of equipment the final day.

Dr. C. J. Scifres of A & M outlined the critical points that determine the effect a herbicide has on a plant. If the herbicide is applied to the foliage, there must be good interception and retention. The surfactant, short for surface acting agent, is the additive that lowers surface tension and spreads out the droplet.

In later discussion, a member of the audience pointed out that the surfactant can increase the rate of chemical flow through the equipment.

There must be good entry of the herbicide into the stem or leaf of the plant Dr. Scifres continued, followed by vascular transport, cell-to-

cell transport to the site of action where some vital function is disrupted. Herbicides applied to the soil must move to the root zone and enter the roots. From then on, the route to plant destruction is the same.

Dr. Scifres defined the residual classes of soil sterilants this way: no residual toxicity—a herbicide that breaks down in 48 hours or less; temporary—2 days to 4 months; semi-permanent—4 months to 2 years; permanent—more than 2 years.

Factors that affect the action of herbicides applied to the soil include: temperature, sunlight, rainfall, and soil properties, such as texture, organic matter and microbial population.

It is possible to apply too much chemical and thereby defeat the method in which the herbicide achieves plant kill, said another audience member. Applying too much of a systemic-acting herbicide, he said, is like burning off the pump before the pump has a chance to work.

In a later session, Henry O'Neal, A & M Extension engineer, cited

other factors that affect herbicide action. "A good herbicide depends on good application," he said. "Too much can hurt both the pocketbook and method of action."

He listed these trouble spots to watch for in equipment: water—use water that looks clean enough to drink; strainer—it may be too small; pump—keep close watch on the pressure regulator; pressure gauge—use one that has adequate tick-marks to give you the accuracy you need; run your engine at the proper rpm; mixing—devise an easy but extremely accurate method of measuring pounds and gallons; and booms—make them stout.

Problems of a different nature that affect the benefits of herbicides were discussed by L. Pat Collins, superintendent of airfield and grounds for Houston Intercontinental Airport. Concerning 2,4-D and 2,4,5-T, Collins said, "We know we're safe. Our city says we can't use them. If I could use 2,4-D and 2,4,5-T, our problems would be over."

Collins supervises a crew of 45 men that will increase to 75 in the near future. On the 619 acres of vegetation out of the 7,300-acre airfield, Collins faces about every weed, tree and turf problem possible. Mowing ranges from right-of-way to golf course quality. He has aquatic weeds along 18 miles of drainage ditches, a tank farm to maintain, and boulevards to be edged. When an outbreak of the pine bark beetle occurred, it took 60 days to get a request through the governmental process—too much for the pesticide to still be effective.

As in previous years, the problems between customer and contractor were discussed. Should a customer decide on the basis of bid, or stick with a good contractor? Should a customer hire two contractors, then award volume accord-





This panel discussed contracting for maintenance. From the left are Charles Middleton of Asplundh Tree Expert Co., Jenkintown, Pa.; Louis Hansen of Texas Power and Light Co., Dallas; and Hunter Jones, Leon County Tractor Co., Buffalo, Tex.

ing to performance? Should the contract always be let to the lowest bidder? There was no consensus.

Too often, said one contractor, the customer thinks quality and hires economy. But the economy performer may cause costly follow-up.

There was no consensus on solutions, either. Some felt that the customer should write tighter specifications, others believed specifications should be general, allowing the contractor to complete the job in a way he has found most efficient with the manpower and equipment he has. There was agreement that more monitoring of work done was necessary on the part of both contractor and customer.

Depending on the type of contract written, one participant suggested that it might be less costly for the customer to touch up a job than to get the contractor to come back.

Who pays for down time? The contract should specify the responsibility if down time could be a problem. One way suggested to reduce down time from flat tires was to use multi-ply airplane-type tires, puncture-proof, or solid rubber tires.

Hunter Jones of Buffalo, Tex., described how he is making a profitable business out of contract mowing. He is able to mow for less than the state, he said, because his labor costs are lower, and more maintenance doubles equipment life.

Problems, he said, have included: having to spend too much time checking to see if work is being done to specification; getting the job completed on time, which otherwise causes budget difficulties; and inconsistent bids, which can result in not enough money to do the job.

