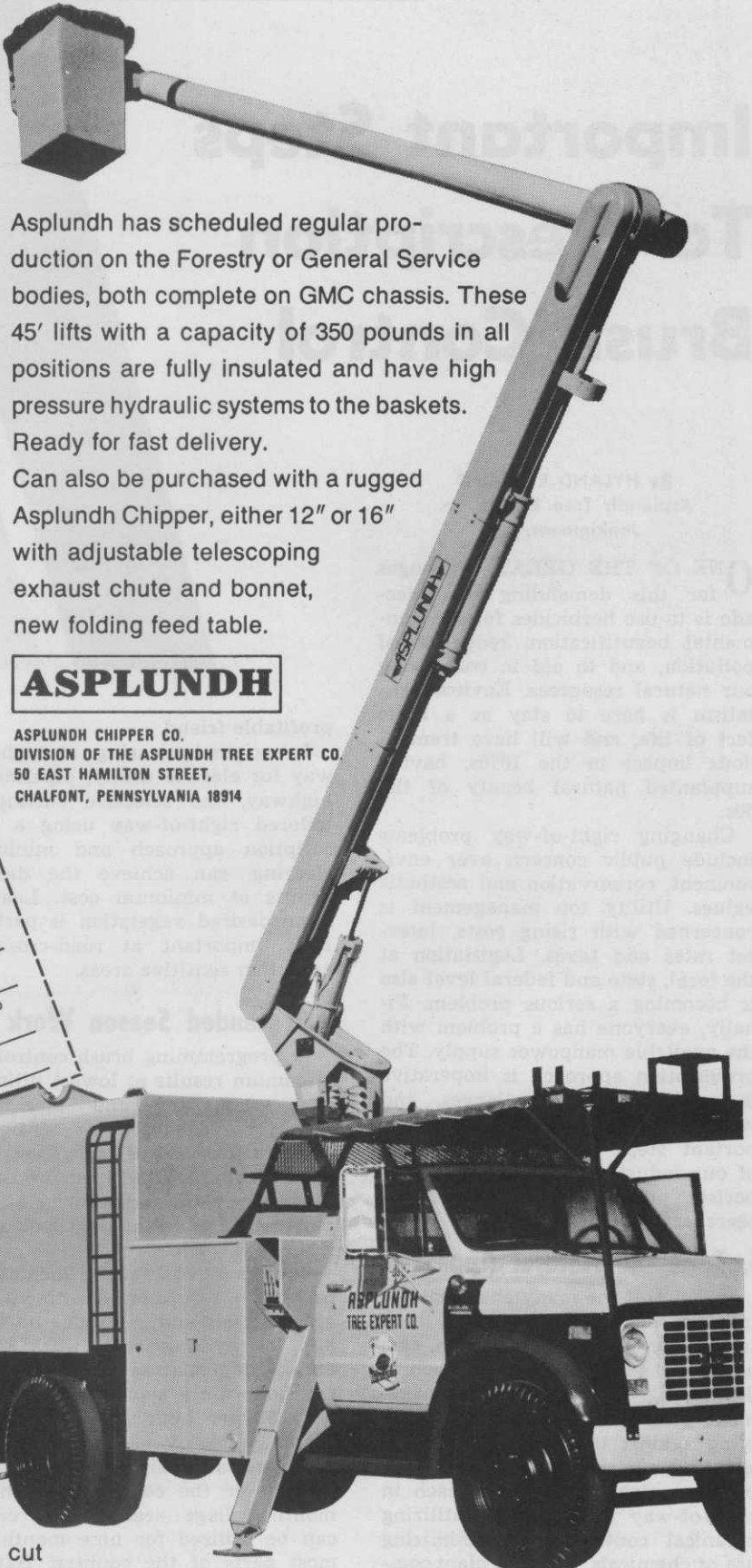


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This is the Chipper that has been helping to cut down on Air Pollution for the past twenty-five years.

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Important Steps To Prescription Brush Control

By HYLAND R. JOHNS
Asplundh Tree Expert Co.
Jenkintown, Pa.

