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# Lives & Landscapes

THE MAGAZINE OF MONTANA STATE UNIVERSITY EXTENSION



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# Lives & Landscapes

Dear Lives & Landscapes reader,

Thank you for your support of Lives & Landscapes magazine.

Our editorial board meets before each issue to thoughtfully plan articles related to life in Montana that are informative and helpful. We try to draw upon experiences both rural and urban, for beginning and seasoned gardeners, families, producers, and businesses to provide stories that inform and inspire.

We're always interested to hear from our readers and subscribers about stories they would like to see. We welcome your suggestions, email us at [ExtensionMagazine@montana.edu](mailto:ExtensionMagazine@montana.edu).

This issue includes topics for the spring and summer seasons. Learn about safe boating, building a first aid kit, choosing a storybook about Alzheimer's, finding support for kinship caregivers, windbreaks and shelterbelts, fly control management for livestock, managing risks on the range, Little Creek Lamb & Beef, a community garden in Hays, deer in the garden, the benefits of 4-H, and volunteering with MSU Extension. I hope readers find something that helps them through the warm months.

We look forward to hearing your suggestions on stories you'd like to read about.

Appreciatively,

Erika Malo

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**Erika Malo is the MSU Extension External Relations and Social Media Coordinator and managing editor of Lives & Landscapes.**



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## Have an idea for a story or a question for Ask Steward or our Master Gardeners?

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# Boating Safely in Montana

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Boating is an ever-growing activity in Montana and across the U.S. In 2021 Montana had more than 97,000 boats registered, excluding non-motorized vessels. It is important to consider the safety of yourself and others to maintain enjoyment for all.

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The best way to protect yourself and others is to follow all boating rules and guidelines and respect other water users. Over the past five years, Montana has averaged 16.4 boating accidents per year and 6.4 fatalities per year. In 2021, there was a reported \$56,050 in personal property damage from boating accidents on Montana waters (U.S. Coast Guard 2021 Report).

Before each outing, complete a boater's safety checklist (found at [fwp.mt.gov/activities/boating/safety](http://fwp.mt.gov/activities/boating/safety)) to ensure you have the proper working equipment.

Understand the safety requirements for your boat and trip. Different vessels have different requirements, so take the time to ensure you have the proper equipment (find more details at [fwp.mt.gov/activities/boating/rules-regulations](http://fwp.mt.gov/activities/boating/rules-regulations)).

No matter the vessel type or size, each person onboard is required to have access to a life jacket, and any person 11 years and younger is required by law to wear a life jacket. Check the requirements for noise makers; while it is only suggested that a manually propelled vessel has at least a whistle, motorized boats more than 26 feet in length must carry a bell, whistle, or horn capable of producing sound audible for one mile.

Drowning accounts for 81% of fatalities while boating in the US. Of drowning victims, 83% of victims were not wearing life jackets. In addition, where safety instruction of the boat operator was known, 75% of deaths occurred on boats where the operator had not received any instruction (U.S. Coast Guard 2021 Report).



Photo: Erika Malo, MSU Extension

Because paddle craft are extremely accessible, beginners often start here. A 2019 report by the Outdoor Foundation found that almost 20% of paddle sport users were in their first year as participants. Often these users tend to be less aware (or less experienced) about safe use and may think there is no need for life jackets. This is a common misunderstanding of the potential dangers of paddle craft, which include canoes, kayaks, and paddle boards (sit-on and stand-up).

Another danger of boating is the potential for cold water immersion. Cold water immersion is when someone enters water 65°F or less. Most Montana waters stay below 65°F year-round, so to keep yourself safe, wear a lifejacket to help ensure your head, neck, and face stay out of the water if you fall in. If help is nearby, avoid swimming as moving the water around you will push warm water away from the body, replacing it with cold water. Instead, it is best to use a heat-escape-lessering-posture (H.E.L.P.) by bringing your knees as close as possible to your chest and grasping your hands together over your chest or under your armpits. Regardless of the situation, you want to get out of the water immediately.

Wake sports are another type of growing water sport that is often highlighted. One person's actions can negatively influence the public perception of the boating community. One boater "buzzing" fishermen can instill negative perceptions toward all motorized watercraft users. Another issue that can create negative public perception is making waves too close to shore, which can lead to shoreline erosion, a topic of concern across Montana. Landowners and organizations work diligently to reduce the effects of waves, which destroy habitat, access, and property. In Montana, several water bodies have no-wake restrictions, completely or within a certain distance of the shoreline. The Montana Boating Laws booklet ([fwp.mt.gov/activities/boating/rules-regulations](http://fwp.mt.gov/activities/boating/rules-regulations)) will declare specific speed restrictions for the water body.

If this all sounds intimidating, it can be. But if one takes some time to prepare and learn safety protocols, becoming a statistic can be avoided.

**Take a safety course.** The U.S. Coast Guard offers in-person classes that contain valuable learning materials. Montana Fish, Wildlife & Parks (FWP) offers several online class options at a wide range of prices, as well as a home study course. Boating safety information is readily



accessible and can drastically increase the odds of having a safe and enjoyable time.

**Plan for your trips.** Ensure you have packed the correct number and sizes of life jackets for passengers. Take the time to read bathymetric maps of the area and know where potential underwater dangers exist; these depth maps may be available through FWP, local fishing guides, or multiple boating and fishing apps. Create a float plan and leave it with a trusted friend or family member.

Taking appropriate safety measures and following rules and guidelines will ensure many more safe boating adventures in the future. Refrain from using drugs or alcohol before and during any boating outing and remain attentive to surroundings for safe boating.

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**Kylie Kembel is the Montana Fish, Wildlife and Parks Outdoor Skills Coordinator.**



# Outfitting a First Aid Kit for the Trail or a Vehicle and What to Consider

“What should we carry in our first aid kit?” This is a common question asked of EMTs (Emergency Medical Technicians), search and rescue team members, and outdoor professionals. This may seem straightforward, but the answer is always, “It depends.” Plenty of over-the-counter first aid kits fill many needs, but a kit can also be tailored to specific uses. A well-planned kit will have what you need and eliminate unnecessary items.

