

# **PASTURE ESTABLISHMENT AND REJUVENATION GUIDE**

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## ***INTRODUCTION***

This guide has been compiled to serve as a guide to help you experience a successful planting. These recommendations are the result of demonstration trials and observations at various sites around the county. Special recognition needs to go to Keith Crabtree, formerly of the Natural Resources Conservation Service, for his tireless efforts in implementing demonstration plots around the Nevada County in the late 1980's and early 1990's. His efforts helped forge an alternative to the normal plow.

You should use this guide as a step by step guide. Read over the procedures that apply to your operation until you have an understanding of what needs to be done. If you are unsure about something, call to find out the answer. Mark dates ahead of time on the calendar to help you in planning. Make sure that seed, fertilizers, equipment, and custom operators are purchased and/or scheduled well ahead of time. There is nothing difficult about pasture establishment or rejuvenation if you follow the steps in this guide.

This guide assumes that your irrigation system is fully functional by the time you plant your permanent pasture. If you need help on planning and designing an irrigation system, a videotape on the subject is available from the Soil Conservation Service and Cooperative Extension Service.

You must remember that establishing pastures is only one component to a successful planting. Proper grazing management will help maintain your pastures in a productive state for many years. For more information, you can go to the Foothill Farming website: <http://ucanr.edu/sites/placervevadasmallfarms/>

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***NO-TILL SPRING PLANTING  
DRYLAND TO IRRIGATED PASTURE  
APRIL***

To convert natural dryland ground to irrigated pasture, it is important to eliminate and minimize competition from aggressive annual weeds. These recommendations assume your irrigation system is already in place.

1. Spray field in the spring (April 1<sup>st</sup> to April 15<sup>th</sup>) with a non-selective herbicide according to label directions. Contact the Farm Advisor (889-7385) for recommendations and the County Agricultural Commissioner (Placer 889-7372, Nevada 273-2648) for a registration number and permit (if needed).
2. One or two days after spraying, use the no-till drill to plant the pasture mix and 100 pounds per acre of 16-20-0 fertilizer. Contact the Farm Advisor for seeding recommendations or seed dealers.
3. Sprinkle daily, if possible, to germinate and establish new seeding. Remember, sprinkle to keep the top 6 inches of the soil from drying out. As plants grow, irrigate longer and less often as root depth extends.
4. After plants are 3 to 4 inches high, broadcast 100 lbs/ac of 16-20-0 fertilizer.
5. Weeds that grow above new seedlings can be mowed in order for them not to reseed. The mower should be set above the seeded plants. Note: If weeds are heavy enough and are broadleaf (Star Thistle or Red Root Pigweed) an application of broadleaf herbicide could be used. Contact Farm Advisor for field evaluation if there is any question.
6. Allow plants to mature to a 12 inch height before starting to graze the new stand. Leave a 6-8 inch residual as root systems are still being established. The light grazing will encourage tillering at the base of the plant and filling in the spaces between rows.

***NO-TILL STRATEGY FOR EARLY FALL PLANTING***  
***AUGUST – OCTOBER 15***  
***Dry land to Irrigated Pasture***

Since foothill soils are not ideally suited for cultivation, there are huge amounts of weed seeds from previous years in the soil. These seeds can remain viable in the ground for many years. If these weed seeds germinate, they can directly compete with your new planting of permanent pasture and lessen establishment success. Even though the field looks yellow, dead, and dry during the summer, you must take steps to eliminate as much of this competition as possible. The following suggestions assume you already have your irrigation system in place.

1. In early-August, irrigate your field lightly every day if possible for 10 days to germinate any weed seeds in the seedbed. During the first week of September, one pre-irrigation should be applied deeply. This stores water in the soil for the new pasture crop. This irrigation should be on for 11 hours in order to fill the two foot root zone the pasture crop needs.
2. Two days after the deep irrigation, spray field with a non-selective herbicide according to label directions. Contact the Farm Advisor (889-7385) for recommendations, and the County Agricultural Commissioner (Placer 889-7372, Nevada 273-2648) for a registration number and permit (if needed).
3. One to two days after herbicide spraying, no-till drill your irrigated pasture mix and 80 pounds of 16-20-0 fertilizer per acre. Contact the County Farm Advisor (889-7385) or a local seed dealer for recommendations.
4. Sprinkle lightly daily, if possible, to germinate and establish new seeding. Remember, sprinkle to keep the soil surface moist, especially the top 6 inches. As the plants grow, irrigate longer and less often as the root depth extends.
5. After the plants are 3-4 inches high, broadcast 100 pounds per acre of 16-20-0 fertilizer.
6. Weeds that grow above new seedlings can be mowed to prevent reseeding. The mower should be set above the seeded plants. Note: If weeds are heavy enough and are broadleaf weeds (Star Thistle or Red Root Pigweed) an application of broadleaf herbicide could be used. Contact Farm Advisor (889-7385) for field evaluation.
7. Allow plants to mature to a 12 inch height before starting to graze the new stand. Leave a 6-8 inch residual as root systems are still being established. The light grazing will encourage tillering at the base of the plant and filling in the spaces between rows.