ONE OF THE GREAT challenges for this demanding new decade is to use herbicides for environmental beautification, reduction of pollution, and to aid in conserving our natural resources. Environmentalism is here to stay as a basic fact of life, and will have tremendous impact in the 1970s, having supplanted natural beauty of the 60s.

Changing right-of-way problems include public concern over environment, conservation and aesthetic values. Utility top management is concerned with rising costs, interest rates and taxes. Legislation at the local, state and federal level also is becoming a serious problem. Finally, everyone has a problem with the available manpower supply. The prescription approach is imperative in meeting these challenges, and within this framework, seven important steps are vital to success of our industry, whether we be arborists, nurserymen, educators, researchers or salesmen.

1. Take the Natural Approach

Because of the many challenges to industry and management, ie. high taxes, interest rates, legislation, etc., we should take nature's approach in developing a right-of-way management plan. We shouldn't be struggling against the environment, but should be partners in a joint venture using the natural approach in right-of-way management, utilizing botanical controls and minimizing use of chemicals. A stable plant community is a utility manager's most

profitable friend.

In original clearing of right-of-way for electric utility, pipeline, or highway, the selective cutting or tailored right-of-way using a prescription approach and minimum clearing, can achieve the desired results at minimum cost. Leaving some desired vegetation is particularly important at road-crossings and other sensitive areas.

2. Extended Season Work

In programming brush control for maximum results at lowest ultimate cost, manpower and machinery should be scheduled for continuity of work year-round, whenever possible. Today, trained men need adequate pay rates and security of employment, otherwise they look elsewhere for work.

Equipment cost factors such as depreciation, return on investment, operating costs and insurance must be kept low by long-season work. \$2,000 annual depreciation amounts to \$10 per hour for a short season, but is only \$2 per hour for a six-month season.

So, instead of six crews being employed for the conventional three-month foliage season, two crews can be utilized for nine months in most parts of the country. Having two crews on the job instead of

six crews means lower equipment costs, and lower costs of hiring, training and supervising manpower. Result: a far better job for the customer at less cost.

3. Ultimate Low Cost

In recognizing the value of real brush elimination versus mere brush control, long-range management planning is required. Whether horses or helicopters, back tanks or bombardiers, the best equipment for the job should be considered, not an hourly rate cost of 75 cents or 75 dollars per hour. Also, in selecting the right chemical for the job, the formulation which will yield the best results for the client's dollar should be recommended. This may mean a chemical costing \$10 per gallon, rather than another costing \$5 per gallon. Here again, cost-per-gallon should not be the criterion, but dollars-per-acre to achieve best results.

4. Good Application

In the final analysis, the doctor's diagnosis and the druggist's prescription is of little value unless the patient follows directions. So also, the best research and formulating know-how are lost if herbicides are not properly mixed and applied.



If you can't see the diagonal access road to this utility high line, then one of Asplundh's principles of right-of-way maintenance has been achieved. Selective chemical treatment can encourage low-growing plants beneath lines while preventing growth of trees that would attain obstructive heights. A vegetation "wall" is thus achieved, as is shown below.



The spray crew must follow directions and be sure of proper application to avoid disappointment or worse—having to come back and do the work over free-of-charge. And remember, you can achieve complete brown-out with only 100 gallons per acre of mixed foliage spray, when a real root-kill may require 300 gallons per acre.

5. New Methods

New chemicals and new methods (or improvements on old methods) have aided the development of chemical brush control in recent years. Our modification of existing mist-blowers to reduce spray drift and put chemical sprays on target, have increased root kill substantially.

In addition to stem-foliage applications with thickeners, we have modified mist-blowers for basal and dormant-stem applications. The airblast is particularly helpful in blowing away leaf litter and other debris so that chemical mixtures can be targeted. Tordon formulas, additives to 2,4-D and 2,4,5-T, and the Unimog have all added.

6. Multiple-Use Prescription

Programming pays off; nowhere in this country does a problem exist



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Use Hypro series 5200 Big Twin piston pumps.

Here's a rugged two-cylinder piston pump that will deliver up to 10 gpm at 400 psi (600 rpm) for tree spraying, area spraying, fogging, or termite pretreating.

Handles many kinds of weed and pest control chemicals including wettable powder suspensions.

Available with solid shaft or with hollow shaft for direct tractor, truck, or jeep PTO mounting.