The specific context for who, where, and when will help answer the factors around “it depends.” There is a saying in pre-hospital medicine, “You are number one.” This means you must be prepared to take care of yourself first. If you do not or cannot, you won’t be able to assist others. Knowing how your body reacts to stress is paramount to building an

appropriate kit and caring for yourself. Also, consider the needs of other members of your group. Are there seniors or infants? Anyone with a severe allergy, diabetes, or other medical history? Knowing the needs is a key first step to being prepared. For example, a person with herniated back discs will likely want anti-inflammatory medication in their kits. If a person in your group regularly gets blisters on their feet on hikes, be sure to bring blister care materials, even for short hikes.

Know the details of the excursion. Are you traveling in freezing or hot conditions; will you go on a short hike in the desert or an extended backpack in the mountains? Answering these questions will help outfit the kit appropriately. When hitting the trail in snowy winter

conditions, consider packing extra hand warmers, but swap out chemically-activated ice packs from the summer kit for a few extra plastic zipper bags which can hold snow for an icepack or double for many other needs. For extended trips, consider carrying more medications (e.g., anti-diarrheal, cold medicine, anti-inflammatory, and aspirin). It is also helpful to consider what other items you carry that could be useful in medical situations, such as trekking poles, sleeping pads, sleeping bags, light sources, etc.

Even in the most stripped-down kit, some basics are always good to have (see “Baseline Kit Materials”). In addition to those items, a multitool or knife always brings value. This basic list of supplies all weighs under 1.5 pounds. It takes up little space in a pack yet includes things to save a life and enough other items to handle most problems encountered on short hikes. For a bigger trail kit, include the baseline kit materials and those listed under “Larger Kit Materials.” This larger trail kit can also double as a vehicle kit.

Just as important as items in a kit is knowing how to use them. A tourniquet will be useless if you don’t know how to apply it effectively. Familiarize yourself with what is available in a kit, where items are located and how to use them. Consider registering for introductory medical training on CPR (cardiopulmonary resuscitation), first aid, or enrolling in a Wilderness First Aid course. Taking a first aid course every few years is a good way to keep skills sharp.

As items get old and expire, they can still be useful. Old tape, dried gauze, etc., can be used for practice. It is much better to practice under calm, non-emergency conditions than to use things for the first time in the field. When medications age, they lose effectiveness and should be replaced. This is exacerbated by being left in extreme conditions. Avoid leaving kits in the car or in extreme temperature conditions for extended periods.

As you spend time on the trail, update kits with what works best for you. A kit should not be a “set it and forget it” item; go through it regularly, even just opening it for a quick look before hitting the trail will keep you aware of what tools you’ve got. Remember, these kits are to help make adventures safer and more pleasurable. They may even help save a life, so don’t skimp to save a few dollars or a few ounces in a pack. First aid kits are tools and ones we hope we never need. If you do, you’ll be happy to have it along.

### BASELINE KIT MATERIALS

- Gloves in several sizes
- Pocket mask with one-way valve
- Tourniquet
- Alcohol wipes (2)
- 3" roll self-adherent bandage wrap
- 3" non-stick gauze pads (2)
- Blister care
- Paracord
- Triangular bandages (2)
- Band-aids (assorted)
- 2" roll cloth tape
- Anti-inflammatory medication
- Light source

### LARGER KIT MATERIALS

Everything in the baseline kit plus...

- 36" moldable splint (SAM, Rhino)
- Extra roll of self-adherent bandage
- 3" elastic wrap
- Extra non-stick gauze pads (3" and 4")
- Gauze rolls
- Trauma shears
- Emergency blanket
- Burn gel
- Medications (aspirin, anti-diarrheal, cold)
- Lighter and fire starters



**Brian Ertel is a Fisheries Biologist with the National Park Service and an EMT.**

# Understanding Alzheimer's Through Storybooks



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Were you aware there are more than 22,000 Montanans living with Alzheimer's? Did you know 25 percent of Alzheimer's caregivers also raise minor children? This means an increasing number of Montana children are experiencing and interacting with someone such as a grandparent who is living with Alzheimer's.

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People with Alzheimer's or another form of dementia tend to repeat stories and express paranoia or suspicious beliefs. They may wander or become agitated and may not recognize their family members in the later stages.

These symptoms can be upsetting and difficult for children to understand. Children may choose to spend less time with the relative living with Alzheimer's and experience less emotional attachment. They may show signs of anxiety and confusion when they are around the person. Additionally, they may feel scared, guilty, and upset. If the relative lives with the child's family, then the child may become embarrassed if their relative displays odd behaviors while a friend is visiting.

Luckily, there are resources available to parents and caregivers to help their children cope with these experiences. Bibliotherapy is the practice of using storybooks to help children understand and cope with difficult issues. While the clinical bibliotherapy approach addresses trauma in clinical settings, parents, educators, and experts use developmental bibliotherapy to help support children's social, emotional, and cognitive well-being and development.

Choosing a suitable storybook about Alzheimer's may seem difficult. However, asking certain key questions makes the choice easier. There are crucial ideas and questions to consider. Books depicting Alzheimer's should help children understand and cope with the changes that Alzheimer's brings to family life. The storybook should also support the maintenance of relationships between family members.

## QUESTIONS TO ASK

When selecting a book, ask the following questions:

- Does the storybook give straightforward and comprehensive Alzheimer's information for parents? Does it use diverse characters children can relate to?
- Does the storybook capture children's experiences with a relative who has Alzheimer's?
- Does the storybook show support from a parent or caregiver?
- Do the characters portray positive modeling, healthy coping skills, and positive communication? Does the book's character show common Alzheimer's behaviors by the family member living with Alzheimer's?
- Does the book show supportive relationships between the child and the grandparents?
- Do the characters involved in the care of a relative living with Alzheimer's explain what they are doing and why?

These questions can help select a book that portrays Alzheimer's in a way your child will understand.

## GUIDELINES FOR READING TO A CHILD

If you are a parent or caregiver who is reading a storybook to a child, there are guidelines researchers have created to make the experience more effective.

First, focus on the specific issue or problem your child is facing. For example, a grandparent may show signs of forgetfulness and cannot remember the grandchild's name. Perhaps Grandma is crying because she wants to go home when she is already home. Grandpa takes a walk or drive and does not know the way home.



Photo: AdobeStock

Second, identify the goals to achieve by reading a storybook about Alzheimer's to a child. The goal may be to reassure a child that the family member still loves them or to provide them with ways to help the family member.

