

very little drift occurred to damage the growth beyond 20 ft. *Sericea* seed will seldom germinate when it is not covered; therefore, it is doubtful if any *Sericea* will return to the spots where it was killed by the herbicide.

Other small clovers and legumes, such as black medic and white dutch were killed by the spray.

The records kept by the inspector who accompanied the spray truck show the material used, the rate of application, the wind, the location, and the plant conditions (vigorous or wilting).

These records were correlated to the "weed count" field notes to show why a good kill was obtained in some areas while in others it wasn't so good.

Table II shows the total count of weeds in 1/100 of an acre in 60 test areas; meaning that each figure, if multiplied by 100, would be the theoretical number of weeds in 60 acres located on the roadsides in 60 different areas of Alabama.

Plantain normally declines in midsummer, and then begins to show again in the fall. The figures above show that the spray decreased the number that could be expected on the third count. The horseweed and ragweed population was drastically reduced by the herbicide. Fleabane's demise was accelerated by the spray and no late invasion of the 20-ft. sprayed strip was noted — although a number of fall daisy fleabane was seen beyond the strip. Wild garlic was not much affected by the spray due to the timing of the operation. The spring crop was on the way out when the first spray was applied; the midsummer count showed none because they were dormant — then the fall count showed those which had sprung up since the second application.

Pepperweed control coincided with the normal growth cycle, so no conclusions are drawn.

Dockweed normally reappears in October. In this case the spray decreased the population of new dockweed as compared with the area beyond the 20-ft. strip.

Buttonweed (poor joe), bitter-

weed, and spurge are all weeds that appear in midsummer and flourish until fall. Good control of these three was obtained by the spray as the figures indicate.

The grasses were not affected by the application of 2,4-D or 2,4,5-T. Common and coastal bermuda, pensacola bahia, fescue, dallisgrass and broomsedge are the principal grasses while "other grasses" include wire grass, smut grass, millet, foxtail, tickle grass, wild oats and carpet grass. The average of all reports in Table III shows the percentage of desirable grasses in the 20-ft. strip on the shoulders or median of roads throughout Alabama.

Table III shows that the percentage of the bermudas and the bahia increased throughout the summer, and the fescue declined, both as expected. The broomsedge increased slowly, while the dallis is strongest in the middle of the summer. "Other grasses" included wild oats and other winter types at the first count—then decreased—then increased again as the tickle grass, smut grass, etc., became more prominent. The stands of coastal bermuda and bahia are generally weedfree so no conclusions can be drawn relating their increase to the weed spray. However, the common bermuda which is widespread and not usually in a pure stand, was definitely helped by

the decreased competition of weeds after the first spray.

Conclusions

1. The spraying operation eliminated most of the annual weeds within the 20-ft. strip next to the roadway.

2. Damage to desirable clovers and legumes was confined to common lespedesa, *Kobe lespedesa*, *Serecia lespedeza*, and white dutch clover. The specifications were purposely written to time the spraying so as to minimize the damage to the crimson, hop, and burr clovers.

3. Damage to crops did not occur, again due to the specifications, which spelled out conditions under which the inspector would halt operations.

4. No damage to desirable grasses occurred.

5. Not much economic advantage accrued from the spraying operation, because it did not eliminate the need for mowing.

6. A more lasting benefit from the spraying would have been realized if the entire roadway from right-of-way to right-of-way had been covered. As it is the weeds left beyond the 20-ft. sprayed strip will reseed the entire area within a short time.

7. Spraying of steep slopes near the road to control kudzu and other vines is very helpful and practical.

Table II: The Eleven Most Numerous Weeds

Species	Before Spraying	After 1st Spray	After 2nd Spray
Plantain	3616	608	491
Horseweed	2878	356	13
Ragweed	1771	665	123
Fleabane	2076	0	0
Wild Garlic	403	0	366
Dog Fennel	397	234	15
Pepperweed	302	15	0
Dockweed	302	8	41
Buttonweed	0	711	273
Bitterweed	0	331	56
Spurge	0	529	220

Table III: Desirable Grasses Remaining on Roadside

Species	Before Spraying	After 1st Spray	After 2nd Spray
Common Bermuda	9.96%	13.51%	14.64%
Coastal Bermuda	13.57%	13.66%	14.01%
Pensacola Bahia	13.11%	21.23%	22.78%
Fescue	16.37%	9.66%	8.17%
Broomsedge	3.47%	4.41%	5.21%
Dallisgrass	1.55%	6.91%	5.00%
Other Grasses	5.69%	3.15%	4.16%

Classifieds

When answering ads where box number only is given, please address as follows: Box number, c/o Weeds Trees and Turf, 1900 Euclid Avenue, Cleveland, Ohio 44115.

