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David R. Behrman, CGCS

President's Message

Well, it seems that the Chicago area should be deemed "the land without spring". We again experienced droughty conditions combined with extreme heat in April. Of course, these complications combined with winter damage have not made the start of this golfing season easy.

In formulating a solution to cope with this situation we must remember that in addition to our technical expertise there is a definite need to make use of our communication network.

The first step is to insure that individuals in key positions at your club understand the current situation. The professional, the club manager, owners, and committee members can serve as your liaison to make the golfers aware of current conditions affecting the golf course. This first step will help slow the flood of inquiries and eliminate the uneasiness created by a lack of information. This information also helps prepare them for additional problems or to take notice of quick solutions.

Secondly, make sure your crew fully understands what is being done or why certain playing conditions exist. Golfers often attempt to extract information from your staff because they feel they are in direct contact with the problem. Ignorance here can be very damaging to your efforts.

Last but not least communicate with your fellow superintendents. Share your knowledge, discuss your problems, and support one another through the good and bad.

As we all know, our profession and the nature of the work we do creates stress. This stress can make our jobs more difficult and our homelife miserable. A good communications network will not eliminate stress but it will help to distribute the load. Our personal desires are often a heavy burden to bear. Do not get caught in the trap of trying to carry the weight of the world on your shoulders.

Just remember to always take the time to analyze, evaluate, and communicate. Once you learn this the second guessing is over.

David R. Behrman, CGCS

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Bull Sheet printed by Ever-Redi Printing, 5100 East Ave., Countryside, IL 60525.

The **Bull Sheet** is published once a month. All articles are required by the 10th of the month to make the next issue. Advertising is sold by the column inch, by the quarter page, half page, and by the full page. All artwork to be finished and in black and white. Circulation is around 500 issues per month.

Long Drive Sectional Qualifying Sites

\$50,000 in prizes, with top prize of \$15,000. Finals are scheduled for October 6-7 at Perdido Bay Inn & Resort in Pensacola, FL. Sectional sites in Chicago area are: Ziegfield Troy Golf Club in Woodridge on June (10 a.m. to 5 p.m.); Cog Hill in Lemont on June 9 (9 a.m. to 5 p.m.); and Green Valley Golf Range in Hanover Park on June 14 (8 a.m. to 6 p.m.).

Poison Ivy

(*Phus radicans L*)

Poison ivy is a member of the Cashew family (Anacardiaceae) and belongs to the same genus as common sumac. It is sometimes called "three-leaved ivy." Every year it causes discomfort and poisoning to thousands of people in all walks of life, more than any other plant. Since it is not outstanding in appearance, it is often discovered only after persons have come in contact with it.

Every nature lover, hiker, and hunter should be thoroughly familiar with poison ivy. It is poisonous the year around, from the time it resumes growth in the spring, until its brilliant-colored leaves are shed in the fall, and even its dormant, winter condition.

Geographical Distribution and Description

Poison ivy grows in rocky fields, railroad embankments, pastures, roadsides, parks, preserves, fence rows, under telephone lines, and in rich, alluvial woodlands. It is especially common along streams and rivers. It is native in Iowa and is widespread throughout the United States and Canada. As many as 26 different birds are responsible for the wide dissemination of poison ivy seed. Birds eat the berries largely as "emergency" food in the winter when snow covers other food plants.

STEMS of poison ivy are usually woody. The plant may appear as an erect shrub or as a vine climbing by aerial rootlets on fences, walls, or trees. The plants also produce slender, creeping rootstocks from the base of the stem. These rootstocks often ramify the soil for a distance of several yards from the parent plant, sending up short, slender, leafy shoots from their nodes.

LEAVES of poison ivy are alternate on the stem, compound, and always borne in groups of three leaflets. These leaflets may be glossy or dull-green, usually smooth, but occasionally somewhat hairy. The edges of the leaves vary widely; some are smooth, others are toothed or even somewhat lobed. Leaves in the same group can vary distinctly.

FLOWERS of poison ivy are borne in slender, open, axillary racemes. The same plant bears both perfect and imperfect flowers. The calyx is five-lobed, while the corolla is composed of five yellowish-green petals. There are five separate stamens, a single solitary pistil, and a one-seeded ovary. Flowering usually occurs in June or July. The fruit is a small, white or cream-colored drupe (dry stone fruit). It is nearly globular in shape, about 3/16-inch diameter and has a grayish striped, one-seeded stone about 1/8-inch in diameter.

