Dr. C. E. Minarik, Fort Detrick, Frederick, Md., discusses herbicide use in Viet Nam.

Frank McFarland, Kerr-McGee Chemical Co., Baltimore, Md., left, and Dr. Arthur Bing, Cornell Ornamentals Research Laboratory, Farmingdale, N.Y., and secretary-treasurer of NWCC, discuss weed control problems during the conference.

Broad Range of New Research Reviewed At 22nd Northeast Weed Control Conference

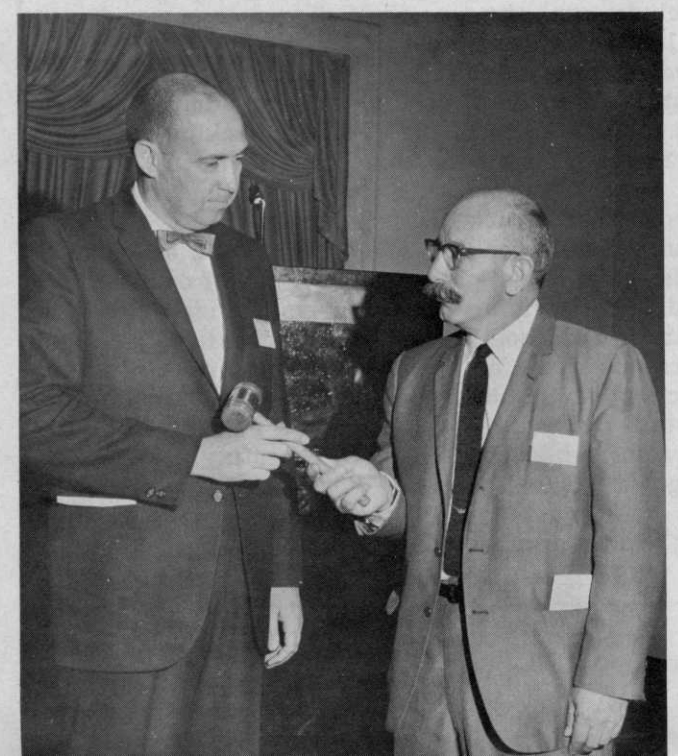
Weed control costs are about the same as five years ago for the Western Maryland Railway Company. In fact, according to R. R. Gunderson, chief engineer, right-of-way weed control costs have climbed only about 25% since the Company started a chemical weed control program 15 years ago.

This 25% increase for cost of herbicides and application, reported at the Northeastern Weed Control Conference at New York City last month, compares with basic labor rates which have jumped 100% during the same period.

Current weed control costs on the company's 850 miles of right-of-way range from $20 to $150 per mile. Costs vary because some yard areas require bare ground control, track elevations run from sea level to more than 4000 feet, and a variety of weed problems exists.

Gunderson said that prior to 1951 when the chemical weed control program was started, the Company used about 900 men several times yearly on clearing work. Today, labor costs prohibit such use of manpower. Further, men to do the job are not available.

Discussing Western Maryland Railway's experience with herbicides, Gunderson said that despite the variability of weed species, his Company has had excellent weed control of grasses and broadleaf types with water or oil soluble formulations and bromacil as the principal ingredient. The formulation, he said, also usually included herbicidal oils, other contact weed killer and 2,4-D.

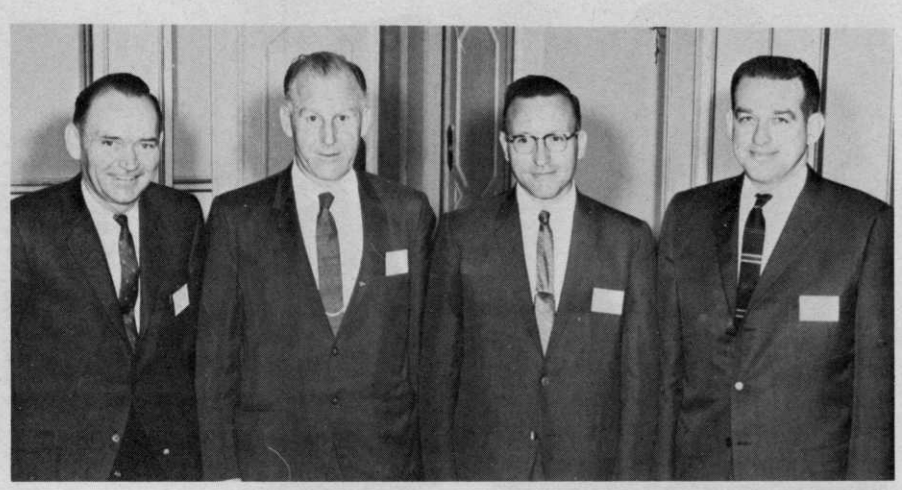


President for 1968, Dr. John A. Meade, department of Soils and Crops, Rutgers University, New Brunswick, N.J., left, receives gavel from outgoing NWCC president John Gallagher, Amchem Products, Inc., Ambler, Pa.