Third, select the proper storybook for the topic. Montana State University Extension has a list of Alzheimer's storybooks and reading guides at: [montana.edu/extension/alzheimers/booksandreadingguides.html](http://montana.edu/extension/alzheimers/booksandreadingguides.html)

Fourth, implement these activities when reading aloud to a child. For example, pick an ideal time for you and the child to read each day. A fact sheet outlining recommended practices is available at: [montana.edu/extension/alzheimers/alzheimertraining/communitytrainingsession/handouts/recommendedpractices.html](http://montana.edu/extension/alzheimers/alzheimertraining/communitytrainingsession/handouts/recommendedpractices.html)

Fifth, plan for follow-up discussions and activities to help draw out the main concepts or goals of the storybook. For example, in one Alzheimer's storybook, the grandchild made a memory box for Grandpa. In another, a grandchild decided to "tell grandma the same stories over and over again because they were her favorite stories."

When reading and discussing storybooks that show family experiences with Alzheimer's, gains in knowledge may occur for both the reader and the child. Research shows there is an increase in positive attitudes and willingness to interact with a family member with Alzheimer's dementia after an adult reads and the child hears the story.

## FREE ALZHEIMER'S STORYBOOK OFFER

MSU Extension is offering a free storybook about Alzheimer's to individuals who read this article and would like to have a book to read to children. Go to this website ([www.montana.edu/extension/alzheimers/](http://www.montana.edu/extension/alzheimers/)), click on "Order Form for Free Storybook," fill in your information, and use the promotional code "Alzheimer's Storybook 1."

Readers who do not have computer access can call 406-994-3511 to receive a free book. The authors express appreciation to AARP Montana and the Montana Geriatric Education Center at the University of Montana for providing funds to purchase storybooks to share with Montanans who want their children to understand Alzheimer's.

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**Jennifer Munter is an MSU graduate student in Health and Human Development, and Marsha Goetting is a Professor and MSU Extension Family Economics Specialist.**



# Ask Steward: How can Kinship Caregivers get Support in Montana?

## WHAT IS A KINSHIP CAREGIVER?

A kinship caregiver is a family relation caring for a child when the caregiver is not the parent. Grandparents raising their grandchildren is an example of a common kinship family, but kin caregivers can also include aunts, uncles, siblings, a close family friend, or tribe member. These caregiving relationships can happen within a formal foster care placement, but they may also occur outside of the foster system. Relatives are the preferred caregivers when a child cannot be with their birth parent because research indicates it may maintain family connections, increase stability, and minimize the trauma of family separation.

## HOW COMMON IS IT IN MONTANA?

According to 2021 GrandFamilies Montana:

- More than 21,000 children live in homes with relatives as head of the household.
- 8,000 of those children are being raised by kin with no parent present.
- For every child raised by kin caregivers within the foster system, four more children are in kin care without formal foster support.



Photo: Karri Lewis, MSU Extension

### WHY WOULD A KIN CAREGIVER NEED SUPPORT?

This is often an unexpected situation with new responsibilities and systems to navigate for both caregiver and child. Research indicates that kin caregiving families who receive kin caregiver specific supports are more likely to improve:

- Child well-being with fewer behavioral challenges, fewer mental health disorders, less placement disruption, potentially increased self-esteem, and similar reunification rates compared to foster youth.
- Caregiver well-being by reducing caregiver stress, strengthening family relationships and dynamics, finding peer connections, increasing self-confidence and parenting knowledge, and accessing relevant resources and services.

### HOW COULD A KIN CAREGIVER GET SUPPORT?

- **Through community organization referrals.** Some family and child support organizations have partners to help kin caregivers connect with the Montana Kinship Navigator Program (MTKNP).
- **Family or friend suggestion to connect.** Some caregivers may not know about these resources or realize they are kin caregivers. A friendly suggestion, social media post, or shared experience can help kin caregivers connect to MTKNP resources.
- **Directly via web, phone, or email.** Kin caregivers can contact the program directly for assistance, information, and referrals.

Website: [montana.edu/extension/mtknp/index.html](http://montana.edu/extension/mtknp/index.html)

Phone: 406-994-3395 or 1-888-445-3395

Email: [mtknp@montana.edu](mailto:mtknp@montana.edu)

### MONTANA KINSHIP NAVIGATOR PROGRAM

The Montana Kinship Navigator Program (MTKNP) is a program delivered by Montana State University Extension and funded by the Montana Department of Health and Human Services. MTKNP serves kinship and relative caregivers for the entire state of Montana, including rural, urban, and tribal communities. The program was founded in 2002 as Grandparents Raising Grandchildren and continues to evolve in name and service to meet local needs. MTKNP is undertaking a multi-state evaluation effort to become a well-supported, evidence-based program



recognized in a federal service program. It offers caregivers peer support, education and access to resources so they can live happier, healthier lives and can, in turn, raise children who know emotional and physical safety, excel in school and social situations and are prepared to take on the challenges of their new life. In addition, it provides resources, support and referrals to other agencies and organizations that serve kinship families.

The goal of the Montana Kinship Navigator Program is twofold — to support kinship families caring for children through building safety, stability, permanency and well-being, as well as build community to link kinship families to community resources.

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**Brianna Routh is an MSU Extension Food and Family Specialist and Assistant Professor in Health and Human Development.**



# Why 4-H?

## Reasons to join the largest out-of-school youth development program in Montana

Montana 4-H is the largest out-of-school youth development program in the state, reaching approximately 18,000 youth in all 56 counties and seven reservations each year. What makes this organization so valuable? When surveyed, 30 members from across the state explained why they are involved in 4-H and its impact on their lives.

### 4-H IS ENGAGING AND DEVELOPS EMPLOYABLE LIFE SKILLS

*“Because of 4-H, I can pursue my degree in animal science.”*

— Yellowstone County 4-H Member

4-H offers more than 200 different projects that actively engage youth. Whether learning about conservation, robotics, nutrition, food, textile science, or how to raise animals, 4-H offers many opportunities. No matter the interest, there’s a project for everyone.

These projects prepare youth for meaningful employment:

- 17,917 Montana youth enroll in animal and vet science projects, from lizards to llamas and snakes to steers. They learn responsibility, goal setting, record keeping, and resiliency. Youth master skills such as self-motivation and discipline.
- 6,504 Montana youth participate in environmental education, outdoor education, and earth science projects. They gain an understanding and appreciation for Montana’s natural resources.
- 4,977 Montana youth enroll in food and nutrition projects, 3,544 register for plant science and weed projects, and 1,607 engage in technology and engineering projects. They find passion in employable fields at early ages.