Conditions of Poisoning

Contact with poison ivy frequently produces severe inflammation and blistering. Though many persons claim immunity, recent investigations indicate that susceptibility is a matter of degree and it is doubtful if anyone is absolutely immune. Thus, it is a good precautionary measure for everyone to avoid the plant. The degree of immunity seems to vary with the health and susceptibility of the individual, the circumstances under which he is exposed, and the condition of the plant.

Poisonous Principle and Symptoms of Poisoning

All parts of the plant are poisonous at all times of the year. The poisonous principle secreted by the plant is a yellowish volatile oil. It is produced in the resinous ducts of leaves, flowers, and fruit, as well as in the bark of stems and roots.

The poison may be carried by soot particles in smoke to individuals who are clearing brush land, ivy-infested areas, or rubbish.

Poisoning does not actually occur unless a sensitive person comes in contact with the poison either by touching parts of the plant itself, or touching equipment, clothing, or animals — such as dogs, cats, sheep, goats and cows — that have been in contact with the plant or its volatile oil. Wearing clothes — or carrying tools or wood — that have come in contact with poison ivy often results in severe cases of poisoning. A hot wind blowing over poison-ivy patches may poison extremely susceptible persons nearby.

The poison, when brought into contact with the skin of a susceptible person, causes inflammation and swelling accompanied by painful irritation and formation of blisters. When these blisters break, the exuding liquid, upon drying, forms scaly, crusty scabs. The time elapsing between contact with the poison and the appearance of irritating inflammation varies with different individuals according to the amount of poison contacting the skin, the development or stage of growth of the plant, the temperature, and the season. Usually, symptoms of poisoning appear within 12 to 24 hours after exposure, but sometimes they may appear within 3 or 4 hours, or they may be delayed for several days.

First Aid

The following procedure is merely first aid in case of suspected exposure. Severe cases should be placed in the hands of a physician.

After contact with poison ivy, a person should wash and rinse the exposed skin area as soon as possible, using an abundance of lukewarm water and strong alkali laundry soap. Repeat washing and rinsing several times. Oil soaps should not be used since the oil tends to spread the poisonous principle.

Control Methods

CAUTION: *Only persons who are known to be highly resistant to the action of poison ivy should attempt the job of exterminating it by any method.*

As a rule, poison ivy is not found in areas which are under cultivation. For that reason, the eradication of poison ivy is a relatively simple process in such areas. Persistently cutting off the plant below the surface of the ground would eventually control it in a garden or flower bed. This results in slow starvation and depletion of food reserves in the roots. Planting infested areas to small grain or corn, plus the necessary seedbed preparation and cultivation for one or two years, controls poison ivy.

If poison ivy is found among valuable trees or shrubs, it may be mowed closely several times a year for two or three years, or the rootstocks may be grubbed out, or the plants hoed-off repeatedly until no more growth appears. In lawns, where repeated close mowing is practical, the plant is usually now problem.

Amitrol (Weedazole, Amitrol-T, Cytrol)

Amitrol is also effective for the eradication of poison ivy. This chemical is non-selective and injures all plants with which it comes into contact but leaves no extensive residual in the soil. It is used at the rate of 1/2 cup Amitrol-T (or Cytol) per gallon of water applied until plants are wet, in June or July on plants with fully-expanded leaves. Both may be used under well-

(cont'd. on page 9)

Extending the Use of Sod

by Henry Thomas Wilkinson
Dept. of Plant Pathology, U. of I.

During the past decade, public awareness and concern of the esthetics and the quality of the environment has increased dramatically. Education, modern communications, and inflation have spawned consumers who demand greater quality of merchandise and service for their invested dollars. More dollars are invested now than ever before in the maintenance of turfgrass. The consumer is demanding high quality turf based on investment rather than on biology. For example, demands for high quality sod to be established and maintained on marginal agricultural soils have increased with renewed interest in urban development. The demand has been met by hundreds of companies specializing in lawn establishment and/or maintenance. Because the consumer is now paying for services that were previously not done or accomplished by himself, his expectations have increased: the lawn should be lush, green and carpet-thick all season long. Intensively managed turfgrass is greatly predisposed to a myriad of problems including stress and disease. It is my belief that if the grass plants were managed as opposed to managing the consumer, fewer catastrophic diseases would occur in turfgrass lawns. Sodded lawns seem to have more problems than seeded lawns but, the development of disease in sodded lawns is a result of rather than the cause of aberrant grass growth. The pathogens that attack



