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EASTERN TURFLETTER

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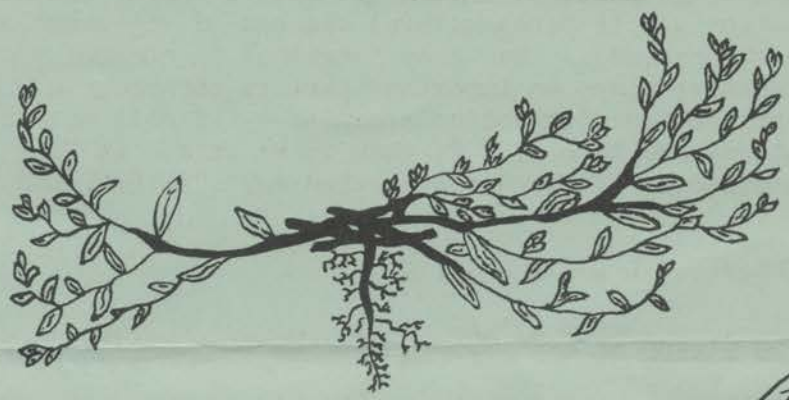
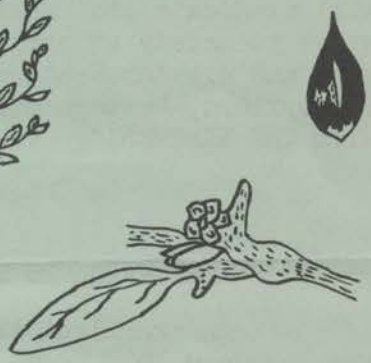
KNOTWEED



Plant Showing Habit

Seed; X 9



Node With Flowers And Leaf

-- a serious problem in cool season turf of the summer season past.

Turf problems increase with climatic adversity and one of the most difficult problems of dry summer season is Knotweed. 1957 was an unusually dry Summer and Fall ... 1962 was very dry in Spring and Summer ... during each of these years Knotweed became a serious problem, as expected.

What are the growth habits of this pernicious and prolific weed? Knotweed is an annual plant. An annual plant is one that completes its life cycle from seed in one year. It begins to germinate in early April yearly, and continues to germinate into the Summer ... the plant grows quickly and forms a dense growth which resembles the spokes of a wire wheel with all branches stemming from a single tap root (see illustration). If the weather is hot and dry, each plant spreads quickly to cover an area of several feet. If the weather is dry and cool, plants become stunted and though all other processes develop normally its tentacle-like branches are stunted in growth and may only extend a few inches as it did this past season because of the unusually cool summer nights.

Like all serious annual weeds, its growth habits help perpetuate it ... due to the flat growing habit of Knotweed, its branches escape the mower

and so the plant matures and seeds heavily before it turns brown-black and dies with the frost. Like all pernicious weeds, one plant produces thousands of viable seeds before it dies ... viable seeds which germinate like clockwork during the first week of April in most of the Northeastern region.

It is not difficult to control Knotweed if the Spring weather is normal, however, this past Spring season the extreme drought made it impossible to risk spray with most herbicides ... and sodium arsenite is one of the most dangerous to use when soils are dry when selective control is sought.

Normal control measures include three or more treatments beginning the first week of April and weekly thereafter until adequate control is insured. The first treatment normally is made at 1-1/2 pints per acre, and subsequent treatments at one quart to the acre ... although if the Spring is rainy and cool the grasses could tolerate 3 pints to the acre without injury.

Knotweed is a tough persistent weed ... once it gains foothold you can count on re-infection ... it takes several seasons of vigilance and treatment to keep it suppressed ... but good judgement in control program will eradicate it. Weather plays an important part in the program with respect to safety of application with sodium arsenite -- if soil moisture is good and air temperatures are below 75° F, then it is safe. As Bill Bengeyfield, Western Director of the Green Section says "BE PREPARED TO ROLL WITH THE WEATHER!"

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Ice Cover on Greens -- A Problem of the Winter Ahead?

An excellent discussion concerning ice cover on greens appeared in the February 1962 issue of the Mid-Continent Turfletter published by Green Section staff members Marvin Ferguson, Jim Holmes and Holman Griffin. With the approach of winter, points in this discussion bear repeating at this time. We quote from their text as follows --

Damage to ice covered greens is most severe on poorly drained greens. This damage actually results from insufficient oxygen in the root and rhizome area and increased activity of parasitic fungi. What then can be done to minimize the turf damage?

Break up and melt the ice

Punch holes at least 3 inches into the soil by using a 1/2 inch diameter or larger sharpened bar making the holes from 1 to 3 feet apart. Keep holes open throughout the ice period. A melting of the ice can be hastened by applying fertilizer -- soluble inorganic as ammonium sulfate (2 to 3 lbs. per 1000 sq. ft.), natural organic (10 to 20 lbs. per 1000 sq. ft.). Natural organic fertilizer is preferred as less burning may occur. Apply fertilizer only when another ice cover is very unlikely.

Remove the water

After final melting of the ice and warm weather is forecast drain or dry the green. This water removal can be done in many ways; push water

from low areas with squeegees, shovels, etc.; in severe cases dig a ditch through green to be filled and sodded later; punch rods through the soil to underlying tile.

Protect against diseases

It is a standard good practice to spray greens with a mercuric fungicide prior to the first snow of winter and once or twice when greens are clear as the winter progresses. With greens covered with ice it is most important to treat with fungicides of the Mercury, Cadmium, Thiram type as soon as possible as fusarium and helmenthosporium fungi are most prevalent as ice begins melting. Diseased areas should be treated 3 to 4 days apart.

Don't build troubles in

In the construction of new greens or the rebuilding of old greens provide for adequate surface and subsurface drainage. Well drained greens are damaged considerably less than poorly drained greens when covered with ice.

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Woodman, spare that tree!
Touch not a single bough!
In youth it shelter'd me,
And I'll protect it now...

Old tree! the storm still brave!
And, woodman, leave the spot;
While I've a hand to save,
Thy axe shall harm it not!

A century and a half ago, George Pope Morris wrote this famous verse. The sentiment is unchallenged today, trees add considerably to the comfort of living whether it be a playground, picnic area, home lawn, or golf course. Golf course people especially are ever mindful of the value of trees to beautify and improve the course for play. Tree planting or replacement is always an important part of their over-all program. The most forceful impetus to focus attention on trees recently has been the tragic loss of the graceful elms to the dread and deadly Dutch Elm disease. Unfortunately many of these elms were planted in strategic locations ... to sharpen a dog-leg ... or to accent a fairway ... or to narrow the vista from tee to green. These are being replaced by young trees now, but it will be several years before their full impact on the course is realized.

It is hard to conceive that anything as beautiful as a tree could be of detriment to the golf course ... but there is exception here that proves the rule ... when grasses compete with trees for sunlight, air, nutrients, and moisture grasses always come out second best. When this occurs on greens or tees the turf thins-out appreciably, a black scum algae forms, Poa annua takes over ... then it becomes a problem of thinning out the stand of trees, pruning limbs high, cleaning out the underbrush growth, and pruning tree roots to a depth of 18 to 36 inches. Sometimes it even means the removal of several healthy trees and so the turf managers sequel to Mr. Morris' verse might be --

Woodman fell that certain tree
Dismantle it so far as you are able
For with it standing, the poor green
Feeds at the second table.

Eastern Turfletter

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