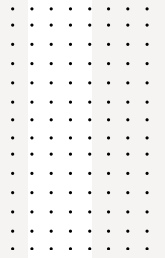


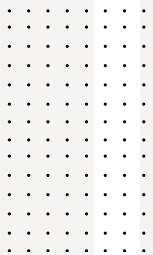


Extension  
UtahStateUniversity



# ANNUAL IMPACT REPORT

PROVIDING RESEARCH-BASED PROGRAMS AND RESOURCES WITH THE GOAL  
OF IMPROVING THE LIVES OF INDIVIDUALS, FAMILIES AND COMMUNITIES



USU EXTENSION - BOX ELDER COUNTY



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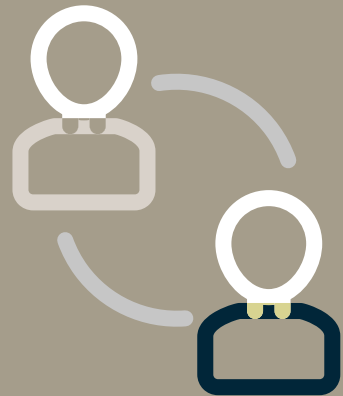
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# UNDERSTANDING USU EXTENSION

Utah State University Extension provides research-based programs and resources with the goal of improving the lives of individuals, families and communities throughout Utah. USU Extension operates through a cooperative agreement between the United States Department of Agriculture, Utah State University, and county governments.

Founded in 1914 as part of the Smith-Lever Act, USU Extension plays a primary role in helping Utah State University fulfill its land-grant mission. Though more than 100 years old, USU Extension is as vital as ever, and perhaps even more so, due to the increased diversity and complexity of the issues people encounter today. The integration of teaching, research, and public service enables USU Extension to respond to critical and emerging issues with research-based, unbiased information.

## BOX ELDER COUNTY

### CONNECTING TO OUR COMMUNITY *online presence*

As we look back on 2024, USU Extension in Box Elder County is proud to highlight our growing online presence and the impact it has had on our community. Throughout the year, we've shared valuable resources, event updates, and educational content across our social media platforms. Our Instagram and Facebook pages have become key channels for engaging with local families, farmers, 4-H participants, and community members. From showcasing youth achievements and agriculture tips to promoting family and consumer science programs, these platforms have allowed us to connect with a broader audience and strengthen our role in the community. We're excited to continue this digital journey into 2025 and beyond, providing helpful, relevant content that supports the diverse needs of Box Elder County. Stay tuned and follow us for more in the year ahead!

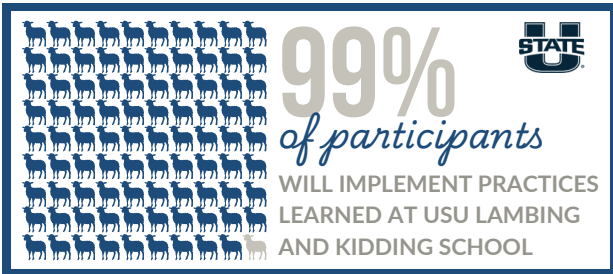
*Simply search "USU Extension Box Elder County" on any platform to connect*



# LIVESTOCK AND RANGE

## Lambing and Kidding Workshops

Through a county needs assessment and discussions with the USU Extension Small Ruminant Specialist, a significant need for educational opportunities tailored to smaller livestock production operations was identified. These operations, often classified as hobby farms or backyard flocks/herds, typically involve individuals with less than five years of experience in raising and caring for animals. A prevalent concern among these producers was the issue of death loss during lambing and kidding.



Ashley Longmore at USU Extension - Box Elder County led a collaborative team comprising six County Extension Faculty members, a USU Extension Specialist, a USU Veterinarian, two Southern Utah University Faculty members, and one Snow College Faculty member. Together, they planned and hosted three comprehensive two-day workshops across Utah, covering all aspects of lambing and kidding, including hands-on care and instruction. Southern Utah University in Cedar City and Snow College in Ephraim were instrumental in our efforts, as they generously provided facilities and hosted two of the workshops. These workshops also fostered partnerships with the Zuni and Navajo tribes in Arizona and New Mexico and established a strong working relationship with the faculty and educators at Diné College in Arizona, which serves the Navajo Nation.



## Applied Rangeland Research

USU Extension - Box Elder County helps landowners and livestock producers make improvements to their rangelands whether that be through water distribution, grazing management, weed control, reseeding etc. Healthy, productive rangelands are an important natural resource in Utah and finding new and innovative ways to utilize them is important. As of Feb 1, 2024, over 55,000 acres of phragmites have been treated by the Utah Division of Forestry, Fire and State Lands. Phragmites is a wetland invasive species that is found around most of the large waterbodies in Utah, including but not limited to, the Great Salt Lake, Bear River, and Utah Lake. Ashley Longmore with USU Extension designed a study to look at the feasibility and economics of using virtual fencing on cattle to target graze phragmites. This is the first study being done in the United State where virtual fencing is being used to target graze an invasive species.