Photo: E. Brush Photography



#### 4-H BUILDS COMMUNICATION SKILLS

*“Because of 4-H, I can speak in public. . . and do well in professional environments.”*

— Lewis & Clark County 4-H Member

Communication is a cornerstone of 4-H. No matter their age, 4-H members practice skills like public speaking, presenting, and expressing a point of view as club members.

Consequently, 4-H'ers become confident communicators. Results of the Montana 4-H Communication Survey indicated the following:

- 70.44% of 4-H youth indicated improvement in preparing a presentation.
- 66.01% assessed themselves as more willing to speak in front of groups.
- 65.02% reported they had improved at answering questions about their topics or ideas.
- 53.69% felt they were better at listening to others before responding.
- 50.74% indicated being more comfortable expressing ideas in writing.
- 60.1% reported improvement in maintaining eye contact while communicating.
- 54.19% felt 4-H helped them better express themselves to others.
- 64.04% indicated feeling more comfortable while speaking with adults.

#### 4-H MEMBERS LEARN TO LEAD

*“Because of 4-H, I can confidently be a leader and understand my authority.”*

— Hill County 4-H Member

Due to 4-H's focus on service, 4-H members readily identify community needs and mobilize to meet those needs through community-based projects. Members reflect on accomplishments and what to do differently next time to increase their impact. Additionally, 3,785 Montana youth engaged in the leadership project develop character, focus on personal growth, and practice goal setting.

#### 4-H GROWS CONNECTIONS

*“Because of 4-H, I value my community, my family, my peers, and the many volunteers that have helped me along the way.”*

— Park County 4-H Member

4-H brings youth together with caring people to ensure belonging and community connection. Youth who are connected to their community are less likely to suffer from severe depression or attempt suicide.

4-H forms these connections because it offers a network of caring peers for young people to reach out to regularly and during challenging times. These connections create a positive, protective factor for youth well-being.



Photo (top): E. Brush Photography; (bottom): Brenda Richey, MSU Extension

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“4-H has impacted my life by making me a better person.”

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**4-H PROMOTES POSITIVE CITIZENSHIP**

*“Because of 4-H, I value being a part of something that focuses on helping others rather than yourself first.”*

— Carbon County 4-H Member

4-H empowers young people to be well-informed citizens who engage in their communities and world.

4-H members contribute thousands of hours to their community: More than half of third through sixth grade 4-H members indicated they had more opportunity to help plan a community service project since joining 4-H, while 24% reported having led a community service project as a member of 4-H.

Meanwhile, 42% are more aware of important needs in their community after joining 4-H. Over a third of 4-H youth in grades 7-12 reported being more likely to talk to their friends about issues affecting their community, state, or world.

Citizenship and community connection are especially impactful in Montana’s reservations. 4-H youth identifying as Native American comprised 14% of 4-H youth in 2019-2020. This is double the average participation level of other statewide organizations.



**GET INVOLVED**

Regardless of your interests or desired role, there is a place for you in Montana 4-H. When you become a member, volunteer, or donor, 4-H will encourage personal growth and help your community thrive. As one member reported, “4-H has impacted my life by making me a better person.” We hope you’ll join us in making a difference.

Visit [montana.edu/extension/4h/](http://montana.edu/extension/4h/) to join, volunteer, or give to 4-H.

**Christine Hodges is the MSU Extension 4-H Curriculum & Communications Specialist.**



Photos: E. Brush Photography



# Windbreaks and Shelterbelts: Are they really worth it?

Windbreaks and shelterbelts were offered to solve devastating erosion during the 1920s dustbowl across Kansas, Oklahoma, and north Texas. The idea is that wind barriers slow wind enough to reduce the lifting and movement of soil particles by strong winds. A secondary benefit is to lessen the drying effect of wind sucking moisture out of plants and soil surfaces.

Since these earliest soil conservation ideals, windbreaks and shelterbelts have proven to have many more benefits. Dense shelterbelts around homes create an oasis for wildlife, especially migratory neotropical and game birds, reduce home heating costs by about 30% and create a milder microclimate for good gardening and fruit tree habitat. Shelterbelts can reduce feed costs by as much as 30% when used to protect livestock.

For home space protection, three to five rows of shrubs and trees typically need to be planted on two to three sides of the homestead to offer maximum protection from prevailing winds (**Figures 1 and 2**). Shelterbelt design should create a wedge into the wind with more dense lower shrubs on the outside, deciduous, smaller trees next,



Figure 1. A typical “tree island” shelterbelt in central Montana.

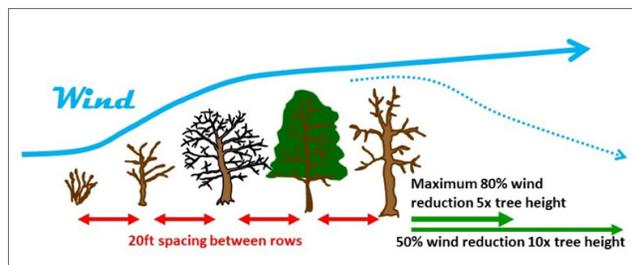


Figure 2. Blueprint of a functional homestead shelterbelt.

followed by taller evergreens and an inside row of deciduous or ornamental trees. Drought and freeze-drying from winter winds are the biggest enemies of shelterbelt trees. To reduce frost damage, the hardiest shrubs that lose their leaves in winter should be used as the initial barrier, followed by another relatively small deciduous tree to further lift the wind. A third or fourth row is the best place for evergreen trees. Evergreen trees retain their needles all year, so they provide a dense wind block during winter, but those needles are also susceptible to winter freeze-drying damage, so they need protection from the first several outside rows. The final row can be more ornamental, but if the windbreak is facing the East, South, or West, the final row needs to be shade-tolerant or taller-growing to survive the shade from the rows in direct line with the sun.

A spacing of 20 feet between the rows is highly recommended. Even the most drought-tolerant shrub and tree species need at least 16 inches of annual precipitation. Soil with no vegetation growing on it (fallow soil) between the planted rows acts as a water collection zone for the row of shrubs and trees. The larger the tree, the more ground area is needed to collect rain and snow for recharging soil moisture. A well-designed windbreak also traps snow (**Figure 3**) which further adds to the soil water recharge. Critical times, when water collection is most important, are during the initial three-year shelterbelt establishment phase and then again when the shelterbelt trees get larger and have a greater leaf area that uses more water. Any time a drought cycle hits, grasses and forbs growing within 10 feet of shelterbelt trees should be minimized because they will use the water that trees need to survive.