FEATURES:

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- Heavy duty ball bearings.
- Suction & discharge ports tapped 3/4" NPT.

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in right-of-way vegetation maintenance that cannot be solved with today's changing technology. For example, traditional stump sprays have been replaced by pre-cut basal or delayed spray applications for improved efficiency.

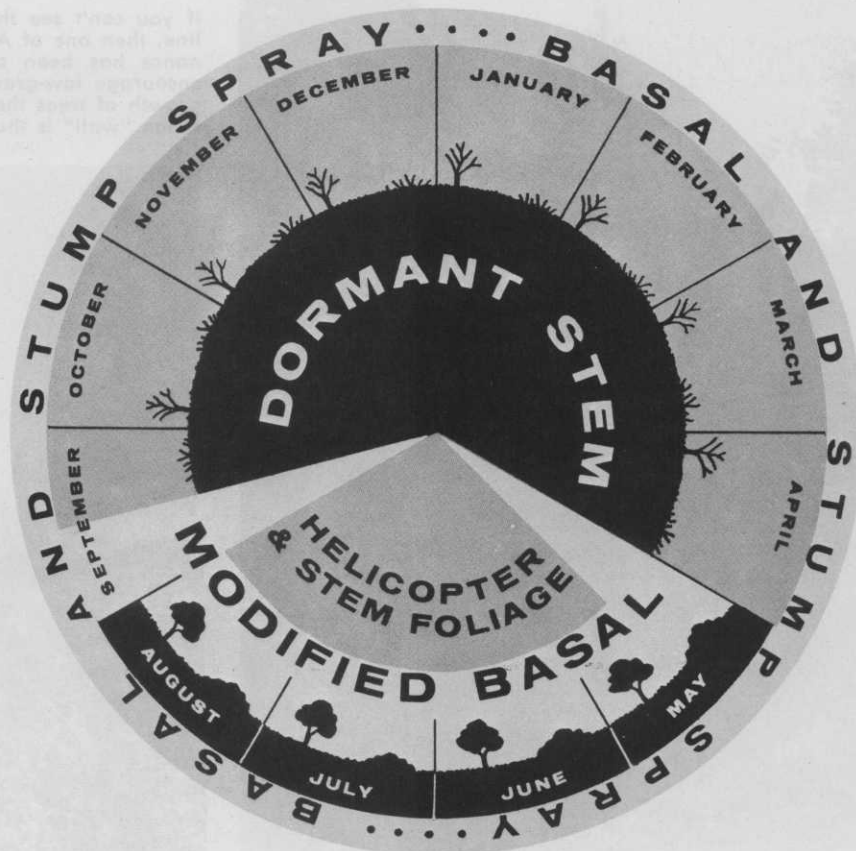
In remote areas, overhanging branches on pipelines or transmission lines can be safely side-trimmed by carefully-controlled, drift-free applications.

Old problems such as ash, scrub-oak or root-sprouting species can be readily eliminated by prescription programming. Special problems of fence rows, tower bases, or sensitive areas near ornamentals or hazardous crops can be treated safely today.

The concept of multiple-use has been used by foresters for decades to provide additional land and vegetation resources. For example, rights-of-way can be used for nurseries, pasture and other forms of agriculture as well as recreation, watersheds, wildlife and other uses. The 17-year experiment conducted at Pennsylvania State University has demonstrated that properly managed right-of-way with brush controlled by selective herbicides supports more wildlife food and cover than the surrounding forest land. This demonstration has been given only two chemical treatments in 17 years!

7. Transmission Techniques for Distribution Rights-of-Way

Too long the problem of roadside or distribution brush has been minimized or overlooked. In the United



This is when Asplundh does it . . .

States, electric utilities spend ten times as much money for distribution vegetation control as they do for transmission vegetation control. True, existing techniques and application methods must be modified and carefully supervised. However, results from carefully prescribed programs over the past 15 years

have shown tremendous economies as well as improved roadside vegetation conditions. Selective vegetation removal and selective sprays can aid reliability of electric and telephone service while improving roadside aesthetics, and save money for utilities in the bargain.