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a sodded lawn will also attack a seeded lawn. Proper establishment of sod is a key in extending its use to meet consumer demands. Fusarium blight syndrome, yellow patch, and yellow ring are diseases associated with the lower crown and roots of the grass plant. Heat and drought stresses are damaging to sod when they affect the crowns and roots of the grass plant. The susceptibility of grass to the forementioned problems result from the conditions under which the sod is forced to grow not on the quality of the sod when it is initially transplanted. I believe that if the growth and vigor of grass roots, rhizomes, and crowns in sod are managed properly, the successful use of sod can be accomplished with lasting results.

There are three basic phases of establishing a sodded turf: sod production; sod bed preparation; and post transplant management. There are variables in each of the three phases that will enhance the successful establishment of sod.

Select Soil Type

The sod producer or farmer can select the soil type upon which to raise the sod from seed. Usually the best mineral and peat soils are selected. As research continues to examine the intricacies of interfacing a sod with a sod bed soil, we will learn more about the impact of different soils used to grow sod and the performance of that sod on different sod bed soils. The blend of grass cultivars use to produce the sod should be selected carefully for the conditions under which the sod will be grown. The cultivar blend comprising the sod is the only variable in sod establishment that once selected, cannot be changed without starting the process of sod establishment anew. The chemical

(cont'd. page 7)



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(The Use of Sod cont'd.)

program for sod production and the age of marketed sod are also very important variables in sod production. For example, excessive nitrogen, phosphorus, and potassium applied to grass can produce excessive thatch and a weakened root system in less than two years. The longer sod is grown under a high management program, the more tenuous is its ability to establish after transplanting.

Sod Bed Preparation

The second phase, sod bed preparation, too often is neglected yet the sod bed is the soil which must support the vital roots, rhizomes, and crowns for the duration of the turfgrass's survival. While not easily changed, the soil type is the most critical variable. Some changes can be effected but this is very costly. It is more important to understand exactly what the soil type is. Knowing the soil type will greatly facilitate deciding which cultivation method(s) to employ and how to manage appropriate soil moisture for the turfgrass rooting. The texture, structure and porosity of a soil will each greatly affect the rooting of sod. Heterogeneous textures with some structure usually have sufficient porosity for movement of moisture and oxygen into soil thereby attracting deep root penetration. Such a soil need not be prepared for sod by leveling to insure good sod-soil contact. Finer textured soils often lack particle heterogeneity, have poor structure and very small pores. Such soils hold excessive water which is unavailable to the grass, little oxygen, and often a high level of resistance to sod-root penetration. To manage this soil type, carefully planned cultivation and fertilization practices must be used. Appropriate cultivation can create large soil

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pores thereby increasing availability of water and oxygen for root growth. The poorer the soil the more carefully planned the establishment of sod must be. The nutritional status of the sod bed soil is also important to consider prior to transplanting the sod. Generally we recommend that fertilizer if needed should be incorporated into the sod bed soil and not applied to the sod after it is transplanted. The rate and type of fertilizer should be used based on a soil analysis. A key in establishing sod is to encourage the grass plants in the sod to develop roots that penetrate the soil profile. Sod beds are usually devoid of vegetation or covered with a dead turf. While not conclusively tested, a dead turf layer under transplanted sod merely compounds the difficulty of sod establishment. The dead layer interferes with oxygen and water movement and extends the distance sod roots must grow to reach soil where nutrients can be assimilated. The dead turfgrass could also be a source for many facultative parasites which when presented a grass plant experiencing difficulty in rooting, would attack and further weaken the grass.