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Improved Stump Cutter Manufactured by Brooks

A specially designed cutting head which permits close splitting is a main feature of the new "Stump-King" stump cutter recently introduced by Brooks Products.

This new machine is capable of cutting out 4 1/2-ft. to 5-ft. diameter stumps to a depth of 24 in., according to the manufacturer.

Designed for a trailer frame which can be pulled by a light pickup truck, Stump-King is mounted on two standard 7.00 x 15 truck tires. The hydraulically controlled cutting head is situated at the rear of the machine.

Brooks says the Stump-King has eliminated the complete 180-degree rotation and individual locking of wheels required to set up other types of stump cutters.

Powered by a 36-hp gasoline engine, the Stump-King is completely lever-controlled by the operator, including lateral travel, cross-feed, and depth of the cutting head.

Other features include a 12-gal. hydraulic tank which takes commercial grade oil, and a special hitch designed for simple at-

tachment to a truck, Brooks claims.

Electric brakes are available for the Stump-King that has a 12-volt electrical system.

Detailed information of the new stump cutter is available to those who write Brooks Products Div., The Tool Steel Gear & Pinion Co., Township Ave. (Elmwood), Cincinnati, Ohio 45216.

How To Assure Better Aircraft Spray Patterns

A formula that aerial applicators can use to predict the downward drift of pesticides sprayed from aircraft has been developed by University of California agricultural engineers.

Engineer Wesley E. Yates, UC, Davis, in a recent report on aircraft spray research to the State Board of Agriculture in Salinas, outlined this formula:

"Scientific measurement of drift under many weather conditions and application methods showed significantly more measurable drift when: (1) atmospheric conditions were relatively stable with temperature inversion; (2) spray nozzles were pointed down, instead of backward; and (3) there was more nonevaporative oil in the spray mixture."

Latest research is pointing the

Advertisers

INDEX TO ADVERTISEMENTS

Asgrow Seed Company . . .	22
John Bean Div., FMC	11
Brillion Iron Works, Inc. . .	21
Chanderlin Seed Co.	27
Chevron Chemical Co.	7
Custom Spray Equipment Corp.	6
The Eagle-Picher Co.	8
Geigy Agricultural Chemicals	2nd Cover
Hardie Sprayers	5
Ideal Crane Division	6
Kemp Mfg. Co.	26
The Mock Seed Co.	24
Morton Chemical Co.	4
Robert B. Peters Co., Inc. . .	27
B. G. Pratt Co.	33
Shell Chemical Co.	23
Stauffer Chemical Co.	4th Cover
Universal Metal Products	3rd Cover
Vaughan's Seed Co.	25

way to "notable improvements in spray deposit patterns," Yates said in the report. University engineers are currently trying to devise new ways to spread fertilizer from planes faster, and in wider and more uniform swaths.



Troublesome stump in foreground was delaying landscape job until Stump-King came along. Makers of this new machine say it is ready to begin cutting as soon as it's backed up to a stump; no need to reposition unit's wheels. Blade is lever-controlled.

Louisiana Site of Diamond's New Herbicide Demonstration

A new broadleaf herbicide formulation that promises to solve the problems of spray drift and volatility will be publicly demonstrated in Louisiana this spring by Diamond Alkali Co., spokesmen report.

The new formulation acts as a liquid when sprayed or agitated but sticks to the plant in a gel state right after it has been applied, the company says. The outside surface hardens just enough to encapsulate the active ingredients and hold them in contact with the unwanted brush long enough to effect the kill.

Robert Hopkins, Diamond agricultural chemicals representative in California, said the new chemical "showed great promise for reducing or eliminating problems which occur because we feel that this formulation will

Snow Improves S-2C Ag Plane

A longer wing span, greater structural strength, and larger fuel tanks are principal improvements offered in the 1965 Snow S-2C agricultural airplane.

Wing span has been increased to 44.6 feet, and is said to have been structurally tested to CAM-3 standards for 6,000 pounds gross weight. The wing is of cantilever design which eliminates the need for external struts or wires. The plane is of all-metal construction. Two 55-gallon, burst-proof, integral wing tanks give the S-2C a longer working time between refuelings, the company says.