These seven fundamental steps are vital in promoting herbicides as gen-



In addition to helicopter spraying from the air, Asplundh uses vehicular equipment from the road and off the road . . .

PROGRAMMING PAYS OFF*



BRUSH CONTROL

BRUSH ELIMINATION

Aerial

Ground:
Stem-Foliage

Initial
Treatment

Follow-up
Treatment

Inaccessible
Terrain:
Aerial

Accessible
Terrain:

Inaccessible
Terrain:

Accessible
Terrain:

Cross-Country

Roadside

Aerial every
3 to 5 years

Density
under 40%
Selective
Basal every
3, 4 or 5 years

Density
over 40%
Modified
Basal

Less than
8 ft. Height:
Modified
Basal or
Stem-Foliage

More than
8 ft. Height:
Aerial
or
Stem-Foliage

Less than
5 ft. Height:

More than
5 ft. Height:
Dormant
Stem Spray
or Cut &
Stump Spray

No Brownout
Permitted
Dormant
Stem Spray

Brownout
Permitted
Modified
Basal



... This is how Asplundh does it.

uine conservation tools. If these seven concepts are carefully planned and applied to specific jobs, environmental problems are reduced and long-range economies made a reality.

But remember, one well-published mistake can jeopardize a whole state or region. "When all else fails—read the label" is still a needed admonition.



... and backpack units.

Container Tree-Planting May Increase Quality

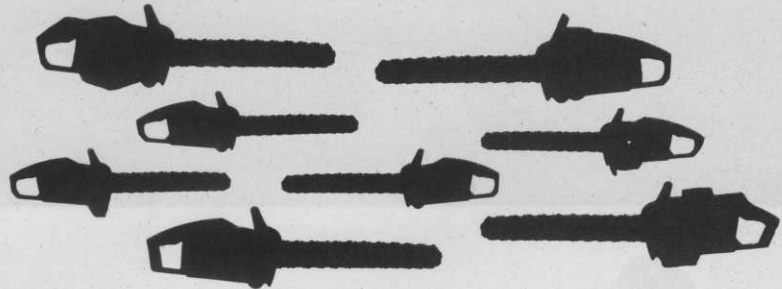
A new method of growing trees in containers may produce hardier, faster-growing specimens at lower cost, according to a Michigan State University forestry expert.

Dr. Donald P. White, professor in MSU's Department of Forestry, is heading up a research program to provide a more effective method of planting valuable "blue ribbon hardwoods" such as black walnut, black cherry, tulip poplar, birch and oak.

"We're using a variety of special container systems to grow these valuable trees from seed to tree planting size in a few weeks," says Dr. White.

"Planting container-grown trees achieves several important objectives, including exceptional survival, a prolonged planting season, and accelerated growth during the first season. It also eliminates the need and cost of nursery production and transplanting."

Good quality trees of these "blue ribbon" species are in short supply and bring premium prices, notes Dr. White.



