

GOLDEN STATE PLANT NEWS

LOCKEFORD PLANT MATERIALS CENTER

**United States Department of Agriculture
Natural Resources Conservation Service**

Technology Activity 2000 Update

Most of the following new studies were requested from NRCS field office staff as part of the FY 2000 requests for NRCS state office assistance. NRCS field office staff worked closely with Dave Dyer, PMC Manager, in developing these studies and in some locations they took the lead. Many landowners helped with site preparation, plot lay out, fencing, planting and application of treatment materials and management treatments. Also, due to NRCS field office and Lockeford PMC staff networking efforts, many NRCS partners and Conservation Districts helped make these studies happen.

Vegetative suppression of yellow star thistle study. This study will evaluate different plant materials for their ability to provide vegetative control of yellow star thistle. The plant materials used are Lana vetch, Cucumunga brome, Luna pubescent wheatgrass, California Melic, Purple needle grass and Rio beardless wildrye. There will be three treatments: NRCS technical guide vegetative guide section seeding rate, 50% more seed and 50% less seed. Each treatment will be replicated four times. Lana vetch will be fertilized with 400 pounds per acre of 0-20-0 superphosphate. The study cooperators are Red Bluff, Jackson, Woodland and Visalia NRCS field office staff, East Bay MUD, U.C. Cooperative Extension, Camanche Hills Hunting Preserve, and Yolo Land and Cattle.

Vegetative suppression of yellow star thistle using California native grass transplants study. This study will propagate and transplant Rio beardless wildrye, slender wheatgrass, bearded wheatgrass, and meadow barley into a yellow star thistle infested area. There will be three treatments: mowing, grazing and a control and their will be three replications. The study lead is Wade Anderson, Range Management Specialist, Red Bluff NRCS field office and the cooperator is the Sacramento River Discovery Center.

Vegetative control of medusahead study. This study broadcast seeded Lana vetch at three different seeding rates 12, 16, and 20 pounds pure live seed per acre and had four replications. Superphosphate 0-20-0 was applied at a rate of 400 pounds per acre. The study cooperators are the Red Bluff and Jackson NRCS field office staff, East Bay MUD and Camanche Hills Hunting Preserve.

Evaluation of straw mulch types and amounts for the suppression of weeds study.

Six different straws, (rice, oats, wheat, clover, sudan, and rye), were applied at 4 tons and 8 tons per acre. There were three replications.

Evaluation of selected plant materials for uptake of nitrogen and phosphorus after pasture manure application.

Three annual, (oats, Blando brome, and Wimmera 62 ryegrass), and seven perennial, (perennial rye, Perla koleagrass, berber orchardgrass, Galia brome, Tonic plantain, Teton tall fescue, Puma chicory, and purple needlegrass), forage plants were planted in a pasture area with three replications and three treatments: manure, standard fertilizer and no application. Mississippi PMC will do the N and P laboratory work. The study cooperators are the Petaluma NRCS field office and rancher Gary Mahrt.

Templeton rangeland seeding trial.

Range conservationist Karl Striby along with the local cooperative extension staff have the lead on this seeding trail study which will evaluate four seed mixes which will be replicated three times. Sixteen single species will also be seeded with three replications. Some of the rangeland plants being used are blue wildrye, hard fescue, hardinggrass, Perla grass, slender wheatgrass, orchardgrass, and bur and barrel medics, sub. and Persian clovers.

Vetch evaluation study.

This study consists of the evaluation of fifteen vetch lines with four replications. Yield cutting will be done at middle flower and yield will be converted to nitrogen production. Lana vetch is the control. The study cooperators are the Tucson PMC and Dr. Walt Graves. We hope to select a vetch with twenty percent more nitrogen production.

Nesella pulchra genetic analysis.

PMC staff will assist the San Francisco urban office and USDA-ARS by doing seed collection inventory, documentation, shipping, and interpretation of genetic analysis report. The goal is to determine the level of genetic variation of purple needle grass in the San Francisco bay area.

Evaluation of American Indian basket weaving species, such as bear grass, for germination, propagation and establishment methods.

This study will make germination evaluations and determine cold stratification days required for bear grass germination. Different collection dates will be evaluated to determine the best collection date. The study cooperators are American Indians and Reina Rogers, NRCS American Indian Liaison. Please let Dave Dyer, PMC Manager, know of any bear grass seed collection locations in your area.

Evaluation of African American basket weaving plant materials for adaptability to California.

This study will determine frost tolerance and adaptability of South East U.S. sweetgrass and palmetto to California conditions. Charleston, South Carolina, is the center of African American basket weaving art.

Soil quality improvement using mycorrhizal inoculation and its effects on the propagation of conservation plants.

This study will use endo net arbuscular

mycorrhizal inoculum *Glomus intraradices* at three different rates $\frac{1}{4}$, $\frac{1}{2}$, and $\frac{3}{4}$ teaspoon per gallon container.

Soil Quality improvement using worm castings and its effects on propagation of conservation plants. This will use different amounts of worm castings, (1/3 of soil mix, 2/3 of soil mix, and all worm castings), in the propagation soil mix used to propagate California native plants.

The United States Department of Agriculture (USDA) prohibits discrimination in all its programs on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD).

To file a complaint of discrimination, write the USDA, Director, Office of Civil Rights, Room 326W, Whitten Building, 14th and Independence Avenues, SW. Washington, D.C., 20250-9410 or call (202) 720-5964 (voice or TDD). USDA is an equal opportunity provider and employer.