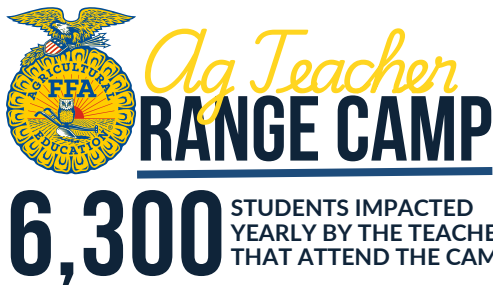


# YOUTH LIVESTOCK PROGRAMMING

The 4-H and FFA junior livestock & poultry programs in Box Elder County provide an excellent opportunity to teach youth about poultry, livestock husbandry, work ethic, responsibility as well as interaction with other people and fair play. The Box Elder 4-H Livestock program has secured \$7,599 in the last 3 years with fundraisers, showmanship clinics, club fees and donations. This money is used to support the livestock ambassadors, 4-H livestock participants, carcass contest participants and livestock judging team.

In three years Box Elder County 4-H has organized, facilitated, and taught 61 educational livestock clinics with 4,844 youth participating. The 4-H livestock program has provided 1,179 hours of community service to Box Elder County. The Box Elder 4-H livestock ambassadors created several educational livestock reels this year and to date their most popular post has had over 275,000 views. Box Elder County 4-H had the intermediate livestock judging team take 1st place at the Utah 4-H State Contests.

USU Extension Box Elder County discovered that there was significant interest and a clear need among Utah Ag Educators for resources and experiences in range management to help them better teach the subject to their students. At range camp, we cover a wide range of topics through both classroom instruction and hands-on fieldwork, including rangeland management, plant identification, soils, ecological site descriptions, and grazing management. Knowledge in these areas is essential for participating in the FFA Range Career Development Events.



61  
EDUCATION  
CLINICS

4,844  
PARTICIPANTS

1,179 HOURS  
OF COMMUNITY  
SERVICE

## Utah Junior Turkey Show

Utah's State Junior Turkey Show is unique in that 4-H and FFA members raise their birds to market age just like other shows, but then the birds are processed in a state-inspected poultry processing plant, cooled in stainless steel tanks, and judged for quality and conformation.

📍 THE UJTS PROGRAM IS HOSTED IN BOX ELDER COUNTY.

The top birds in the state are sold at the State Auction and many of the remaining birds are sold at The Box Elder County Turkey Auction. Youth are required to submit a 4-H or FFA record book on their turkey project and are eligible to compete for cash prizes and scholarships sponsored by the show.



31 BIRDS AT THE COUNTY AUCTION  
**OVER \$20,000 TOTAL**  
A COUNTY AVERAGE OF \$575 A BIRD



# POSITIVE YOUTH DEVELOPMENT



## Box Elder 4-H Offers

### *Diverse Program Areas*



USU Extension offers a wide variety of 4-H programming including STEAM, food science, cooking, pet and dog clubs, horse, livestock, leadership, public speaking, drone education, entrepreneurship courses and more.



## WHAT 4-H YOUTH ARE SAYING

“Learning to talk and interact with people in person, rather than online is a valuable skill. I believe 4-H provides an outlet for teenagers to build meaningful relationships outside social media”

**“My 4-H leader has created a welcoming environment by utilizing the older youths to mentor the younger groups”**

“It made me feel braver and like my voice matters”



## Program Spotlight: 4-H County Leadership



Ambassadors



Teen Council



Junior Teen Council

The County Leadership Programs host 4-H members who work cooperatively with the County Extension Staff in planning and implementing County 4-H Events. This level of leadership sets youth apart and is a resume builder. 4-H Leadership provides youth with growth opportunities and social expansion.



# Box Elder County 4-H

There are over 1,055 youth enrolled in Box Elder County 4-H. An impact evaluation showed 4-H youth learned and developed essential life skills to help them deal with current issues affecting adolescents today\*.

