

GROWING KNOWLEDGE

Series content is coordinated by Dr. Jay Pscheidt, professor of botany and plant pathology at Oregon State University in Corvallis, Oregon.



Oregon State
University



An ongoing series provided by
Oregon State University
in collaboration with the United
States Department of Agriculture
and in partnership with the
Oregon Association of Nurseries



Figure 1. Image of replica elk skull, Skulls Unlimited International, downloaded Nov. 27, 2019, www.skullsunlimited.com/products/

The battle with Bambi

Growers have several tools available to defend against plant damage from deer and elk

BY DANA SANCHEZ

OREGON'S DEER AND ELK are prized by hunters and non-hunters alike, and thus represent an income-generating game and wildlife-viewing species for many communities across the state.

But for many nursery operators, these majestic animals are a serious detriment.

Deer, elk, and other members of the family Cervidae (cervids for short) come into conflict with our agricultural efforts for two main reasons. They are wide-ranging herbivores, or plant-eaters, and they are large-bodied and social, meaning they live in groups.

If they come foraging, they may choose your area as a rest-and-ruminate stopover, or decide that your prime-aged display plants would be a perfect communications (aka "horning") post. These plant-eaters — with their soil-compacting hooves and fence-flattening bodies — can make major impacts on your nursery operation, potentially in just one night.

In fact, if one were to design a place specifically to attract deer, they might want to just install an orchard or food plot. In fact, that is exactly what Quality Deer Management® programs recommend doing — if you want deer. QDM is a private-lands management model aimed at maximizing the production of trophy-class deer.

But for those who grow crops, and don't value deer in the same way, a damage prevention plan to thwart hungry deer is a treasure of its own value. Now is a good time to assess your defenses and decide if maintenance or new investments are needed.

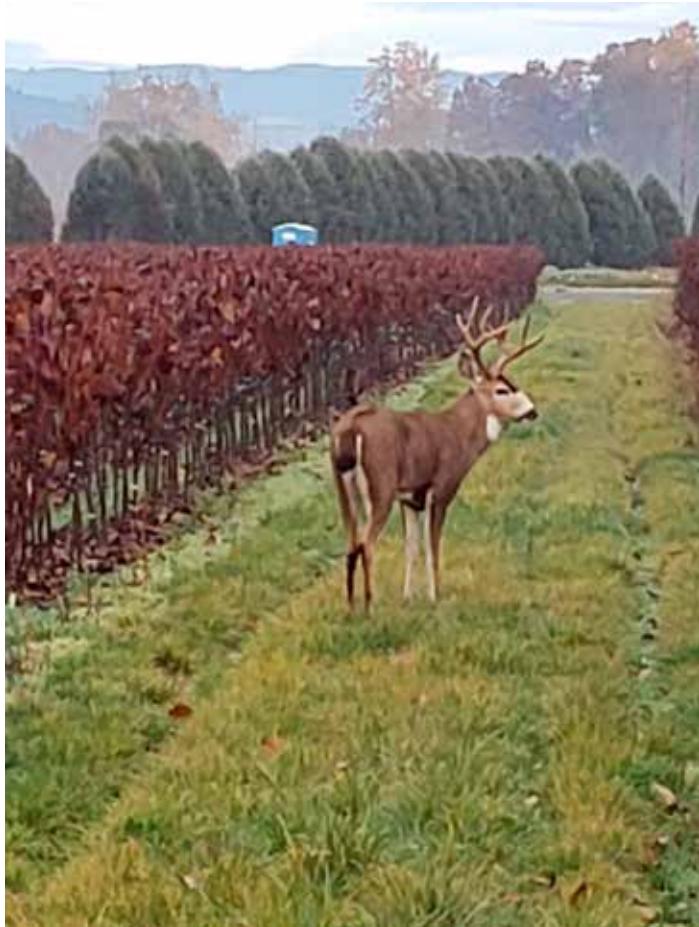
Deer on a mission

Deer are ideally suited for eating plants, and their skulls demonstrate how this is so. Their long jaws (Figure 1) are dominated by molars for crushing and grinding the fibrous plant tissues. Only the lower jaw has incisor teeth, trapping plant material between that cutting edge and their toughened upper palate, thus producing that ➤

The battle with Bambi

Deer can do irrecoverable damage to crops.

