Utah Extension IPM and Sustainable Agriculture Mini Grant Program
Wasatch County Proposal 2012

Title: Control of Buckhorn Plantain in Pastures, Forages, and Waste Areas in Wasatch County.

Project Personnel: Allan Sulser, USU/Wasatch County Extension, Project Leader
Quintin Lewis, Wasatch County Weed Department, Cooperator
Gary Maxfield, Private Landowner, Cooperator
Hugh Barker, Private Landowner, Cooperator
Dr. Ralph Whitesides, USU Extension Weed Specialist, Collaborator
Corey Ransom, USU Extension Weeds, Collaborator
Bill Mace, USU Extension, Collaborator

Situation Statement: Buckhorn Plantain is an invasive perennial weed that is extremely competitive. Buckhorn Plantain emerges early in the spring and gets a head start on most other vegetation. As such, Buckhorn Plantain robs desirable plants of space, sunlight, water and nutrients. Prolific seed production and an extensive deep tap and lateral root system give this plant a huge competitive advantage and make control extremely difficult. Of special concern in Wasatch County, is the reduced productivity of pastures, forage lands, and range lands for livestock and wildlife as desirable plants are crowded out by Buckhorn Plantain patches. This plant is taking over hundreds of acres of quality rangeland, pastures, forage lands and waste areas each year. Most wildlife and range animals, excluding sheep and goats, avoid eating Buckhorn Plantain. To date producers have not been able to control buckhorn plantain using the methods outlined in the fact sheet, **AG/Weeds/2008-01pr,** by Ralph Whitesides and Alicia Wall. Several chemicals and tillage techniques have been tried with little results. We propose using several different chemicals, Banvel(dicamba), 2,4D Amine, Telar, and Escort herbicides to discover which will work best for the producers in Wasatch County. The hope is that these trials will find the most productive herbicide for producers to choose from in the hopes of not wasting their time, efforts, and dollars on herbicides that do not produce results and in keeping unproductive herbicides out of the environment. This will be year two of the study, Banvel(dicamba) and 2,4-D Amine produced the best results last year and we would like to build off of that study to determine if any of these other herbicides will produce better results.

Objectives:

1. Determine which herbicide will control buckhorn plantain in pasture and forage lands and will be the least cost for producers.
2. Establish a weed control demonstration site for landowners, producers, and the public to view the results.
3. Education and public awareness of best herbicide to control buckhorn plantain.
4. Provide the public, landowners, and producers with a fact sheet and powerpoint on the results of the project.

Procedures:

February, 2012 - Planning meeting with all cooperators to determine demonstration site location, how demonstration will be setup and implemented, spray schedule determined, schedule of activities, etc.. Allan Sulser will organize planning meeting.

April –May 2012 – Spray demonstration plots with the five herbicides when buckhorn plantain is actively growing and pasture and forage crops are still dormant. Allan Sulser, Quintin Lewis, and USU collaborators will organize and spray using equipment owned by Wasatch County.

June thru August 2012 - Evaluate the sites and determine the effectiveness of herbicides used counting individual plants in a quarter square meter, two to three counts in each section.

November 2011 – Produce fact sheet and powerpoint on Buckhorn Plantain project.

Data Analyses and Presentation of Results:

Weed control results will be recorded on a percent control basis compared to an untreated area within the demonstration site. Specific plot design will be determined during the first planning meeting held in February of 2012 based on site location. Design will include control site, eight single treatment sites replicated four times. Chemicals used will be Banvel(dicamba), 2,4-D Amine, Telar, and Escort. Maximum size of entire demonstration site will be ninety by one hundred twenty feet. (90’ X 120’)

Evaluation:

Once results are summarized and they will be introduced to extension personnel, landowners and the public. An in-service will be given at the extension annual conference, a fact sheet will be written to be posted on the extension website, and results will be distributed to interested persons in and around Wasatch County and throughout the state. The information will also be shared with other USU Extension Agents at the Utah Ag Agent meetings and will be distributed in the proceedings.

Educational Outreach

The results of the research will be presented at the National Agricultural Agents Association National meeting.

The information will also be shared with other USU Extension Agents at the Utah Ag Agent meetings and will be distributed in the proceedings.

The fact sheet will be peer reviewed and posted to the Extension Website.

Educational Products

Poster for display at counties events in the courthouse and at cooperator meetings

Peer-reviewed paper presented and professional meetings and published in a peer-reviewed journal.

A PowerPoint presentation will be put together to use at local and state farmer meetings.

Extension Bulletin and Fact Sheet

Budget:
Requested funding for this project is outlined below:

Herbicides purchase:	
Banvel(dicamba)	$124.95
2, 4-D, Amine	$46.27
Telar	$161.90
Escort	$81.15
Surfactant Mix	$148.64
Publications and Posters	$400
Travel	$850*
Total	$1812.91*

*Help offset travel costs to national meeting to present findings, if this is not allowed travel would be $150 and total would be $1112.91.

References:

Buck horn Plantain, Ralph Whitesides, Alica Wall, Utah State University Extension

http://extension.usu.edu/files/publications/publication/AG_Weeds_2008-01pr.pdf

Buckhorn Plantain, Jim Stritzke, Oklahoma Alfalfa, Oklahoma Extension Service

http://www.alfalfa.okstate.edu/weeds/winboard/buckhorn.htm

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