

REPELLENT

HOW IT WORKS

Chemical repellents come in a variety of forms from stickers to pellets to sprays. The chemical signature of an individual repellent acts to ward off deer and (depending on the individual brand) other commonly bothersome garden creatures.

There are four main types of repellents used to control deer movement and activity, all addressed in more detail below. The key to using deer repellents is to remember that deer are relatively intelligent and stubborn animals. They adapt to their environments and persist if there is no personal cost to them. Because of these facts, repellents must not be a single cure to deer issues. Repellents must be rotated and changed to keep deer out of yards and gardens.

TYPES OF REPELLENT

Frightening Repellent

- Motion lights, sprinkles, noise machines, and other similar options can be used to physically scare deer.
- The sudden change in environmental factors (light, sound, water) can frighten away typically skittish deer and keep them from returning to your space for some time.

Mechanical Repellent

- Physical barriers are structures such as fences and walls.
- Note that deer can jump as high as 12 to 15 feet in the air, so shorter structures may be ineffective.
- Deer are persistent and stubborn. They will test mechanical barriers repeatedly for weak spots through which they may enter.

Taste-Based Repellent

- One type of taste repellent can be placed directly on the plant and causes intestinal distress to deer, teaching them the plant is not safe to eat.
- Another type adds a bitter or sour taste to the plants when ingested, deterring deer from the plants in favor of better flavored ones.

PROBLEM DEER MITIGATION STRATEGIES



Scented Repellent

- Similar in concept to frightening repellents, chemical or natural frightening repellents involve imitating the scent and pheromone signatures of predators or other irritating scents to tell deer that the area is not safe.
- Scent can deter deer from farther away, and thus may keep the deer from even entering the area in question.
- Not all repellents smell offensive to humans. Some scents such as mint oils (often combined with pepper and garlic), cloves and cinnamon, or citrus are used to create a positive smell for humans while deterring deer.

FACTS ABOUT CHEMICAL DEER REPELLENTS

- Chemical repellents are impenetrable fences.
- Repellents are most practical for *non-commercial* users.
- Typical situations for repellent use include the following:
 - Landowner desires to protect trees, shrubs, and/or crops.
 - Landowner desires to protect a small area of open land.
 - **Homeowners** desiring to protect gardens, ornamental shrubs, and/or flowerbeds.
- Repellents should be applied *prior* to the period of anticipated damage.
 - Deer are creatures of habit, so once a feeding pattern is established, damage becomes more difficult to control.
- *Apply frequently* to maintain coverage.
 - Reapplication is usually necessary after periods of rainfall, and during peak growth seasons.
 - The addition of a sticker to the mixture, such as Vapor Guard®, or Weathershield®, will reduce the need to reapply after every rain.
- *Switch repellent type periodically* to prevent deer from becoming accustomed to the use of only one.
 - If deer learn that a repellent treated food source does not cause physical distress like gastro-intestinal upset, they will not develop a taste aversion to food sources treated with that repellent.

PROBLEM DEER MITIGATION STRATEGIES



- Be aware that hungry deer may accept the consequences of consuming repellent treated foods, especially when other natural food sources are scarce or unavailable.
- Crops protected by repellents require constant monitoring, as effectiveness may be reduced by a multitude of factors including precipitation, availability of alternative food sources, and adaptation of the depredating species, among others.

CHEMICAL DEER REPELLENT OPTIONS ([DNR Repellent Handbook](#))