Crop windbreaks are planted somewhat differently than homestead shelterbelts (**Figure 4**). These are typically planted as a single row of a very hardy and more dense-growing shrub or tree species. Of all the species that have been tested both experimentally and experientially, it is hard to beat the Siberian Pea shrub, also known as Caragana. Although it only grows six to eight feet tall in most settings, it is one of the hardiest species and will survive for 80+ years. Lilacs, Chokecherries, and Russian Olive (the latter are no longer allowed for planting in Montana) also can form more dense single rows but typically need a little more soil moisture.

Although valid arguments are made that crop windbreaks take up valuable space which could be cropped,



**Figure 3.** A well-designed and maintained shelterbelt in central Montana's 11" precipitation zone. Row spacing, fallow ground and snow capture help keep trees that need at least 16" annual precipitation to stay alive.



**Figure 4.** Well-spaced single-row crop windbreaks.



**Figure 5.** Typical snow collection on the leeward side of a windbreak.

studies have shown that crop productivity usually makes up for the ground lost to the windbreak. Crop windbreaks can capture significant snow on the leeward side (**Figure 5**). This increased moisture allows for better crop productivity that, combined with slowing transpirational water loss, has been found to increase crop productivity by an average of 30% within the wind-protected zone. **Figures 6 and 7** show the differences in wheat production in a case study conducted in 2012 north of Shelby (fields in **Figure 4**), where the producer considered removing windbreaks. Yields were indeed 30% higher within the first 40 feet of the windbreak, increasing the overall land area crop production by 5-10%, even when lands taken up by the windbreaks were included in the productivity/acre calculations. Extensive studies of the impacts of crop windbreaks across the Midwest have shown very similar results.

Assistance for establishing or renovating windbreaks can be found at your local MSU Extension office or Natural Resources Conservation Service (NRCS) office. MSU Extension can offer technical assistance and facilitate contact with the Montana Department of Natural Resources and Conservation (DNRC) 'Conservation Nursery' for tree and shrub seedling purchases that require a conservation plan. Seedling orders are best placed in the fall to ensure seedling availability with an April delivery date for planting. NRCS can also offer technical assistance and may have cost-share opportunities, as well as at-cost weed barrier fabric and planting equipment that can be borrowed free of charge.

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**Peter Kolb is the MSU Extension Forestry Specialist.**



**Figure 6.** Wheat productivity within 40 feet leeward of a windbreak.



**Figure 7.** Identical crop and timing 200 yards from Figure 6 without a windbreak protection.

### **ADDITIONAL RESOURCES**

**NRCS – Windbreaks summary:** [www.fs.usda.gov/nac/practices/windbreaks.php](http://www.fs.usda.gov/nac/practices/windbreaks.php)

**NRCS – An introduction to the creation and use of windbreaks:** [www.nrcs.usda.gov/conservation-basics/natural-resource-concerns/land/forests/windbreaks](http://www.nrcs.usda.gov/conservation-basics/natural-resource-concerns/land/forests/windbreaks)

**Nebraska Forest Service – Windbreaks for Rural Living:** [nfs.unl.edu/publications/windbreaks-rural-living](http://nfs.unl.edu/publications/windbreaks-rural-living)

**MSU Extension – Trees and Shelterbelts Guide:** [www.montana.edu/extension/forestry/publications/fact-sheets/FF\\_windbreakhandout\\_PK.pdf](http://www.montana.edu/extension/forestry/publications/fact-sheets/FF_windbreakhandout_PK.pdf)

**MSU Extension – Pruning and Trimming Guide:** [www.montana.edu/extension/forestry/publications/fact-sheets/FF\\_Pruning%20trees\\_PK.pdf](http://www.montana.edu/extension/forestry/publications/fact-sheets/FF_Pruning%20trees_PK.pdf)

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# Fly Control Management for Livestock

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Fly control in livestock has been a hot topic in the last few years due to potential resistance to conventional fly tags and the introduction of garlic as a feed ingredient to mitigate flies. Fly control management is important to minimize the spread of disease and the negative impacts on production. Several methods can be used to aid in fly control, including dust bags, pour-ons, injectables, fly tags, back rubbers, feed ingredients such as insect growth regulators (IGR) and garlic, and insecticide strips placed on mineral feeders or ear tags. Each fly control method has advantages and disadvantages which should be considered when making management decisions.

Three main fly species affect livestock: stable fly, horn fly, and face fly. Horn flies can have detrimental effects on cow and calf production. Horn fly eggs are laid in the manure, will hatch within a week, and have a 10-to-20-day lifespan. Horn flies are typically located on the back,

shoulders, and sides and then will move to the belly during the heat of the day. Horn flies are a detriment because they are blood-sucking, which causes extreme discomfort to livestock. The economic threshold for providing fly control when horn flies are present is when levels reach more than 200 flies per animal. Economic loss in the U.S. to horn flies is approximately \$1 billion.

Face flies are located around the eyes, mouth, and muzzle and feed off the secretions. Face flies lay eggs in manure and have a life cycle of approximately 21 days. The main issue with face flies is that they can transmit pinkeye throughout the herd. Face flies are typically found on cattle in shady areas and near waterways. Between 12 and 14 face flies can reduce the grazing time of the cow by up to an hour.

Stable flies are mainly located on the front legs and are most common in feedlots and dairies. Larvae are located in decaying organic matter, such as wet hay, or in winter



Photo: Brenda Richey, MSU Extension

feeding areas. Cattle will bunch up, stand in water, or stomp their feet to remove the flies, which disrupts grazing. Stable flies are also a blood-sucking species and can reduce production. The economic threshold for treatment is approximately five stable flies per leg.

Dust bags and back rubbers (oilers) are good fly control methods, but cattle must be forced to use them. Placing them near mineral tubs or water tanks can aid in this. Sprays and pour-ons are another effective method to control flies, but they must be reapplied every seven to 21 days, depending on the product. Oral products are also an effective method of fly control; however, intake should be consistent to maintain control. Effectiveness is difficult to measure if neighbors are not providing fly control. Flies can travel between ranches, and this may minimize fly control management.