Weed Control Is Two-Week Operation

The Railway's program, according to Gunderson, is to begin applying herbicides in early June. Two weeks are needed to do the job. Contact weed killers give quick knock-down, 2,4-D provides systemic effect, and bromacil gives residual control. With this application, the Company can forget about vegetation control until the following

Dr. Philip A. Butler, U.S. Bureau of Commercial Fisheries Biological Laboratory, Gulf Breeze, Fla., presented new information on pesticide monitoring of streams.



NWCC panel on problems of perennial weeds, left to right: Dr. Henry A. Friesen, Canada Department of Agricultures, Lacombe, Alberta; Dr. S. N. Fertig, Amchem Products, Ambler, Pa.; Dr. Ellis Hauser, USDA Crops Research Div., Tufton, Ga.; and Dr. William F. Meggitt, Michigan State University, East Lansing, Mich.

year, he said. Despite heavy rainfall this past season, Gunderson reported that the bromacil held up remarkably well as a residual type weed killer.

Long term weed control also helps keep spilled grain from germinating in work areas. Under signal and communications lines, and at road crossings where brush threatens overhead wires or blocks vision, a combination of brush killers achieve control. Where rights-of-way run through farm country, liability claims have been reduced by using a formulation which reduces spray drift. With perennial grasses, and biennial and annual weeds controlled, Gunderson said, a favorable environment was created for growth of milkweed and dogbane. Rather than increase the rates of bromacil being used, which would add greatly to herbicide costs, the Company added aminotriazole to the regular formulation. This gave excellent results, he said.

Discussing a different approach to rights-of-way maintenance was Professor William MacConnell, University of Massachusetts. MacConnell told of research the University is doing in cooperation with the Holyoke Water Power Company, Holyoke, Mass. The approach has been to find other than agricultural uses for rights-of-way, especially in forested or hilly areas. The idea, MacConnell said, is to reduce rights-of-way maintenance costs. To this end, a project now in its third year is Christmas tree production. Christmas tree plantations, he said, do not interfere with power line maintenance. They are attractive and they reduce the cost of brush control. And they should have a substantial cash value at maturity. Trees, MacConnell offered, might be used as a donation to service organizations which would harvest and market the trees. During the growing cycle, trees benefit both people and wildlife. Larger utilities, MacConnell reported, are watching this 68-acre pioneering effort.

John A. Meade Elected 1968 President

More than 650 persons, mostly weed control specialists and researchers, attended the 3-day session at the Hotel Commodore, Jan. 3-5. J. R. Hansen, in charge of public relations for the group this year, said that interest among newspapers, television and magazines in special fields had been greater than ever. Officers were elected at the Thursday business session. John A. Meade was elected president. Meade, who is a member of the Soils and Crops Department, Rutgers University, New Brunswick, N. J., moved up from the vice-presidency. He succeeded John Gallagher of Amchem Products, Inc., Ambler, Pa. Arthur Bing, Cornell Ornamentals Research Laboratory, Farmingdale, N. Y., was reelected secretary-treasurer for the coming year.

Of special interest to turfmen was a research report on evaluation tests of preemergence herbicides for control of crabgrass in turf. John A. Jagschitz, Department of Agronomy, University of Rhode Island, Kingston, R. I., discussed tests carried out this past season of 1967. He said that Bandane and Betasan gave better residual control the year after treatment than did Azak, Balan, Dacthal, Planavin, Siduron, and Sindone.

According to Jagschitz, crabgrass control from Bandane and Betasan ranged from 75 to 83 percent at the standard rate of application. Control jumped from 92 to 98 percent when the rate was doubled. Double rates on the other chemicals showed less than 71 percent control, he said.

Herbicides in the Rhode Island study were applied in May, 1967. Turfgrass injury observations were recorded during the season and the degree of crabgrass control noted in September. To determine residual effectiveness, crabgrass seed was broadcast in December, 1966, over areas which had been treated in May, 1966. Control was then checked in September the following year.

Effective seasonal crabgrass control with only slight injury was obtained with certain formulations or rates of Azak, Bandane, Betasan, Dacthal, Planavin, Siduron, and Sindone.