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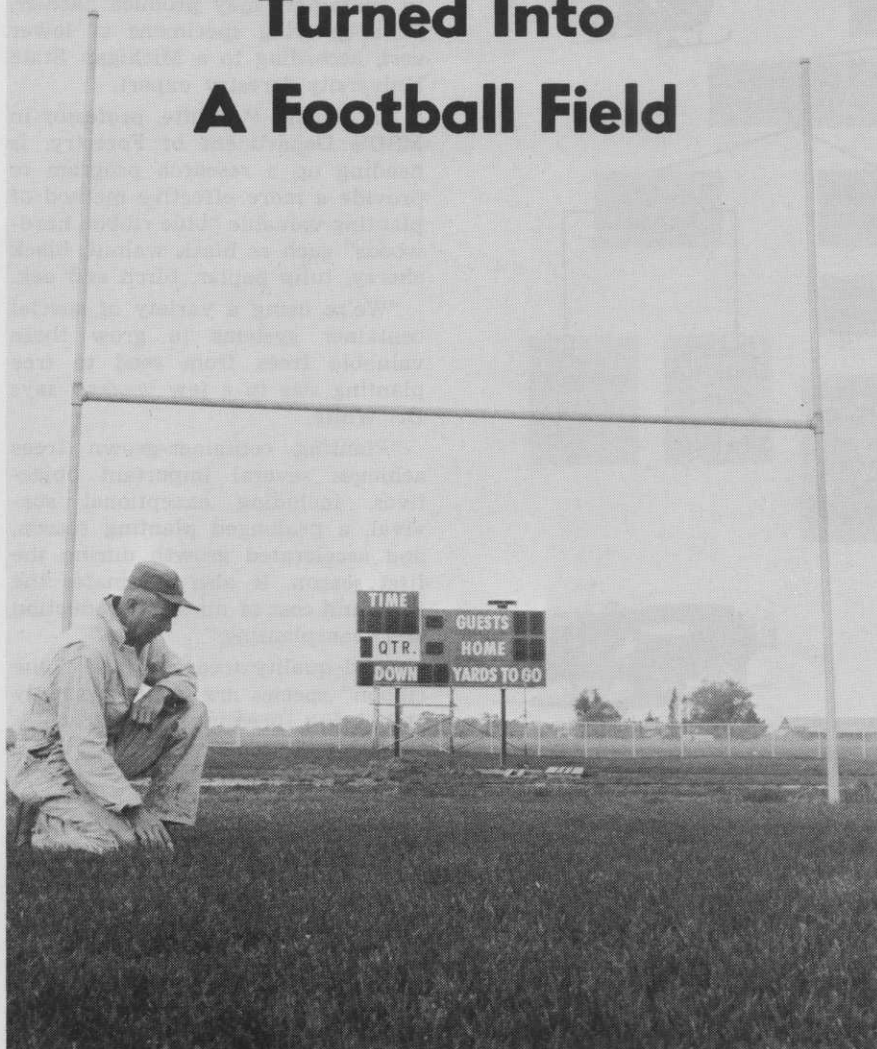
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How 'Thistle Down' Turned Into A Football Field



WHEN THE SCHOOL BOARD of Indiana's new Heritage High Consolidated School, near Hoagland, asked Don Bohnke what he could do about the mess that was to become their new football field, he wasn't really too sure.

"I called that area 'Thistle Downs'," Bohnke recalled. "I'd been spraying that ground with 2,4D for three years before the Board bought it for the football field." He does a lot of custom spraying in the Hoagland area, in addition to his own farming and a dealership in seed, fertilizers and chemicals.