Chemical maintenance is improving with new techniques, equipment and materials. Invert emulsions and foam additives permit better targeting of materials, increased effectiveness of herbicide, and decreased need for water.

Do you have to worry about drift when you're using foam or invert emulsions? Answered Dr. C. L. Lein-

weber, head of A & M's Range Science Department: "Even a cannonball will drift."

Chuck Middleton of Asplundh Tree Expert Company reported on a promising technique using growth regulators. Siberian elms planted under power lines have not been trimmed for the past six years, he said. Instead, they are treated with a foliar spray each spring after the tree has leafed out.

Frank Lawson of Kershaw Manufacturing Co., Montgomery, Ala., gave a film report on the new Kershaw brush cutter, which, he said, has cleared nine spans of utility right-of-way in three hours over rugged country.

Dick Fields of Velsicol reported that federal registration had been granted on a 5% granular formulation of Banvel.

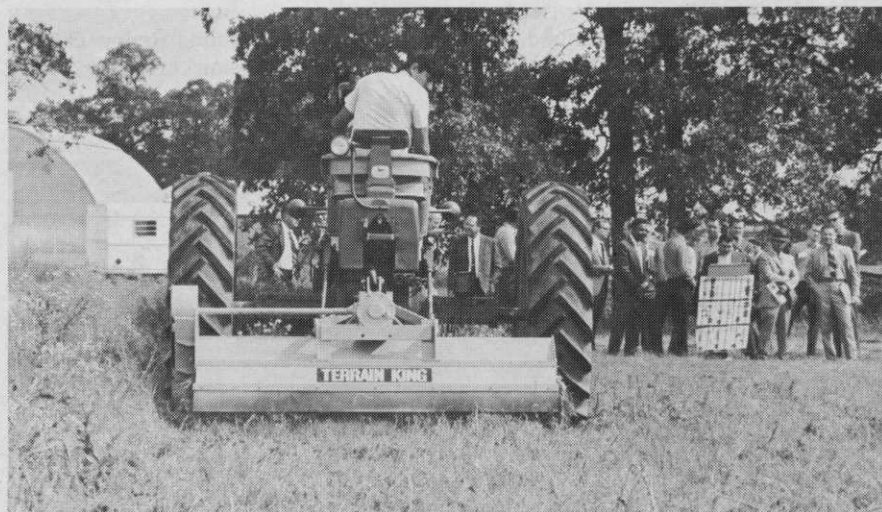
R. L. Robinson of Texas Electric Service was named to succeed Tom Mobley, Mobley Company, Inc., Kilgore, Tex., as chairman of the steering committee. New committee members are David Peterson, president of KDM Company, San Antonio, and Tom Dickerson, Dallas Parks Department.

HAA Claims Immunity To New Airport User Tax

The Board of Directors of the Helicopter Association of America has filed a helicopter industry brief with the Federal Aviation Administration, charging illegality of the Airport and Airways Revenue Act of 1970 as it may be interpreted and applied to the civil helicopter industry.

The law is a "User Tax" to be imposed upon the "users" of the airports and airways — meaning electronic navigation system with a lawful floor at 1,000-ft. altitudes on "airways" and lower only within airport terminal areas. The tax is to support present maintenance and provide for the future expansion for all "users" of the system. The civil helicopter operating industry, is not a "user" of the airports or the "airways," the HAA board contends, as covered in the terms of the Act. The Act was designed specifically for fixed-wing aircraft whose present and future demands upon the system require more extensive and expensive real estate at airports and more sophistication in the electronic airway navigation system. HAA takes the position that the rotary-wing helicopter industry is not a part of the loose term "General Aviation."

"Our requirements, equipment, operations and problems are entirely different and apart from any other phase of aviation relating to fixed-wing aircraft, large or small, reciprocating or turbine-powered, military or commercial," the Board stated.



Engler Manufacturing Company of Houston introduced and demonstrated its new flail mower. The unit comes in lift and pull 72-inch and 90-inch cutting widths. The 72-inch model has 52 cutting elements; the 90-inch, 66 cutting elements. Engler also demonstrated its slope mower.