When considering fly control management options, make sure to read product labels carefully. Some insecticides are only labeled for certain fly species. The only form of stable fly control is in the spray form, which is not always economical if cattle need to be treated every seven to 21 days.

In addition to the tools listed, fly tags can be an effective method of fly control. There are three main active ingredients for fly tags: pyrethroids, organophosphates, and avermectins. However, there has been evidence that horn flies may be becoming resistant to pyrethroids. It is generally recommended that the active ingredient of the fly tag should be alternated every year to aid in minimizing resistance. Fly tags should be applied as late as possible (June 1 or later) to aid in fly control throughout the summer months. Tags should be applied to cows and weaned calves. Tagging the cow usually provides sufficient fly control for the calf. There are numerous brands and tags on the market; take care to read the label to determine the length of fly control and the active ingredient. Fly tags also come in a wide range of costs; determining the best and most economical tag for your operation is key to fly control management.

Providing garlic to cattle as a method of fly control has been a popular discussion for the past three to five years. However, minimal research has been conducted on the use of garlic as a fly control option. One study in Canada did observe some positive impacts from feeding garlic and reducing defensive behaviors and fly abundance in cattle (Durunna and Lardner, 2021). Therefore, there is optimism



Face fly (*Musca autumnalis*)



Face flies massed on the face of a dairy cow.

this could be an alternative to conventional methods and aid in reducing insecticide resistance. However, more research must be conducted to determine garlic's potential as a fly control method.

Several fly control methods are available, but advantages and disadvantages should be considered when making management decisions. Additionally, the economics and feasibility of use should also be considered. Small and large-scale operations may require different management tools. Feedlots and pasture operations may also need different fly management tools. There is no one-size-fits-all approach to fly control, and in some instances, multiple tools may need to be used.

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**Megan Van Emon is an MSU Extension Beef Cattle Specialist and an Associate Professor in Animal and Range Sciences.**



# Managing Risks on the Range

Ranching in Montana offers no shortage of risks. There is uncertainty in the growth processes of plants and animals. In ranching, calves may die in a blizzard, or lambs may gain weight more slowly because of a drought. What if you need to buy hay after losing your forage to wildfire? Planning for these possibilities can save money and headaches.

## INSURANCE

Insurance is a major risk management strategy for agricultural producers. Fewer insurance products are available for rangeland production when compared to major commodity crops like corn and wheat. However, options are available, including the Pasture, Rangeland, and Forage (PRF) insurance program and Whole Farm Revenue Protection.

PRF is a rainfall index insurance. What does this mean? The rainfall part of the name means that PRF will not cover other losses, like disease, fire, or flood. PRF provides a payment only when rainfall dips below a certain threshold set in the policy. The index part of the title means that the coverage is not specific to your land. Instead, it is based on a grid system, in which each grid cell measures roughly 12 x 17 miles (width x height) in Montana. When

buying a policy, a producer would select the grid cell or cells on which their land lies. Buying a PRF policy implies selecting specific months of coverage. You can pick the months when rainfall is most important to the operation or use another strategy. The deadline to sign up for PRF for 2024 has not yet been announced, but in recent years it has been December 1.

**Whole Farm Revenue Protection** insures revenue from all commodities produced on the operation, livestock included. Your revenue is determined by tax forms or related documents — your Schedule F or Substitute Schedule F forms. The deadline to sign up for Whole Farm depends on location and how taxes are filed. In Montana, the closing date for most people was March 15, unless you are

a late fiscal year tax filer. Whole Farm has some eligibility restrictions, including diversification requirements and revenue history.

**Micro Farm** is a policy similar to Whole Farm but is tailored for farms with less than \$350,000 in approved revenue. Other than the smaller revenue requirement, it has fewer restrictions than Whole Farm.

Learn more about insurance options by talking to a crop insurance agent. A list of local agents is available online: [public-rma.fpac.usda.gov/apps/AgentLocator/](https://public-rma.fpac.usda.gov/apps/AgentLocator/).

### FARM SERVICE AGENCY PROGRAMS

The USDA Farm Service Agency (FSA) provides additional options for rangeland and forage risk management. The Non-insured Crop Disaster Assistance Program (NAP) operates much like a crop insurance program, except you don't purchase a policy from a crop insurance agent. Instead, talk with the local FSA office to sign up. NAP can cover grazing and forage production, including native forage. NAP policy costs are capped at lower amounts relative to other types of insurance. Fee waivers and premium reductions are available for some classifications of producers, such as farmers and ranchers with 10 or fewer years of experience. NAP can also be used to cover a range of products not otherwise covered by crop insurance, like honey, nursery crops, and Christmas trees.

FSA also offers several disaster assistance programs. For example, the Livestock Forage Program provides payments to livestock producers affected by drought or fire. The Livestock Indemnity Program provides payments for higher-than-normal livestock death losses—for example, those caused by a blizzard or extreme cold. You don't need to purchase a policy to participate in these programs but do need to file paperwork with FSA.



### OTHER RISK MANAGEMENT STRATEGIES

Insurance and disaster assistance are not the only ways of managing rangeland and livestock risks.

- Diversified operations that include different types of production are generally more resilient since losses to one production system may not impact another.
- Other organizations and agencies may offer assistance to help reduce production risks for your business. For example, the National Resources Conservation Service (NRCS) has a range of programs that offer both technical and financial assistance—that can help operations weather drought and other events.
- The local MSU Extension office is a useful resource for learning the types of risks that other producers are facing in the community, as well as strategies and resources being used to address them. They may be able to help evaluate strategy or connect you with other resources.