Transplant Management

The third phase of sod establishment, post transplant management, I have divided into critical management (8 wks) and long term management (►8 wks). During the first 8 wks following the transplanting of sod, soil moisture and heat, and sod to soil contact are critical. Research to determine the best guidelines for managing these variables is ongoing at the University of Illinois but based on our preliminary results, the greatest sod rooting occurs when sod is laid onto moistened soil and then topically watered on a daily basis. This program will minimize heat stress and dessication of the sod and encourage newly for-

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(The Use of Sod cont'd.)

ming roots to penetrate the sod bed. No fertilizer should be applied to the turf after it is transplanted or before it has successfully rooted. Another practice that has proven very useful is to roll the transplanted sod with a light roller (200-300 lbs.) between 24 and 48 hr. after transplanting. The time delay between transplanting sod and rolling allows the sod and soil moisture levels to equilibrate thereby creating a uniform soil profile for rooting. You can imagine the impact a layer of dead soil would have on attempts to create a uniform soil profile. There are three basic management concerns in long term management: nutrient status; cultural practices; and pest control. The scope of this paper will not permit me to discuss these at any length. The approaches, methods, and materials used in turf management differ from location to location and between operators. I would suggest however, that the grass plant has evolved with a more predictable set of requirements for growth. As I alluded to earlier, it is the crowns, roots, and rhizomes i.e., the subterranean tissues, that are vital for longevity and quality of turfgrass. I will close by suggesting that if long term management practices are directed at promoting root and rhizome development and directed less at shoot and leaf growth and quality the sod will be more resistant to stress, grow longer, and still maintain reasonable quality.

(Poison Ivy cont'd.)

established trees and shrubs. Spray ivy plants until moist but avoid excessive runoff. Repeat treatment as necessary.

The use of herbicides usually requires a second treatment in a season. Make the second application in the same way as the first when regrowth is 4 to 6 inches high.

In wooded areas, poison ivy make take on a climbing habit to the point where the leaves and fruit may be as high as 40 feet from the ground. To kill these vines, wrap strips of cloth around the vine to a height of 18 inches and a thickness of 1 to 2 inches. Carefully saturate the wrapping with a mixture of 1 point of low-volatile "Brush Killer" concentrate and 1 pint of fuel oil. Repeat if necessary. The solution must in no way touch the desirable tree upon which the ivy vine is growing.

Another method is to cut the vine off 6 inches above the ground line, then carefully paint the stump with the same solution. Dormant ivy vines crawling upon fence posts may also be dormant sprayed to runoff with low-volatile brush killer solution, at the rate of 1 quart to concentrate to 5 gallons of fuel oil.

If single plants occur in ornamental hedges, carefully locate the individual poison ivy vines, cut them off 6 inches above the ground and paint the stumps carefully with a mixture of 1 pint of low-volatile "Brush Killer", or low-volatile 2,4,5-T and 1 pint of fuel oil. This is best done in late fall or winter when there is less danger from fumes in such areas.

As an added precaution to prevent fume damage, slip a plastic sack over the treated stumps, then cover with soil. This is especially advisable in areas where susceptible plants, such as grapes, iris, peonies, and privet hedges are growing.

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If you're not using TERSAN® 1991 fungicide you're not getting the best brown patch and anthracnose control. Test results, like these from Michigan State University on anthracnose and the University of Maryland on brown patch, prove nothing works better than Du Pont TERSAN 1991 fungicide against these two turf diseases.

Many new fungicides provide poor control of brown patch and anthracnose, especially under heavy disease pressure. Their extended spray intervals recommended for other turf diseases, such as dollar spot, are too long to provide adequate protection against brown patch and anthracnose.

TERSAN 1991 is well suited to handle the heaviest disease pressure. Its unique systemic activity withstands heavy rainfall and frequent watering for longer-lasting disease control. And TERSAN 1991 may be applied for anthracnose control either preventively or after the disease is already present.

Schedule TERSAN 1991 in your summer spray program. Apply it in tank mixtures or as supplemental applications from June through August, when brown patch and anthracnose threaten.

You'll get tee-to-green control that hits brown patch and anthracnose hard. Control that university tests

prove works even under heavy disease pressure...TERSAN 1991. Only from Du Pont.

The following products are registered trademarks:
¹Vorlan, ²Duosan, and Fungo 50—Mallinckrodt, Inc.
³Bayleton—Möbay Chemical Co.
⁴Rubigan—Elanco Products Co.
⁵Daconil—SDS Biotech Corp.
⁶Clearys 3336†—W.A. Cleary Chemical Corp.
⁶Actidione TGF and Actidione RZ†—TUCO Div. of Upjohn Co.

* Not labeled for brown patch control.
 † Not labeled for anthracnose control.

With any chemical, follow label instructions and warnings carefully.