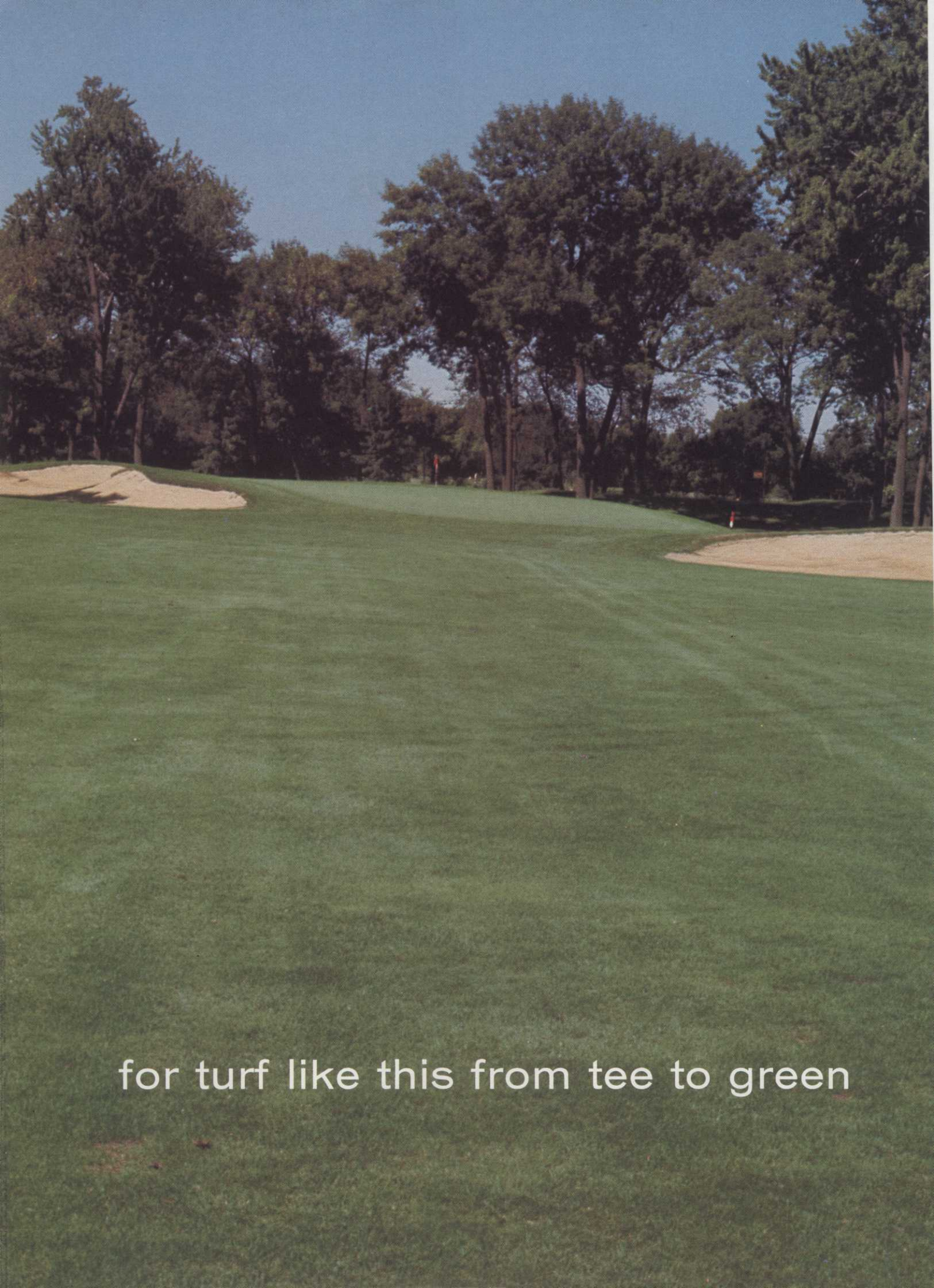
"We successfully spray some 500 acres of corn and grassland a year with 2,4D," he says. "That field was covered just about 100% with thistles." And they weren't just any particular variety. "We had Canadas, sowthistles, bullthistles, and just about every thistle you can name in that field, both before and after it was seeded to grass in the early spring of 1969. I'd say, though, that the majority were Canadian and sowthistles."

The situation looked pretty desperate in late June when the School Board asked Bohnke to try something else, since the 2,4D itself just wasn't doing the job. The field was promised to be ready to play on in the fall of 1969, and the newly planted turf was so badly infested you could barely find the grass. In fact, it looked as if the players could end up smarting as much from thistle stickers as from bruises, if something wasn't done to solve the problem fast.

"We've had good experience with a different type of phenoxy herbicide, Dacamine, where we've had bad broadleaf infestation in corn," Bohnke told the Board. "I can't promise it'll do the job on as bad a mess as this, but it looks like it has more weedkilling power than standard 2,4D amines, even though it works a little slower than many 2,4D's. That might sound like a drawback, but when it comes to thistles it's a big 'plus'. Instead of

(Continued on Page 31)

"This is what the entire 'Thistle Downs' used to look like (left)," reports custom sprayman Don Bohnke, as he looks over a small patch outside the Heritage High School field that didn't get treated with Dacamine herbicide. "Now, you'd need a magnifying glass to find a thistle seedling in the thick, healthy turf."



for turf like this from tee to green



follow the

TUCO **Acti-dione**[®]

fairway spray program

The same antibiotic fungicide proven for years on golf greens at *hundreds* of courses now provides a program for economical treatment of fairways.

NOTE: The cover photo, the untreated fairway at left and the closeups below were all taken the same day in August, 1968, at courses less than 40 miles apart. All are unretouched. Below left is bluegrass; right is bent grass.



why a fairway **disease control** program?

1. Golf course superintendents set increasingly demanding standards for themselves to provide superbly conditioned courses regardless of weather and other obstacles.
2. Demand by golfers for high-quality turf at all times. They want the good lie for fairway woods and iron shots.
3. Growing numbers of golfers increase this pressure, and increased traffic is too much of a challenge for anything less than healthy turf.

why **Acti-dione**® for a fairway spray program?