PHOTOS COURTESY OF BAILEY NURSERIES.



familiar torn-off “tag end” appearance on affected stems.

Deer have four-chambered stomachs that enable them to further process plant material through cud chewing and rumination, but they cannot profit from plants without some help. Their saliva contains proteins that reduce the effects of secondary plant compounds such as tannins. They also depend on a rich community of gut

microbes in order to extract nutritive value from structural carbohydrates such as lignin and cellulose.

Deer are a “landscape species,” meaning that they are naturally suited to travel widely daily, seasonally, or over the span of their annual cycle. They often browse different plant communities as the quantity and quality of available plants varies seasonally. A high quality, predictable and dependable

source of food — such as your nursery — can quickly become a “traditional” stop on the herd’s annual, or even daily, rounds.

Blocking their access

In any wildlife-to-human conflict, our action options distill to a few basic tactics. Blocking access may be the best solution in some cases, but a combination of tactics should always be considered.

At the mention of exclusionary fencing, I expect most readers will immediately envision numerous dollar signs, but an assessment of your operation’s size, location, and needs may justify that initial investment as well as the ongoing maintenance expense.

You may need to fence the full perimeter of your property to keep the deer out, but in some situations, strategic blocking of one border or key travel routes may be sufficient.

Reflect on the challenges presented by deer as you consider whether exclusion is the best choice for you. The need to be mobile yet defensible is reflected in deer body design.



6494 Windsor Island Rd N

Keizer, Oregon 97303

Strawberries
Raspberries
Blackberries
Grape Vines

503-393-8112
Fax: 503-393-2241
www.weeksberry.com
plants@weeksberry.com

Blueberries
Asparagus Roots
Rhubarb Roots
And Much More!



SMALL FRUIT SPECIALIST
The Very Finest Quality!

Call or Write Today!



Through natural selection, deer legs became lighter to favor speed and mobility, but they retained significant muscle mass to provide an impressive powertrain — enabling the mileage to access food, but also to jump objects while swiftly fleeing predators, and in tight quarters, to be able to use “boxing-style” moves with sharp hooves to deter competitors or predators.

Deer are persistent and very good at throwing their body weight around against any barriers we erect, though it's probably more accurate to say they persistently lean on and crush the fencing. Therefore, it's wiser to make an initial investment in robust materials and adopt a good fence design that suits the topography on your site. Doing it right may pay dividends over time.

Black-tailed deer are significantly smaller (130–200 lbs.) than their bigger cousins, the Roosevelt subspecies of elk (males 700–1,100 lbs.), but deer will be just as guilty as elk of continually testing, pressing, and finding ways under, between, and through any gaps or weaknesses that develop.

Sometimes, reinforcing the message of “keep out” with a strand of seasonal or year-round electric wire can be helpful where a game trail leads to your fence, but remember that the deer will “test” that it is functional. The Oregon Department of Fish and Wildlife (ODFW) has prepared a very useful summary of fence designs to deploy against deer and elk (www.dfw.state.or.us/wildlife/living_with/docs/deerelkfences.pdf)

The next step: Deterrence

In addition to blocking the animals, we also can attempt to deter them. We need to recognize this as a very difficult proposition. It involves motivating the animals avoid or reject the very resources they need and have the instincts and abilities to identify and obtain.

Chemical deterrent tools are one option. Most have not been rigorously tested, and they can become a “six-week wonder” as animals habituate to the taste. Deer may learn to ignore it, and as soon as they do, the feeding frenzy will recommence.