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**Kate Binzen Fuller is an MSU Extension Agricultural Economics and Economics Specialist and an Associate Professor.**

### FOR MORE INFORMATION

[www.rma.usda.gov/en/Fact-Sheets/National-Fact-Sheets/Pasture-Rangeland-Forage-Pilot-Insurance-Program](https://www.rma.usda.gov/en/Fact-Sheets/National-Fact-Sheets/Pasture-Rangeland-Forage-Pilot-Insurance-Program)

[www.rma.usda.gov/Fact-Sheets/National-Fact-Sheets/Whole-Farm-Revenue-Protection](https://www.rma.usda.gov/Fact-Sheets/National-Fact-Sheets/Whole-Farm-Revenue-Protection)

[www.fsa.usda.gov/Assets/USDA-FSA-Public/usdfiles/FactSheets/2023/fsa\\_nap\\_noninsuredcropdisasterassistance\\_factsheet\\_2023.pdf](https://www.fsa.usda.gov/Assets/USDA-FSA-Public/usdfiles/FactSheets/2023/fsa_nap_noninsuredcropdisasterassistance_factsheet_2023.pdf)

[apps.msuextension.org/montguide/guide.html?sku=MT202210AG](https://apps.msuextension.org/montguide/guide.html?sku=MT202210AG)



# Featured Montanan: Little Creek Lamb & Beef

**W**hat does the beginning of a ranch look like for someone just starting? According to the 2017 census, Montana has 10,920 new or beginning farmers and ranchers, or approximately 23% of the total Montana producers. Starting a ranch or farm requires a lot of planning, investment, and bravery. It can come with steep learning curves that necessitate creative approaches to succeed.

Caroline and Justin Nelson of Little Creek Lamb & Beef in Townsend are an example of the creativity and adaptability required of many beginning Montana producers. Little Creek Lamb & Beef specializes in

direct-to-consumer meats, artisanal ranch goods, and hands-on events. They implement regenerative agriculture practices like supporting healthy soil, leaving roots in the ground, plant diversity, and rotational grazing. They also utilize grazing and livestock leases, social media, agritourism, and accessible resources such as MSU Extension.

When asked on the Discover Ag Podcast about the bravery it took to start the ranch, Caroline said, “Fear alone was never a good enough reason not to pursue something.” Her years of work as a singer-songwriter helped her learn resiliency, and those skills have transferred to her life in agriculture. Starting the ranch did not happen in a vacuum.



Photo (top): Ashlynn Merrill; (bottom): Erika Malo, MSU Extension



Caroline credits the community of support Little Creek received, “So many people helped us: my cousin designed our logo, former employers traded us work for pasture, Justin and his family have done so much, people spread the word, and customers took a leap of faith on a new business. Five Marys Farm and Felton Angus Beef were early mentors and helped me get started shipping. Little Creek is my baby, but it has taken a village.”

The first year of operation began with four Icelandic sheep kept on a ranch where Caroline was a ranch hand. It took a few years of working outside jobs while caring for their flock before they could turn their attention to ranching full-time. Without the initial capital to purchase the land needed to raise the growing herd of sheep, they utilized grazing leases with neighboring landowners. Grazing leases allow them to grow their herd with less upfront investment. They can change leases to adjust the budget if there is a challenging year.

At the core of everything is the land. The soil, plants, and root systems are central to Caroline and Justin’s operation. When the soil and plants are healthy, they require fewer inputs like fertilizers and water, which saves money and resources. These practices require assessing the soil and making management decisions that fit their larger goals.

When it comes to caring for the soil, Caroline and Justin work with Broadwater County MSU Extension Agent Allison Kosto, who helps review and discuss the soil test results. The relationship between Kosto and Little Creek has been fulfilling for both parties. According to Kosto, “Working with beginning farmers and ranchers is truly rewarding, especially to watch businesses like Little Creek Lamb & Beef grow. Sometimes our role as Extension Agents is simply about helping people connect the dots and find resources they need to be successful.”

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**“Fear alone was never a good enough reason not to pursue something.”**

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Little Creek offers immersive agritourism experiences for women looking to connect with and learn about agriculture through cowgirl and shepherd camps. Women from all over the United States stay at working ranches where they learn through hands-on experiences like lambing, herding, hoof trimming, animal health checks,

and shearing. These experiences provide a safe and welcoming environment for people to create a personal connection with agriculture and food production.

Their direct-to-consumer sales and agritourism are supported through a robust social media presence. Just like the camps, Little Creek uses social media to provide a personal connection between their followers and agriculture. Their social media accounts give people a peek into their daily lives as ranchers – both the good and the challenges.

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“Little Creek is my baby,  
but it has taken a village.”

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Followers also get to learn about Little Creek products and events. Caroline embraces dialogue, engaging with people’s comments and direct messages.

Little Creek’s core values of transparency, sustainability, and customer experience guide them as they grow and encounter challenges. It took bravery to begin the ranch. Connection to the land, animals, and people has helped it grow. You can learn more about Little Creek Lamb & Beef through their website (<https://littlecreekmontana.shop/>) and Instagram profile ([@littlecreekmontana](https://www.instagram.com/littlecreekmontana)).

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**Erika Malo is the MSU Extension External Relations and Social Media Coordinator.**

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## RESOURCES

### Grazing Leases

MontGuide: Grazing Leases ([store.msuextension.org/Products/Grazing-Leases-MT201601AG\\_\\_MT201601AG.aspx](https://store.msuextension.org/Products/Grazing-Leases-MT201601AG__MT201601AG.aspx))

MontGuide: Contributions Approach to Pasture Leasing: A Pasture Lease Calculator

([store.msuextension.org/Products/Contributions-Approach-to-Pasture-Leasing-A-Pasture-Lease-Calculator-MT201815AG\\_\\_MT201815AG.aspx](https://store.msuextension.org/Products/Contributions-Approach-to-Pasture-Leasing-A-Pasture-Lease-Calculator-MT201815AG__MT201815AG.aspx))

### Agritourism

Montana Agritourism: [www.montanaagritourism.com](http://www.montanaagritourism.com)

# A Grandmother's Wisdom

In the middle of the Hays Community Garden is Newah's Garden, which grows in the dedicated care of local grandmothers. Overall, the Hays Community Garden provides plots for local residents to grow their own vegetables and fruits, and fosters a sense of community and connection among gardeners.

MSU Extension Fort Belknap agents Liz Werk and Hillary Maxwell turned to help from local grandmothers to plan and maintain Newah's garden and care for the central gathering place.

Newah is spelled like it sounds or reads in English, and means grandmother in the Gros Ventre language, where it is spelled níiwóóhuh.

Joanie Racine, Tammy Werk and Lorraine Brockie took on the project mid-season in 2021, and in summer of 2022, they planned to integrate native culture and heritage through plants.

"We were in total agreement, all three of us grandmas, because we know some things about the plants, especially the native plants, we have had knowledge passed down to us by our ancestors for thousands of years. We know when to harvest and when to plant all of it and how to preserve it after it's picked," said Racine.

