Utah IPM/SA Mini-Grant Report Format for 2009

1. **Project Title**: Utilizing back yard poultry production to reduce weeds and insects while providing soil nutrients and home grown food.

2. **Location of Project (Counties in Utah)**: Sanpete County

3. **Total Grant Award**: $1185

4. **Principal Investigator**: Matt Palmer, USU Extension Agent in Sanpete County

5. **Co- Principal Investigator(s):** David Frame, USU Extension Poultry Specialist

6. **Cooperators:** Nate Palmer, Centracom Interactive Marketing Manager

7. **Objectives of Project**: Develop two sustainable demonstration gardens in Sanpete County to document and teach back yard gardeners about the use of poultry in organic gardening.

8. **Summary of Project:**

Back yard gardening is very popular in central Utah. Most home lots have enough room to accommodate a vegetable garden. A great number of home owners grow vegetables in the garden to supplement family meals. Over the past few years, the cost of commercial fertilizer, herbicides, and insecticides has greatly increased. Also, many home owners desire to reduce or eliminate the use of commercial fertilizers and pesticides. The design of this project is to incorporate poultry into a sustainable back yard garden setting aimed at reducing commercial fertilizer, herbicides and pesticides normally utilized in gardening. The idea is to fallow 1/3 of the garden each year on a 3 year rotation. This fallow area will be the chicken run enclosed area which is separated from the vegetable garden with an electric mesh fence. This fence keeps predators out while protecting vegetables from chicken depredation. The chickens control weeds and insects on this fallow area while increasing the soil nutrient levels. For our control plot we had a fallow area outside of the chicken run.

9. **Results of Project:**

Seventy chicks (60 broilers and 10 layers) where brooded and placed into two garden enclosures at about 30 square foot/ bird. Six broilers died during brooding. Each enclosure had 27 broilers and 5 layers. Broilers were processed at 9 weeks. Layers were used to maintain plots after broilers were processed. Two soil samples were taken, once before chicken placement and once after chicken processing. In general the soil nutrients of phosphorus, potassium and organic matter increased inside the enclosures to levels that would sustain a garden for 2-3 years. Percent weed cover and insect numbers were greatly reduced inside the enclosure. Weed cover estimates (% weed cover) were conducted on the chicken run plot and the control plot. The garden enclosures had a 50-60% decrease in weed cover compared to the control plot. A sweep net was used to

determine the insect counts. The chicken enclosures averaged 7 insects per sweep while the control plot averaged 1.4 insects per sweep. It was also observed that the majority of insects in the chicken run plot were flies while the control plot had mostly plant consuming insects. Chicken meat yield was 4lb per broiler yielding 216lb total. Chicken can be utilized to reduce weeds and insects while improve soil nutrients and providing valuable chicken meat in a sustainable organic garden setting.

10. Evaluation:

1. What changes in knowledge and skills of professionals and/or stakeholders were measured as a result of this project?

This project showed professionals and stakeholders that chickens can be a valuable addition to organic garden production.

2. What potential changes are foreseen in your county extension programs as a result of this project?

I will present the project outcomes to gardeners which in turn may result in reduced pesticide and synthetic fertilizer use in back yard gardens.

11. Educational Outreach:

1. What was done to assure distribution of educational products and related project materials to other agricultural professionals and stakeholders in the state?

- A fact sheet is being developed and will be on the USU Extension Web site
- A TV show was produced and will be playing on a local cable TV station that has over 5000 viewers in the Central Utah area
- The powerpoint presentation was distributed to agents at the Western Region NACAA meeting.

2. What professional/producer meeting(s) did you give presentations at?

- Sanpete County Garden Tour, Mt. Pleasant, UT, 6/4/09
- UACAA Summer meeting, Beaver, UT, 6/11/09
- Western Region NACAA meeting, Mesquite, NV, 11/11/09

12. Educational Products Produced – list the educational products produced from this project (PowerPoint, fact sheet, poster, published article, etc.) (electronic versions required).

1. Power point presentation
2. Abstracts
3. Cable TV Show

13. What impact did the project have (number of acres, people, or other appropriate units)?

This project information was presented or distributed to approximately 30 local gardeners, 20 USU Agriculture Extension Agents and 20 Western Regional Extension Agents and broadcast to hundreds of home in Central Utah.