George H. Bayer, Product Development Manager, Agway, Inc., Syracuse, N.Y., left, and Dr. Chester L. Foy, Department Plant Pathology and Physiology, Virginia Polytechnic Institute, Blacksburg, Va., visit regarding efficiency of new weed control chemicals.

With the exception of Betasan, certain rates or formulations of these materials, in addition to Balan, Eptam, Neburon, RP-11561, and Zytron, did not give effective control, or caused more than slight turf injury or both. Spray and granular formulations of most chemicals gave similar control, but some sprays caused greater turf injury. The least injury was noted with fertilizer formulations.

Oils Mixed With Atrazine Gave Superior Results

Dr. Henry P. Wilson, Virginia Truck Experiment Station, formerly of Rutgers, reported on his work with Dr. Richard D. Ilnicki, Rutgers. They ran tests on the effects of atrazine and linuron when mixed with certain phytobland oils for control of annual broadleaf weeds and grasses.

Uses of adjuvants composed of combinations of phytobland oils and surfactants increase herbicide effectiveness in their studies. They found that applications were most effective at a rate of 20 gallons per acre. A single application at a delivery rate of 20 gallons an acre containing 1 gallon of oil was more effective than an application in 40 gallons containing 2 gallons of oil. Most effective were applications in 20 gallons per acre containing 2 gallons of oil. In short, Wilson reported good broad-spectrum weed control can be obtained with ¾ lb/acre atrazine, if applications are made when weeds are small and if the applications contain adjuvants composed of phytobland oils and surfactants.

Ragweed control and the resulting comfort of hay fever sufferers was the subject of several Conference papers. Today, ragweed can virtually be eliminated from any community before the pollen is released. In the northeastern U.S., the season usually begins about August 1 and is over by the end of September.

One outstanding community program was that reported by Sanitarian Hans W. Stegemann, Dover Township, Ocean County, New Jersey. Stegemann said that community obtained control last summer and fall by spraying the 52 square mile area weekly with 2,4-D weed killers. First spraying was done August 18 and the final one September 20. According to Stegemann, airborne pollen collected on slides indicated a count of zero for both August and September. Streamflow from a forested watershed was increased fourfold in a section of the White Mountains, New Hampshire. Methods used were clearcutting of timber and application of herbicides to prevent new vegetation. Robert S. Pierce, research forester for the USDA, told the conferees that a study on a 39-acre hardwood forest showed that it is possible to eliminate water lost by transpiration by trees and to measure the increase in streamflow which results.

In the White Mountain work, Pierce said that trees were felled on snow-covered ground and no wood products removed. At the beginning of the first growing season following cutting, bromacil, which is non-toxic to animals, was applied by helicopter. This restricted growth of herbaceous vegetation and woody sprouts. Spot applications of 2,3,5-T were used the second summer to kill persistent stump sprouts. In the first growing

(Continued on page 41)

New officer slate for 1968 is, left to right: Dr. Walter Gentner; Dr. Arthur Bing, secretary-treasurer; Dr. Homer LeBaron, vice-president; John Gallagher, past-president; Dr. John Meade, president; Dr. Eugene Wilson; Dr. George Bayer; and Dr. Chico Haramaki. Absent was Dr. Richard Swartzbach.

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NWCC Conference

(from page 26)

season, water yields from the area were increased 300,000 gallons per acre for the May-September period.

Secretary-Treasurer Bing announced that the more than 500-page volume of the 1968 proceedings was again available. Cost is $4.50 for the complete report.

Sod Harvesting Costs

(from page 9)

increases, however, so does the cost of owning and operating that machinery. The self-propelled sod harvester that we tested has an annual cost of $1607.64. This includes the operational costs as well as the fixed costs of owning the machine.

Assuming that the average sod farm has 84 acres, (See WTT April 1965) and assuming that one-half of this is harvested each year, the yearly machinery harvesting cost per acre would be $38.28. This is just less than 1¢ per yard of sod, assuming that the grower can harvest and sell 4000 yards of sod per acre. The total harvesting cost of labor and machinery would be 2.5¢ per yard of sod sold. Thus, the savings of using machinery in place of using hand labor is not so much a savings of cost as it is a savings of labor. This will be especially helpful in areas where labor is difficult to obtain at satisfactory prices.

From this study, it would seem that the cost of harvesting sod, both labor and machinery costs, will vary from 2.5¢ to 3.0¢ per yard (9 sq. feet) of sod sold, depending on the method of harvesting and the efficiency of the harvesting operation.

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