Plantskydd is one product that has produced good outcomes for some Oregon ➤

AT ALPHA... WE BUILT OUR BUSINESS BY TAKING THE TIME TO KNOW OUR CUSTOMERS AND THEIR NEEDS. ALL OF US APPRECIATE YOUR BUSINESS AND WE THANK YOU FOR YOUR CONTINUED LOYALTY. CALL US AT 800.293.1286, OR COME VISIT AND LET US KNOW HOW WE CAN SERVE YOU.

5050 HAZEL GREEN RD. NE • SALEM, OR 97305
WWW.ALPHANURSERY.COM

F&L LUMBER, INC
WHOLESALE LUMBER BROKERAGE

Specializing in Nursery Lumber Needs!

- **Tilt Sticks**
1X1-8' or cut to your length
2X2-8' or cut to your length
1X2-8' or cut to your length
- **Tree Stakes**
- **Container/B&B Pallets**
- **Gates/Gate Boards**
1X4-8' or cut to your length
- **Shipping Racks & Gates**

Call Michelle at **503.803.1175** or fax: **503.212.0160**
FLLUMBER@AOL.COM • **WWW.FLLUMBER.COM**

Where Great Customer Service is a Given! We accept Visa and MasterCard

The battle with Bambi

Deer have eaten tree bark on a nursery.

PHOTOS COURTESY OF BAILEY NURSERIES.

growers and foresters. Ideally, a rotation of different products should be on hand so you can switch products at the first sign of habituation.

Finally, anything we expect to stick to our plants in western Oregon's seasonal weather will need re-application at some point to maintain protection despite degradation by sun or rain.

Other means of deterrence capitalize on fear of predation. Deer and other cervids are a prey species for native predators; that is one of their key ecological roles. Deer are well equipped with eyes, ears, communication, and fleetness to maximize their ability to detect and flee at first signs of potential predators. This can work to the grower's advantage.

By actively hazing animals with cracker shots, rubber (or beanbag) bullets, or other disturbances, we make the argument that this food patch is not worth the

risk. That sounds like an attractive option, but again animals can habituate to many things once it becomes clear there is no real danger.

Consulting with experts

Before you engage in active and passive hazing of deer, these management activities should be discussed with an ODFW district biologist in your area.

Assistance is available to help choose techniques that fit your situation and setting. Beware of attempting "hazing" activities on your own or with your favorite canine friends. Even antlerless animals are very well equipped, willing, able, and documented to severely wound and kill both humans and dogs who put themselves in harm's way.

We humans cannot get inside the cervid mind to know when the "fight rather than flight" tripwire is being triggered, but signs of stress such as stamping, huffing, jaw grinding, and postures can serve as warning that a direct conflict is priming. The best course of action is to avoid tight quarters situations and to engage with professionals for help if hazing is needed.

Finally, to reduce the feeding pressure your property is experiencing, lethal removal of animals from the population may be an option to consider. Again, working with your district biologist is going to be critical for numerous reasons including the agency's ability to issue hunting tags, to schedule controlled hunts, and to manage game populations over the full landscape scale. Lethal removals also tend to make the risk landscape a little



scarier for the remaining deer.

Because deer and elk are managed game species in Oregon, your Oregon Department of Fish and Wildlife district biologist should be your first call for technical advice and discussion of how best to manage agricultural depredation issues over the long term.

Call ODFW Headquarters at 503-947-6000 (or 800-720-6339) with the property address in-hand so they can provide you with the correct office's number. Agricultural producers may also be able to request technical assistance by consulting with the USDA Animal and Plant and Health Inspection Service (APHIS). That agency can be reached at 1-866-487-3297. ☎

Dana Sanchez is Oregon State University Extension Wildlife Specialist, based on the Corvallis campus

**BIRINGER
NURSERY**

WHOLESALE GROWERS OF
Fruit, Flowering & Shade Trees
Deciduous Shrubs
Espalier Apple & Pear
Combination Fruit Trees
Dwarf Fruit Cherries on Gisela™
Frost Peach®

Mt. Vernon, WA
(360) 848-5151 Fax (360) 848-5959
biringernursery@msn.com
www.biringernursery.com