

2012 IPM & Sustainable Agriculture Mini Grant Proposal

Title:

Design and Implement a Practical Grazing System Using Goats to Control Noxious Weeds

Project Personnel:

Project Leader – Sterling Banks, USU/Summit County Extension Agent

Collaborators/Cooperators – Nell Larson, Director of Conservation USU/Swaner Eco Center
Jack Marchant, Summit County Weed Supervisor
Mindy Wheeler, Summit County Cooperative Weed Management
Area Coordinator
Boyd Willoughby, Mountain States Meat Goat Association

Justification:

Summit County, Utah is known for its beautiful native mountain landscape particularly around the Park City area. In 2010 Utah State University received the Swaner Preserve and Eco Center as a gift from the Swaner Family. Its mission statement is to keep the preserve (land) in its native/natural landscape. The preserve includes over 1200 acres of open space which is a refuge for wildlife in the area. Over the past fifteen to twenty (15 to 20) year's noxious weeds have invaded a large part of this preserve, thus affecting the natural habitat existing there. The public perception (Park City area) about using chemicals to control noxious weeds has made it very difficult for the preserve and county to develop a weed control program for this area. Weed control efforts (ie. weed pull days, educational meetings, bag a woad program, etc..) in the past between the county CWMA, Summit County Weed Department and Swaner Preserve have had limited success, especially on the preserve. In 2007 a small scale USU sponsored weed control goat grazing/herbicide comparison trial was conducted nearby on property owned by one of the local ski resorts. The goat grazing portion of the trial showed that grazing weeds was an viable weed control option, but the size (4 acres) of the trial limited the research needed to develop a practical grazing plan to control noxious weeds. Therefore, this study will be used to develop a practical grazing plan that can be implemented by other weed control workers and professionals (ie. university researchers, extension agents, agricultural producers, federal land agency personnel, etc..) in using grazing goats as a biological control method in controlling weeds.

Objectives:

The following objectives for this proposal are:

1. Design a practical and effective grazing system with goats to control noxious weeds that other weed workers/professionals can follow and implement.
2. Establish a large scale weed control grazing demonstration site at the USU/Swaner Preserve for landowners, agency personnel, university researchers, livestock producers and the public to view.
3. Determine what type of grazing system is the most effective in controlling specific target weeds (ie. Dyers Woad, Whitetop, Canada Thistle, Musk/Scotch Thistle).
4. Provide the public, landowners, agency personnel the results of this research project.

Procedures:

The following procedures will be implemented as listed below:

1. February, 2012 – Planning meeting with all cooperators to determine demonstration site location, how demonstration will be setup and implemented, grazing plan determined, schedule of activities, etc.. Sterling Banks and Nell Larsen will organize planning meeting.
2. April, 2012 – Identify specific noxious weeds at the demonstration site and establish weed infestation percentage bench marks. Sterling Banks, Nell Larson, Mindy Wheeler and Jack Marchant will evaluate site.
3. Mid April, 2012 – Establish demonstration site by fencing area and introducing goats to area. Monitor goats weekly during 90 day grazing period. Boyd Willoughby, Sterling Banks and Nell Larsen will establish site and monitor goats.
4. April – July, 2012 – Establish a systematic rotational grazing plan that will be implemented during the 90 day period. Evaluation of specific plots will be made at various times throughout the entire 90 day period to determine the effectiveness of the grazing in controlling specific target weeds. Sterling Banks, Nell Larson and Jack Marchant will monitor and evaluate the specific plots.
5. June – July, 2012 – Conduct weed grazing demonstration tour of the site for the public, extension/university personnel, county officials and local landowners. Sterling Banks and Nell Larson will organize tour.
6. August - September, 2012 – Remove goats from the demonstration site. Evaluate site for grazing and weed control results. Record and photograph results. Sterling Banks, Nell Larson, Jack Marchant and Mindy Wheeler will evaluate site.
7. October - November, 2012 – Results will be organized and summarized into an extension peer reviewed factsheet and power point presentation. Sterling Banks will develop the factsheet and power point presentation.

8. Spring – Summer, 2013 – Presentations on the goat grazing project will be presented to extension/university personnel, government officials, landowners and general public at various weed control meetings and conferences throughout the year. Sterling Banks and Nell Larson will do the presentations.
9. April – September, 2013 – If funding is available for a second year the goat grazing weed control study will be repeated using the same timeline as above for 2013. Sterling Banks and Nell Larson will apply for 2013 funding opportunities.

Educational Products (Outputs):

As mentioned above in the procedure section of this grant proposal a power point presentation showing the results of the study will be developed and used at various educational weed control meetings in the county, along with being shown at the 2013 USU Annual Extension Conference and Utah Agricultural Agents Association summer meeting in 2013. Along with the power point presentation a peer reviewed factsheet will be developed and distributed to local landowners, government officials, agency personnel, extension/university personnel and the general public. Besides the above groups the factsheet will be available on the internet for use by the general population. One newspaper article will be written and published in the local newspaper describing the project. Also, mentioned above a weed grazing demonstration tour of the site will be conducted for those interested in the study. An informational sign explaining the project will be developed and placed at the site for the general public to view during the tour and duration of the study.

Evaluation:

The following items will be implemented to evaluate the change in knowledge and skills by those interested in this study.

1. A pre/post survey will be developed and given to participants attending various county weed control meetings/tour where results of this project is presented. Information from the two surveys will be used to determine the knowledge gained by those who view the project presentations.
2. Extension peer review evaluations will be completed by peers who view the study presentations at USU Extension Annual Conference and Utah Agricultural Agents Association summer meeting. Information from the evaluations will be summarized to determine the value of the educational material presented.
3. Once the peer reviewed factsheet is approved and placed on the USU Extension website, the number of hits will be recorded to determine the use of the factsheet.
4. When the grazing trial study is completed a survey will be sent out to county landowners to determine the interest in using goats on their property to control noxious weeds.

Project Timeline:

The timeline for this project will be as follows:

<u>Date:</u>	<u>Action Item:</u>	<u>Procedure:</u>	<u>Educational Product:</u>	<u>Evaluation :</u>
2/12	Planning meeting	Scheduling, Site location	None	None
4/12	View site	Determine weeds,etc..	None	None
4/12	Start study	Fence site, release goats	None	None
4-7/12	Monitor site	Photograph, record results	Photos	Site review
6-7/12	Conduct tour	Organize tour for public, etc.	Signage, display	Survey
6-7/12	Newspaper article	Write newspaper article	Newspaper article	None
8-9/12	Finish grazing study	Remove goats, evaluate site	None	Eval. Site
11/12	Summarize results	Develop educational materials	PowPoint/factsheet	None
3/13	Annual Conference	Present results at conference	Presentation	Peer eval.
6/13	Agent Summer Mtg.	Present results at agent mtg.	Presentation	Peer eval.

Budget:

Requested funding for this project is outlined below:

Technician wages -	\$0
Supplies – (Informational sign, printed materials)	\$ 300.00
Travel –	\$ 200.00
(Mileage from Coalville to Park City, 8 times, \$.55 – standard mileage rate)	
Other -	\$2000.00
(Goat lease fee includes use of goats, electric fence setup, monitoring goats, etc..)	

Total Budget Request - \$2500.00

Contact Person:

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