The use of Acti-dione Ferrated or Acti-dione RZ has demonstrated effective, economical control of many turf diseases when combined with good management practices.

Acti-dione Ferrated is a formulation of the antibiotic Acti-dione and Ferrous Sulfate designed for the control of specific turfgrass diseases. Acti-dione RZ is a broad spectrum turf fungicide formulation containing the antibiotic Acti-dione in combination with PCNB. Both products are used in a preventive and eradivative treatment program for:

Kentucky Bluegrass—leafspot, going-out, and melting out
Merior Bluegrass—rust, fading-out and powdery mildew
Bentgrass—dollarspot, melting-out and fading out.



how to use **Acti-dione**® in a fairway spray program

Acti-dione may be applied as a spray with a conventional boom sprayer or with a broadcast boom jet spray nozzle. The Acti-dione spray should be allowed to dry in the grass—do not water in.

Your fungicide program should begin in the spring as soon as possible after the first mowing. Succeeding applications should be made as often as necessary throughout the growing season. Usually an interval of 21-30 days between applications will maintain satisfactory control. The recommended rate of Acti-dione Ferrated for fairway disease control is one package per acre; the recommended rate of Acti-dione RZ is 1.5 pound per acre.

Prepare a fresh solution each day spraying is done; use at least 30 to 40 gallons of water per acre. For severe disease infestations, increase dosage rate of Acti-dione Ferrated to two packages per acre. If you are using Acti-dione RZ, one package of Acti-dione Ferrated per acre may be added as a tank mixture to increase effectiveness.

When mixing Acti-dione for fairway spraying:

1. Fill the spray tank $\frac{1}{2}$ full with clean water
2. Start agitator and add the recommended amount of Acti-dione for the number of acres you plan to spray
3. Add remaining water while agitator is running

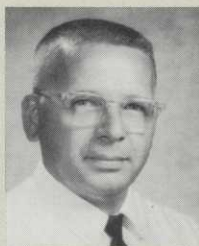
For sprayer calibration, request our Acti-dione sprayer calibration guide.



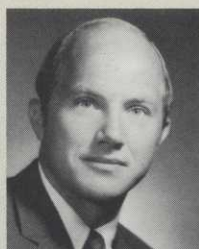
When it comes to turf problems—



STANLEY CAPLAN has a B.S. in agriculture from Delaware Valley College of Science and Agriculture in Doylestown, Pennsylvania. Stan has had several years of experience as a manager and buyer of nursery and garden supplies for a large company in California prior to joining TUCO in 1965.



HENRY LYON graduated from Cornell University with a major in ornamental horticulture. He has a broad agricultural background which includes wholesale sales and garden store management. Henry has been with TUCO since 1964.



ROBERT SCOBEE was raised on a golf course (his father is a superintendent). Bob graduated from Purdue University with a degree in agronomy. Former secretary of the Indiana Golf Course Superintendents Association, Bob is a member of the Golf Course Superintendents Association of America. Bob has been with TUCO since 1965.

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UNDERSTAND
AND CAN
HELP!

TUCO realizes maintaining healthy, top quality fairways, tees and greens is far from easy. That's why this outstanding team is available to help you with your turf growing problems. Just a call will put one of these highly trained and experienced men to work for you. TUCO has the products and the personnel to do the job.



CARMEN BOONE is a native of Arkansas and studied at Arkansas A & M College. He has a broad agricultural background and has had experience in the agricultural equipment field. Carmen joined TUCO in 1968.



CARL MARTIN is a graduate of Texas A & M University with a degree in entomology. Carl is exceptionally well versed in the field of Entomology. He is a member of the Entomological Society of America and has been with TUCO since 1964.



ROBERT LIPPMAN is an honor graduate of Pennsylvania State University's turf management course. While attending college, Bob was awarded a scholarship and certificate of merit from the Golf Course Superintendents Association of America and has had actual field experience as a golf course superintendent. He is a member of the Metropolitan Golf Course Superintendents Association and the Hudson Valley Golf Course Superintendents Association in New York state. Bob joined TUCO in 1967.

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