## ***REJUVENATING OLD PASTURES WITH THE NO-TILL DRILL SEPTEMBER – OCTOBER***

Planting should be done in the fall to insure control of all summer weeds including Bermuda grass.

1. Graze field heavily through August 15<sup>th</sup> and then remove animals.
2. Do not irrigate field in July and part of August to dry it up and weaken established weeds.
3. In mid-August, irrigate your field lightly every day for 10 days to germinate any annual weeds and activate any perennial weeds in the seedbed. During the first week of September, one pre-irrigation should be applied deeply to store water for the new pasture crop. This irrigation should be on for 11 hours in order to fill the two foot root zone the pasture crop needs.
8. Spray field with a non-selective herbicide according to label directions by mid-September. Contact the County Farm Advisor (889-7385) for recommendations, and the County Agricultural Commissioner (Placer 889-7372, Nevada 273-2648) for a registration number and permit (if needed).
4. One or two days after spraying, use the no-till drill to plant the pasture mix and 100 pounds per acre of 16-20-0 fertilizer. Contact the Farm Advisor (889-7385) or local seed dealer for seeding recommendation.
5. Sprinkle daily, if possible, to germinate and establish new seeding. Remember, sprinkle to keep the top 6 inches of soil from drying out. As plants grow, irrigate longer and less often as root depth extends.
6. After plants are 3 to 4 inches high, broadcast 100 pounds per acre of 16-20-0 fertilizer.
7. Weeds that grow above new seedlings can be mowed in order for them not to reseed. The mower should be set above the seeded plants. Note: If weeds are heavy enough and are broadleaf weeds (Star Thistle or Red Root Pigweed) an application of broadleaf herbicide could be used. Contact Farm Advisor (889-7385) for field evaluation.
8. Allow plants to mature to a 12 inch height before starting to graze the new stand. Leave a 6-8 inch residual as root systems are still being established. The light grazing will encourage tillering at the base of the plant and filling in the spaces between rows.

***FALL TEMPORARY COVER IN PREPARATION FOR  
FOLLOWING FALL PLANTING OF IRRIGATED PASTURE  
SEPTEMBER – OCTOBER***

The following procedure assumes that your irrigation system is fully functional by the time you are ready to plant your permanent pasture seed.

1. Thin trees and remove brush for sunlight exposure.
2. After two fall rains, broadcast 200 pounds per acre of triple superphosphate (0-45-0).
3. Disc or rototill after fertilizing to kill weed seedlings and incorporate phosphorous into the root zone.
4. If the field needs to be smoothed, use a land plane or scraper to smooth out small surface irregularities.
5. Broadcast seed by October 15<sup>th</sup> at the following rates:
  - a. 45 lbs/ac Red Oats, and
  - b. 20 lbs/ac Purple or Lana Vetch (inoculated). Any other annual legume may be substituted. Vetch will do the best job of competing with yellow star thistle.
6. Lightly drag the field to cover the seed no more than ¼ inch. This can be accomplished with a heavy chain, chain link fence, rake, etc.
7. Use a ring roller to pack the seed. Sometimes, the rototiller makes the soil so fluffy that the seed gets too far down in the ground to germinate. In addition, fluffy soils dry out quickly. This means less moisture available for our young seedling plants.
8. In mid-spring, graze prior to the oats setting seed. You can either graze heavily or disc in as a green manure crop.
9. Disc or rototill during summer for weed control, as necessary.

10. In mid-August, irrigate lightly every day, if possible, for 10 days to germinate weed seeds stored in the soil.
11. By mid-September, disc the germinated weeds. Use a ring roller to pack the soil if you have access to one.
12. Immediately follow discing with broadcast planting of permanent pasture mix. Contact the Farm Advisor or local seed dealer for recommendations.
13. Lightly drag to cover seed  $\frac{1}{4}$  inch. You can use a heavy chain, chain link fence, or rake to accomplish this. A ring roller is preferable to dragging.
14. Immediately after seeding, irrigate deeply (11 hours) to fill up the soil profile. After that, irrigate lightly every few days to keep the soil surface moist. As plants get older, you can lengthen out irrigation set. Remember, do not let the top 6 inches of the soil surface dry out with a new planting.
15. The following spring, June, broadcast 100-200 lbs/ac of 16-20-0.
16. Lightly graze in late spring after plants have matured and dropped seed. Do not graze lower than a 4 inch height.
17. Weeds that grow above new seedlings can be mowed in order for them not to reseed. The mower should be set above the seeded plants.



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