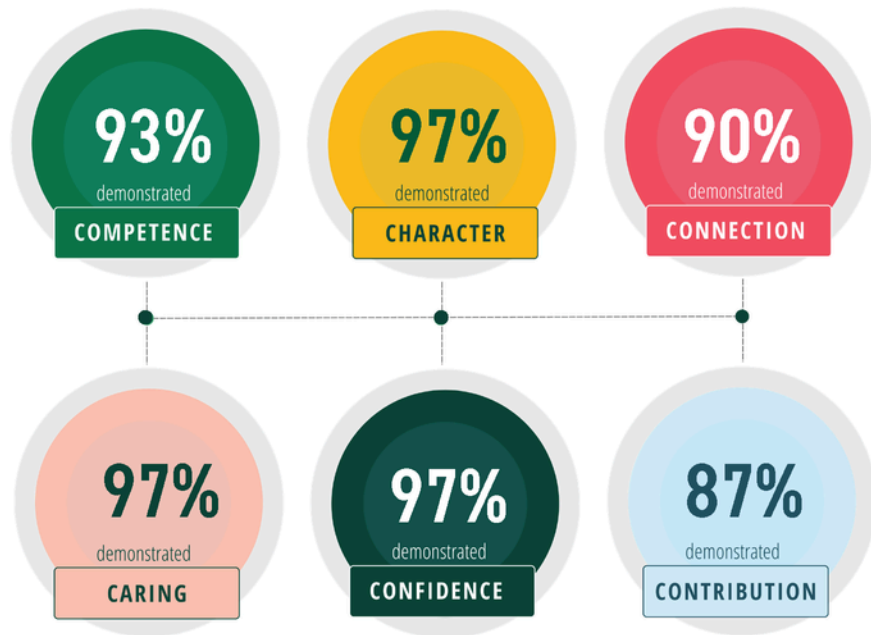
## ISSUES AFFECTING YOUTH

According to a recent statewide assessment, youth who live in Box Elder County are likely to deal with issues related to:

- MENTAL HEALTH
- MISINFORMATION
- CHILD EXPLOITATION
- FAMILY RELATIONSHIPS
- PEER PRESSURE

## IMPACT OF POSITIVE YOUTH DEVELOPMENT

Box Elder County 4-H Programs are guided by the six principles of Positive Youth Development: Competence, Confidence, Connection, Character, Caring, and Contribution, commonly known as the 6 C's (Lerner & Lerner, 2012). Because of their 4-H experience in Box Elder County, 4-H members scored highly on the 6 C's.



In addition to the 6 C's, 4-H youth in Box Elder County learned life skills...



# HOME AND COMMUNITY



**Introducing New Faculty**  
Dr. Kristen Koci

Dr. Kristen Koci is the new Extension Assistant Professor in Home and Community at USU Extension - Box Elder County. Kristen's research broadly examines rural mental health and wellbeing at both the individual and community levels, as well as how natural resource dependency contributes to mental health outcomes. For instance, her research has focused on rural wellbeing throughout the state of Utah and mental health outcomes among those engaged in the coal mining and tourism and recreation industries. Through her research, Kristen actively finds ways to work with rural communities and residents to address their mental health concerns, including by sharing research findings at community-wide events, engaging in community outreach, providing mental health resources, and developing solution-focused mental health and suicide prevention programming for both youth and adults. Kristen is excited to be a part of the USU Extension - Box Elder County team and looks forward to serving the county's residents and needs!

.... *an eye to the future*



Box Elder County has a high rate of one in four adults experiencing poor mental health. Additionally, suicide is the leading cause of death for males ages 35-44 and youth ages 10-24 in Box Elder County. Kristen plans to address these mental health concerns by implementing programs, launching mental health-focused social media campaigns, and working to establish the Box Elder County Extension office as a mental health hub where residents can receive mental health support (e.g., mental health resources, services, and trainings). Some programs Kristen plans to implement include AgWellness (providing mental health assistance to agricultural producers) and The Confidence Project (empowering and promoting confidence in youth to enhance mental health). In addition to addressing mental health concerns, Kristen will address physical health through the Create Better Health Program which provides nutrition education opportunities to SNAP recipients in Box Elder County.





# CREATE BETTER HEALTH SNAP-ED

Create Better Health provides nutrition education opportunities to SNAP recipients in Box Elder County through classes focused on helping people cook healthy meals on a budget, buy and prepare whole foods, understand food labels, and practice safety in the kitchen. The purpose of Create Better Health is to promote positive food and lifestyle choices, and increase the knowledge, skill set, and overall wellbeing of those it serves. In 2024, USU Extension - Box Elder County provided 55 classes to 1,233 individuals of all ages. This includes, but is not limited to, classes taught at the Bear River Valley Senior Center, five Title I elementary schools, and the Brigham City, Tremonton, and Garland Public Libraries. Additionally, they provided indirect education resources 49 times through delivering newsletters and healthy recipes to the Box Elder Community Food Pantry, creating social media posts on Instagram and Facebook, and distributing handouts at community events.



24

COUNTY PARTNERSHIPS



CLASSES

55

TAUGHT



1,233

PEOPLE REACHED

**162,134** Reached Through Social Media and Community Events

“TWO CLASS ATTENDEES CAME UP TO ME AFTER AND SAID THEY AND THEIR DAUGHTERS MADE THE VEGGIE AND BEAN QUESADILLAS FOR DINNER AFTER THAT LESSON AND THEY THOUGHT IT WAS DELICIOUS AND IT LASTED THEM 3-4 MEALS THAT WEEK.”