PRODUCT	ACTIVE INGREDIENT(S)	MANUFACTURER	SOURCES	COMMENTS
Deer Away (Big Game Repellent)	Putrescent Whole Egg Solids	INTAGRA, INC. (800) 468-2472	https://www.deerout.com/	Non-toxic, biodegradable. Was the top performer of the repellents tested by USDA. Best for use on trees and nursery stock, but not on fruit or vegetable plants when bearing.
Plantskydd	Dried Bloodmeal	Tree World Plant Care Products, Inc. (800) 252-6051	https://www.plantskydd.com/	Use on fruits and vegetables before flowering, trees and ornamentals. Effective in repelling deer, rabbits & elk.
DeerBusters Coyote Urine	100% Coyote Urine	Trident Enterprises International (301)694-6072	https://www.deerbusters.com/	Apply to scent tags and hang throughout area to be protected. Safe to use near edibles, as there is no contact with individual plants.
Hinder	Ammonium soaps of higher fatty acids	Pace International Kirkland, WA (509)848-3300	https://www.seedranch.com/	Safe to use on fruits and vegetables
Repellex Fruit & Vegetable Organic Deer & Rabbit Repellent	Dried eggs, pepper, garlic, & other natural oils	Repellex USA, Inc, Niles, MI 49120 (877)737-3539	https://www.repellex.com/	Safe to use on edibles. Protects 60-90 days

PLANTING

HOW IT WORKS







The most ecologically positive and beautiful way to protect your space from deer damage is by introducing plants that deter deer naturally. Mixing these species into your garden can bring beautiful diversity to your outdoor space.







Deer enter your yard for the main purpose of finding food. If your space is free of plants that deer enjoy, the chance of deer damage greatly decreases. Through a variety of approaches, planting the right kind of foliage as a barrier can protect the rest of your garden.

Of course, **no plant is 100% deer proof** or guaranteed to keep deer from gardens, yards, or fields. By using plants as a natural solution to deer problems, you increase the beauty of outdoor spaces while naturally deterring deer and decreasing deer damage opportunities.

WHAT CAN WE DO?

The tables on the following pages outline a variety of plants, many of which are native to Minnesota and naturally deer repelling. Listed in the table are the reasons for deer aversion, plant species names, and photo examples for reference.

Plant Attributes	Species Names	Graphic 1	Graphic 2
Fuzzy or hairy foliage <i>If you rub the plant's foliage between your finger and thumb and feel bristly or soft hairs, deer will generally stay away from eating said leaves.</i>	<ul style="list-style-type: none"> Lambs ear (Stachys) Lady's-mantle (Alchemilla mollis) Siberian bugloss (Brunnera macrophylla) Ageratum (Graphic 1) Spirea (Spiraea) Yarrow (Achillea) (Graphic 2) 		
Plants containing compounds toxic to deer <i>Deer learn what plants cause intestinal distress and avoid them.</i>	<ul style="list-style-type: none"> False indigo (Baptisia australis)1 Bleeding hearts (Dicentra) Hellebores Daffodils (Narcissus) 2 Monkshood (Aconitum) 		
Heavily fragrancd foliage <i>Deer, like people, eat with their nose first. An overly aromatic plant often deters their feeding by confusing their olfactory system.</i>	<ul style="list-style-type: none"> Sage, thyme, or rosemary Russian sage (Perovskia) (Graphic 1) Catmint (Nepeta) Blue mist shrub (Caryopteris) Boxwood (Buxus) (Graphic 2) 		
<u>Important Note:</u> Some deer-detering plants may also cause irritation or harm to humans, so do research on individual species before planting!			

Plant Attributes	Species Names	Graphic 1	Graphic 2
<p>Thick, leathery or fibrous foliage</p> <p><i>Hard to digest and chew, deer generally opt for thinner leaves.</i></p>	<ul style="list-style-type: none"> Iris (Iridaceae) Arrowwood viburnums (Graphic 1) Boxwood (Pachysandra) Peonies (Paeonia) (Graphic 2) 		
<p>Spiny or prickly foliage or stems</p> <p><i>The physical nature of these plants deters deer due to the potential harm in ingesting.</i></p>	<ul style="list-style-type: none"> Barberry (Berberis) (Graphic 1) Bear's Breeches (Acanthus mollis) (Graphic 2) 		
<p>Grasses</p> <p><i>They are difficult to digest, and their sharp edges are uninviting to hungry deer.</i></p>	<ul style="list-style-type: none"> Flame grass (Miscanthus sinensis 'Purpurascens') (Graphic 1) U of M Bluestem (Schizachyrium scoparium) (Graphic 2) 		

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