

## Assuming Distribution and Sales of Turf-Cal

Cecil F. Kerr, Mallinckrodt, Inc.

Approximately three and one half years ago Dr. Woolson from USDA Beltsville, Maryland called me asking how much tri-calcium arsenate could I sell if a flowable was available?

I wasn't sure at that point if we could sell a gallon of material. Ten years ago at least 1,000 programs were terminated when OSHA banned Chip-Cal because of the dust in the manufacturing process. The product was well known and the need evident.

Dr. Woolson, John Alden of Woolfolk Chemical and I surveyed the present need for this product. Our surveys showed interest in using tri-calcium arsenate flowable in Massachusetts, Pennsylvania, Maryland, Indiana and Ohio. Our research department and I visited Purdue University plots and fairway demonstrations at several golf courses including Lafayette Elks and Danville Country Club in Illinois.

As a result of our survey we prepared a five year sales projection. Costs were much higher than superintendents in the past paid for the program. Yet, a mower is four times higher than twelve years ago.

We were pleased with the results of the programs conducted by several superintendents - the quality of the flowable was improved!

The cost of the program is expensive; however, the benefits are worth the price. Turf-Cal controls crabgrass, goose grass, chickweed, **Poa annua** and soil insects. After control is once achieved in a 2-3 year period, the maintenance dosage is less than the cost of insect control with existing insecticides.

This program is not for everyone. It is only adapted to competent superintendents who are willing to follow a total ten point program. Some golf courses that cannot be properly drained should never use this program.

We decided to market tri-calcium arsenate flowable (Turf-Cal) in the beginning to superintendents who have had previous experience with arsenicals. We also decided to limit our distribution to distributors with arsenical sales experience at the beginning of the program. We conducted initial educational programs organized by Mel Lucas in Long Island, N.Y. & Kermit Delk in Springfield, Ohio. Distributor meetings were held with Terrie Co. in New Jersey and distributor sales meeting were held in Georgia and the Carolinas. We also held superintendent meetings with Cornell Chemical in Baltimore and superintendents' meetings in Indianapolis, Ft. Wayne and South Bend with Turf Specialties.

We discussed the importance of following our prescribed ten point program for removal and prevention of **Poa annua** in cool season grasses.

1. **Drain low, wet areas:** Use excavated soil to fill low spots. Slit trenches 3-6" deep, filled with sand may also be used to rid area of excess moisture. Aerify and topdress wet areas with sand. Good grass requires good surface and subsurface drainage.
2. **Correct soil acidity:** Turf-Cal is most effective in soil with a pH range of 6.0 - 7.7. If lime application is necessary, allow four weeks before applying Turf-Cal.
3. **Eliminate Phosphorus in fertilizer programs:** use no phosphorus or as little as possible, the higher the phosphorus supply the more Turf-Cal required to achieve **Poa annua** control.

4. **Remove thatch and reduce compaction:** Aerify intensely
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## National Golf Foundation 1983 Golfer Profile Survey

NORTH PALM BEACH, Fla. — The typical American golfer is 48 years old, reports an average score of 87, lives in a household with an annual median income of \$37,000 and spends over \$500 a year on green fees and golf equipment, according to the National Golf Foundation's 1983 Golfer Profile Survey.

"The survey reveals some interesting facts and figures on golfers and their golfing habits," reports Sandra Eriksson, NGF director of research. "Overall, it indicates that American golfers are more mature, affluent and better educated than the population as a whole."

The survey also covered the number of rounds played, reasons for taking up the game, percentage of rounds using a golf car and clothing and golf shoe purchases.

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(Turf-Cal Cont'd.)

before Turf-Cal application to reduce heavy thatch. Verticut to make room for new growth. Bring the soil to surface to favor new seedlings. Avoid overseeding in heavy thatch. Aerify yearly as necessary to keep thatch from accumulating.

5. **Overseed as needed.** Repeat introduction of seed of the desired cultivars until uniform stand is produced. Seed 5-20 pounds per acre when conditions are suitable. Repair worn areas and resod critical areas. Use caution in treating newly seeded areas. Use lower recommended rates of Turf-Cal on new seedlings and keep root zone moist.

6. **Apply Turf-Cal in late summer or early fall.** Use Turf-Cal before September 15th when possible because days become shorter and light intensity diminishes. This encourages cool season grasses and new seedlings to fill in during fall, winter and spring. Apply uniformly. Avoid skips and overlaps.

7. **Maintain effective soil arsenic levels.** Continue program by applying supplemental Turf-Cal at maintenance rates annually in the fall.

8. **Emergency phosphorus supplement:** If unusual conditions indicate emergency correction is needed, weakened **Poa annua** can be improved by the application of 1/8 to 1/4 pound per 1,000 sq. ft. of soluble phosphorus as a liquid fertilizer. Do not use more than needed. Avoid this procedure if possible.

9. **Eliminate all plant material.** Turf areas composed of high percentage of **Poa annua** may be killed with Round-up. Cultivate and reseed to desired cultivars. The new stand of grass may be protected by use of Turf-Cal.

10. **Special note on greens.** Use lower rates on greens where sand predominates in the root zone. The base exchange capacity is low on sand greens.

Equipment should be carefully calibrated; turf managers should understand the limitations, the requirements and need for continuity to successfully rid **Poa annua** and establish desirable grasses.

The elimination of weedy grasses and the establishment of fine turf requires a knowledgeable, dedicated superintendent who communicates effectively with his membership.

(Pythium Cont'd.)

portunity to interchange these fungicides. For instance, use of metalaxyl in early July followed by an application of pro-pamocarb 2-3 weeks later in a preventative fungicide program would tend to elude any possible Pythium resistance to either fungicide.

Managing Pythium involves comprehension of a series of variables, both cultural and physical. Some are within the control of the Golf Course Superintendent and he can help himself maintain a high level of Pythium management with a strong awareness of those variables bolstered with an active Pythium preventative fungicide program. The blight strikes too swiftly and destructively to ignore it's consequences.

I'll leave you with a word ... ANTICIPATE.