

pionships that were held at the Two Harbors Curling Club. It is the first time I have ever won a big event in front of a home crowd, and the feeling is truly amazing when the entire crowd is as happy as you are when you win.

It was my fifth national championship in curling, but by far the most memorable, just because of the excitement of winning in front of the home crowd. When Scotland won our game, I sort of relived that feeling I had in Two Harbors, and I suppose that is why I was so happy for them. After losing to Scotland in the Semi-finals, we went on to beat Sweden in the Bronze medal game, and Scotland went on to beat Canada for the gold. Standing on the medal stand – as they

raised the American flag – was an absolute AMAZING experience. I truly felt like one of the luckiest people in the world! Especially when I got back home to Silver Bay to find that my golf course had wintered in the best shape in perhaps 25 years or so. I'm still riding on cloud nine.





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*Lock and Load  
Buckthorn...You're Dead!!!*

*By Dr. John Lloyd*

The shrub buckthorn (*Rhamnus cathartica*), was introduced into the United States as an ornamental plant from Europe, where it is used as a hedge and as a border plant.

Unfortunately, in North America it has choked out understory plants in native forests and has become a major issue in edge rows where it creates an almost impenetrable barrier with its angular branches and thorn-like branchlets.

Buckthorn is common on the outside of roughs in golf courses and can grow in any wild areas where birds may perch and release seeds. While little whips can be managed through mowing and routine applications of herbicides, prob-

lems can occur when edges are not maintained and the plants are allowed to become established. Once the shrubs become woody, they will out-compete native vegetation and begin encroaching into the rough.



Due to the density of their canopies they will affect sightlines and can impact play in the rough.

When buckthorn becomes a barrier to play, the primary option is to bring in

the chainsaws and herbicide concentrates to clear the impacted area and treat the stumps to reduce the chance for re-germination from the roots. However, this effort is usually only temporarily successful due the seed bank that has been left in the soil. Seeds can germinate up to five years after they have been dropped from

the shrub into the soil and can return in a much higher density than before the initial treatment.

Buckthorn management is a long term commitment. The key to successful buckthorn management is early intervention and annual treatments based on a long term management plan, where acceptable outcomes and techniques can be merged with budgetary and staff limitations.

Over time, the seed bank will be depleted, as long as birds are re-infesting the area. The standard methods of management require mechanical removal and stump

treatments with glyphosate or triclopyr. Spray applications can also be effective, but aren't recommended where buckthorn is adjacent to other trees and desirable plants, or where drift into water ways may be an issue.



We are currently testing a buckthorn remediation system that uses a tool called the EZ-Ject Lance. The lance contains herbicide in 22 caliber shells that are stabbed into the base of the

buckthorn plant. The sap from the plant activates the herbicide and it is translocated throughout the buckthorn. In previous research death of treated plants occurs within one season and trunk and root re-sprouting appears to be minimal. A key

benefit of the system is that there is no risk of drift, or the possibility of impacting adjacent plants with the herbicides.

We are working with Heritage Shade Tree Consultant, Inc. and Greenlife Supply, Inc. in the Twin Cities to evaluate the effectiveness of this system for the control and long-term management of buckthorn. Demonstration projects have been developed with collaborating communities in the metro, but we would like to work with superintendents with buckthorn problems to examine its use and its effectiveness for management of buckthorn and

other undesirable woody species on golf courses.

Collaborators will be provided with equipment, supplies and training on how to use the system and will be supported on treatment and evaluations that will be required for proper scientific validation. In addition collaborators will be allowed to purchase the equipment at a greatly reduced cost at the end of the study.

*Interested superintendents should contact Manuel Jordán with Heritage Shade Tree Consultants at [manuel@heritageshade-tree.com](mailto:manuel@heritageshade-tree.com) or 763-717-9366*



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# Issues With Ants?

Dr. Vera Krischik, Associate Professor, UMN



Ant mounds on greens can be a nuisance on golf courses, as the mounds create obstacles and dull mover blades. These are secondary nests, while the main nest chamber with the queen is much more likely to be in the natural soil of the roughs. The mounds around the nest openings are the soil carried out by the ant in their mouth as they excavate tunnels and brood chambers under the surface. *Lasius niger* is the most common ant species on roughs, fairways, lawns and other sunny turf sites, according to Dr. Dan Potter of the University of Kentucky, who has studied this pest/beneficial insect for many years.

Ants are social insects that have a division of labor among the queen and workers, and have perennial colonies. The egg laying queen and her larvae are underground and the workers forage for insect larvae, eggs, and adults. The number of mounds increase from spring to fall as the colony grows in numbers and needs more real estate for their tunnels and mounds. In late summer new females and males take flight into the air and mate. The male dies, but the female drops her wings and tunnels into the soil to initiate a nest, but she does not start to lay

eggs until the spring. These new queens produce new nests, while her mother stays in the old tunnels. This process is repeated every fall.

Dan Potter's research demonstrated that 62% of 1,600 newly hatched cutworms placed near *Lasius* nests on collars or putting greens were eaten by ants. In other research, turf grass plugs on which black cutworm moth eggs were laid, were implanted into fairways or roughs at two golf courses, and the mortality of the eggs was monitored. *Lasius* ants consumed as many as 85 percent of the eggs in untreated roughs in 24 hours. In treated fairways where ants were less abundant, many more cutworm eggs survived to hatch. In research, significantly higher numbers of white grubs occurred in turf plots where ants were selectively eliminated. Before it was removed from the market, the organophosphate (class of insecticide) insecticide diazinon that was used to control grubs, also managed ants and caused secondary outbreaks of sod webworms, which we rarely see today.

When the ant mounding starts

getting bad, superintendents should focus control on the collar and a couple of meters beyond it. Controlling ants is difficult because fast-acting insecticides, such as pyrethroids and organophosphates, usually kill only a portion of the workers foraging on the surface, but fail to eliminate the queen. Consequently, the colony recovers and new mounds appear.

Dan Potter recommends treating a 20 to 30 foot band around greens and tees. Mid-season applications are probably the least effective at colony elimination and may require another application. Treating when the mounds first appear in the spring seems to be the best approach but fall treatments were surprisingly effective. Dan has a recent online article at Grounds Maintenance ([http://grounds-mag.com/golf\\_courses/grounds\\_maintenance\\_managing\\_nuisance\\_ants/](http://grounds-mag.com/golf_courses/grounds_maintenance_managing_nuisance_ants/)). Spraying of a mixture of classes of insecticides may be more effective than solely spraying a pyrethroid. Spray a formulated mixture of a pyrethroid and neonicotinyl insecticide, such as Aloft (bifenthrin and clothianidin), or Triple Crown (bi-

fenthrin, zeta-cypermethrin and imidacloprid) or using your own tank mix (lambda-cyhalothrin and thiamethoxam). Acelepryn (chlorantranilipole) does not have activity on *Lasius*. Superintendents who switch from pyrethroids to Acelepryn for extended control of cutworms may see more ant mounds, as the ants are no longer controlled by the former multiple seasonal sprays of pyrethroids.

Ant baits are too expensive for broadcasting on fairways, but they are cost-effective for spot-treating putting greens. Superintendents who have tried them report good results and the labels allow use on golf courses. A small amount of bait will eliminate a nest in about 2 days. Then, once the mounds are raked or knocked down by mower blades, they will not be rebuilt. Currently Dan Potter's minimum effective rates are about  $\frac{1}{4}$  teaspoon of bait per mound. *Lasius* takes baits both day and night, but delay irrigation for 24 h when baiting because they don't take soggy bait. Dan Potter's research demonstrated reduced numbers of ant mounds when spot-treating with Advion Fire