New optional equipment and wide range of dispersal systems give the plane added utility for ag operators. Liquid dispersal systems feature full-span booms available as low, medium, high, and extra-high density systems. Dry systems feature large and small Transland spreaders and a new stainless steel Snow high-volume spreader for seeding, fertilizing, and dusting operations.

A new brochure with a technical data insert is available from Snow Aeronautical, P.O. Box 516, Olney, Texas.

fill a definite void in the brush and weed control industry."

Hopkins went on to say that "use of 2,4-D and 2,4,5-T for weed and brush control presented the industry and consumer with two problems—volatility and drift. The volatility problem was solved by the use of the amine salts of 2,4-D and 2,4,5-T, and more recently by the oil-soluble amine salts of these two materials.

"Spray drift has been more difficult. One answer to this was the development of invert emulsions. However, the use of inverts has been limited because the material is highly viscous and requires special spraying equipment.

"The problem facing us was to turn out a chemical that would answer the need and yet could be applied by ordinary means. We feel that we have just that kind of chemical," Hopkins concluded.

He said the formulation will be marketed as a powder for application with conventional equipment.

Suppliers Personnel Changes

The Ansul Company's board of directors recently elected Morris L. Neuville as a vice president. He continues with his responsibilities as general manager of the company's Chemical Products Division. Neuville joined Ansul in 1948 as a research chemist.

California Chemical Co., Ortho Div., has promoted Warren Lewis to regional sales manager of the Hawaiian Islands. With 14 years service, Lewis was formerly branch sales manager in Bakersfield, Riverside and Thermal, Calif. Lewis is now responsible for Ortho pesticides marketing.

Hercules Powder Co., Wilmington, Del., has established an agricultural chemicals sales office in Orlando, Fla. New offices, in Suite 301, Orlando Professional Center, 22 W. Lake Beauty Dr., will be staffed by two Hercules agricultural chemicals technical representatives, Bryson L. James and Paul R. Cohee.



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Trimmings



Studios Couch. Well-known turf disease expert Dr. Houston Couch, whose book on the subject is just about the last word, has left his Penn State professorial and research post to head the Department of Plant Pathology and Physiology at Virginia Polytechnic Institute in Blacksburg, a school already noted for its contributions to vegetation maintenance and control studies. Our congratulations to Dr. Couch on his new responsibility!

* * *

Sod a'Plenty! In this issue of WTT we begin our first Sod Industry Section, so we were particularly pleased to have a chance to talk recently with Richard A. Plent, a Cleveland, Ohio, nurseryman and longtime reader of ours who also grows a little sod and sells a lot of it. He maintains a full acre of bentgrass, which he tends and harvests with his own staff, and also sells hundreds of thousands of square yards of Merion bluegrass from Michigan each year. Dick says he's been in the sod business for 40 years, and that he welcomes this new monthly feature of WTT.

* * *

Astrogass Periled. The big Astrodome, Houston's skylit stadium, is posing some unusual problems. For one thing, the glare through the skylight is giving baseballers some trouble spotting flies, and when it was suggested an acrylic lacquer be used to paint the top and cut down on glare, a turfgrass manager suggested this may possibly harm the bermudagrass in the outfield. Somebody else suggested the grassy outfield be replaced with a type of dirt, a suggestion which most turf lovers will probably not favor!

* * *

Western Treemen Unlimber. We understand last month's meeting of the International Shade Tree Conference Western Convention in Santa Barbara was a howling success, both from a standpoint of lectures and discussions, and from the social angle! There were dinners, social hours, and side trips, and we imagine much of the delegates' gratitude went to local arrangements chairman William J. Griffin, who took charge of the affair this year. He runs Griffin Tree & Landscape Co. in Santa Barbara. Watch WTT next month for a write-up of the convention program.

* * *

To Each His Owen. Had a call recently from Bill Owen of the Pesticide Sprayers Association of Portland, Oregon, who phoned to tell us about the formation of a regional group of contract applicators called the Pacific Northwest Regional Sprayers Association. Bill, who runs General Spray Service in Portland, has been active in various groups in his area for a long time, and has been most helpful in giving WTT advance news about events in the Pacific Northwest. We'll have more information about the new regional association and its activities in forthcoming issues. Meanwhile, congratulations again to Bill for helping get this project launched!

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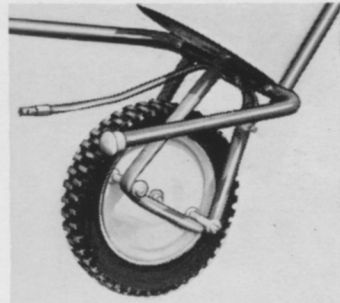
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