She is very passionate about the garden and explained the reason for its design, "The garden has an arbor in the shape of a medicine wheel, circular, it has four colors, four directions and also is represented by four animals. The medicine wheel represents the cycle of life, everything flows in a circle. My husband, Don Racine Jr., made the arbor that encompasses the garden."

The grandmothers transplanted some local, native plants into the four sections of the garden and collected local rock and resources to support the plants that can be used in the community. They knew what plants they wanted as the plan came together for sharing the garden.

The grandmas and MSU Extension received funds through a Reimagining Rural Grant to make and install five new concrete benches at the garden. The Blue Heaven Harnessing Hope Project, managed by Toby and Liz Werk, helped provide building materials and supplies.

"Our goal is to educate the children about plants as medicine, as foods, for ceremonial uses, we want to share our knowledge. Our grandchildren want to learn. And the garden can be a gathering place where people can visit, and we can educate them about the plants, their history, and their importance to our culture."



"The medicine wheel represents the cycle of life, everything flows in a circle."



To invite all ages to spend time at the garden, the grandmas hope to raise funds to add smaller benches for children in the future.

"We are grandmothers, and we really want our grandchildren to feel like they have a spot in the garden as well," said Racine.

**Sara Adlington is the MSU Extension Editor and Publications Coordinator.**



# Master Gardener Spotlight: Oh, DEER, They're in the Garden Again

**H**ighly scented, with fuzzy leaves, thick bark and thorns are the kind of plants you want growing close to the house and planted next to a companion plant to help deer-proof your garden. Too bad most vegetables do not have all these traits.

One barrier is the overall winner when evaluating options to protect vegetable gardens from four-legged pests. A fence, at least seven feet tall, with a gate that can be closed, is the best way to exclude deer from the garden.

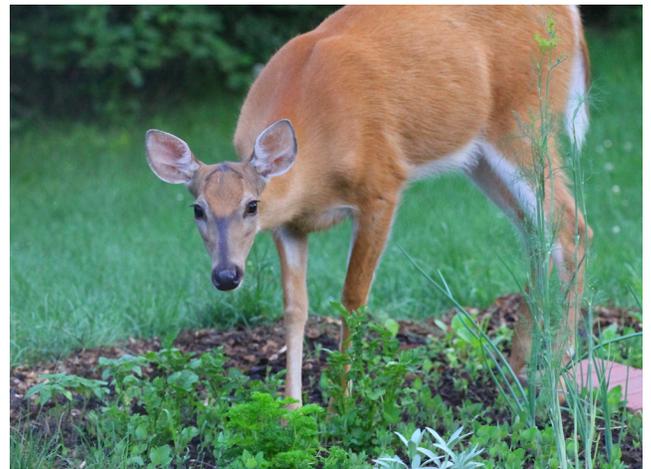
The issue is that not everyone wants to look at a seven-foot fence or pay for one. Similar to other Integrated Pest Management practices, numerous other strategies can be implemented in coordination with one another to reduce deer pressure.

One tactic to try is fear. The use of frightening devices is a strong deterrent. Keep in mind that deer can become accustomed to these devices. The best way to reduce this from happening is to change the location and or device so they do not become familiar. Motion-activated lights, water sprayers, loud noises and flashing lights will deter deer. Be aware that motion-activated devices are not deer specific; anything, including humans and pets, could set them off. If you live in an urban setting, some of these may cause problems with neighbors. Remember, deer feed at night when most individuals would rather sleep than have a light show.

The cutest and most loved form of frightening device is the family dog. Their scent and bark work in tandem to prevent deer from becoming too comfortable in an area.

Repellents are another strategy in the toolbox of deer deterrents. Repellents use both taste and smell to deter feeding. When using repellents, the goal should be a reduction, not elimination. There are two major points to recognize when using repellents. First, they must be

reapplied repeatedly and within specific intervals to work effectively. Their application will consume a significant amount of time. The other point is that they will fail over time. Repellents should be alternated throughout the growing season; deer will become familiar with the scent and taste. Three common ingredients in commercial repellents are fungicides, putrescent eggs, and pigs' blood. These applications may work well in some environments and be less desirable in others.



When it comes to protecting a garden from deer, a gardener should employ a combination of tools and only rely on one strategy if a well-built fence is a part of the picture. Exclusion, fear, and repellents are some tools that can help reduce deer feeding issues. Multiple tactics modified throughout the growing season will keep deer from becoming too comfortable at the salad bar, otherwise known as your vegetable garden.

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**Sarah Eilers is the MSU Extension Master Gardener Coordinator.**

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# Volunteering with MSU Extension

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Volunteering in your community is a great way to connect and give back. Montana State University Extension relies on volunteers across the state to help support Extension programs. MSU Extension has volunteer opportunities for many interests, from aging populations to community development, or with Montana 4-H or Master Gardener.

The Montana 4-H program depends on more than 2,000 certified volunteers to teach youth life skills through 4-H clubs and hands-on projects. Sharing your passion for a hobby or knowledge in areas such as photography, hiking, sewing, cooking, shooting sports, livestock or public speaking can lead to assisting as a 4-H Project Volunteer. Serving as a 4-H Club volunteer requires more time but may have the most impact by acting as a caring adult in the lives of 4-H members.

If time is in short supply, you can still make an impact. 4-H programs host contests throughout the year, with topics ranging from communication, cooking, and baking, to interviews and fair projects. Serving as a contest or fair judge can be a one-day commitment that fills a significant need. Using your professional skills to complete a task or serving on a board or committee is a great way to volunteer if time is limited.

Want to volunteer and learn more about gardening? The Master Gardener program provides an opportunity to apply horticulture knowledge learned through the Master Gardener Program and help others. Volunteering is a significant part of the Master Gardener program with projects that vary by location.

When you volunteer, you're helping the community and can benefit from the experience in a variety of ways.



- Learning new skills and applying them in the community.
- Gaining leadership skills and personal skills that can transfer to your career.
- Meeting new people through networking.
- Having a higher level of life satisfaction and positive well-being.
- Enjoying the impacts made in the community.

To start the process of volunteering with MSU Extension, first, decide how much time you want to volunteer. What passion or knowledge do you want to share? Contact your MSU Extension office and ask what opportunities might match your passion, expertise and available time.

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**Kelton Jensen is the MSU Extension 4-H Volunteer Specialist.**

**Volunteers are vital to the success of MSU Extension programs. Thank you to all who generously volunteer with MSU Extension.**