*Kelsey Braithwaite*  
BOX ELDER COUNTY CBH AMBASSADOR



# AGRONOMY AND HORTICULTURE



## BLUE CREEK FARM FIELD DAY

USU Extension and the USU Agriculture Experiment Station hosted a farm field day at the Blue Creek Dryland Research Farm in Northern Box Elder County on July 2nd. USU research included speed melting snow to prevent snow mold on winter wheat, tips for growing soft white winter wheat, dryland no-till rotations, safflower variety trials, pre and post-safflower herbicides, dryland alfalfa variety trials, herbicide-resistant weeds and weed management issues in dryland rotations, and new and upcoming dryland winter wheat varieties. The USDA-ARS shared their research on sainfoin for forage, forage kochia in rangelands, and Kernza intermediate wheatgrass for forage and grain yield.

- Ninety growers mainly from Cache and Box Elder Counties attended the dryland farm field day.
- This newfound knowledge will likely impact several hundred thousand hay and forage acres in Utah and Idaho.



AT LEAST 97% OF PARTICIPANTS STATED THAT THEY WOULD USE THE INFORMATION ON THE FARM.



AT LEAST 98% HAVE CONFIDENCE THAT WHAT THEY LEARNED WILL IMPROVE FARM PROFITABILITY.

## BOX ELDER COUNTY CROP SCHOOL

USU Extension along with Bear River Valley Coop and IFA sponsored an alfalfa grower school in February 2024. This workshop included professional development for local producers as well as pesticide safety and use credits.



OF INDIVIDUALS ATTENDED AND LEARNED ABOUT ALFALFA HERBICIDES AND INSECTICIDES, USU ALFALFA FERTILIZER RESEARCH, ALFALFA HAY OUTLOOK, AND BREAK-EVEN PRICES FOR 2024



OF PARTICIPANTS STATED THAT THEY WOULD USE THE INFORMATION ON THE FARM.

**100% OF THE PARTICIPANTS STATED THAT WHAT THEY LEARNED WILL IMPROVE FARM PROFITABILITY**



## CL MAGIC SOFT WHITE WINTER WHEAT RESEARCH

USU Extension has been researching the growing characteristics of a newer variety of soft white winter wheat (SWWW) called UI Magic CL+, comparing it to a typical hard red winter wheat (HRWW). SWWW generally contains lower levels of protein and gluten, with higher levels of starch, and is used for making biscuits, cakes, pie crusts, cookies, and other pastries. For the last several years, USU Extension in Box Elder County has been testing the use of liquid fertilizer of Urea and solution 32 on UI Magic CL+ for increased yields, test weights, and protein levels. This was done with the application of the liquid fertilizer at planting and another application of a dry fertilizer in the spring (if good moisture levels were present 15+ inches during the growing season). Results for the 2024 growing season showed about a 10 to 12-pound increase in yield with average protein levels ranging from 9 to 12% protein depending on the treatment.



## PUNCTUREVINE CONTROL WITH PREEMERGENCE HERBICIDES IN PUMPKINS

Several small plot trials were established in pumpkins and watermelons grown in Box Elder County to research puncturevine control with preemergence herbicides. The sites were chosen because of a dense and widespread puncturevine infestation. All treatments (Trifluralin, S-metolachlor, Ethalfluralin, Halosulfuron) were applied using a CO2-pressurized backpack sprayer. Puncturevine biomass was measured by harvesting the entire plots

**28** *days after treatment*

IN THE SPRINKLER TEST PLOTS, ALL PREEMERGENT HERBICIDES PROVIDED SOME FORM OF CONTROL OF PUNCTUREVINE AND RANGED FROM 51 TO 79% WHEN COMPARED WITH THE UNTREATED CHECK.

**60** *days after treatment*

THE PERCENT CONTROL ONLY RANGED FROM 17 TO 50% WHEN COMPARED TO THE UNTREATED CHECK. ALL HERBICIDES CONTROLLED PUNCTUREVINE 53 TO 82% WHEN COMPARED TO THE UNTREATED CHECK.

## GROWING WINE GRAPES IN BOX ELDER COUNTY

Wine grapes are becoming a high-value crop in Utah with the potential to consume less water than some other crops grown in Utah. USU Extension has been working with local wine grape growers Ocean Star International and Purple Sky Winery for several years to identify the best wine grape varieties for growing in Box Elder County. In 2024, USU Extension worked with them to quantify applied irrigation and consumptive use of wine grapes using scientific measurements. These measurements include applied irrigation, rainfall, changes in soil moisture, and weather data. This information will assist them with scheduling irrigation requirements of production vineyards in Box Elder County and other parts of Utah.





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