

Row Arrangement & Grassed Roads



By

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Row Arrangement



Row Arrangement/Furrow Alignment (page 9 of Guide):

Aligning the direction of the rows along the contour of the hill to minimize the slope. Row Arrangement is the growers' first line of defense to be able to control and manipulate the run off during a rain or irrigation event.

- Process of designing the each block is most effective with the **participation of the grower** to understand nuances in the operation (irrigation system, underground outlets, run off distribution, etc).
 - Practice typically in **Strawberry production due to plastic mulch** and concentration of flow on disked sandy soil.
 - Therefore the **window for implementation** is short (August- November).
 - **Design can range** from simply re-adjusting one or two blocks that were previously designed too steep to an entire new ranch lay out that includes road placement and block lengths.
 - **Tools** required: 2-3 people, hand level, compass, and aerial map, pencil, measuring tape of 100', flags or other marker (white paper lunch bags).
 - Close communication with the **tractor driver** is a must especially if the grower is planning to contract a large 4 bed lister to list up the beds. If design is complicated with several angles and cuts, then working the growers' single bed lister may be easier to manage.
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Barriers to implementation:

- Time: Strawberry growers are in a hurry to prepare soil (schedule fume), list beds (schedule pre-plant fertilizer), and plant (transplants are time sensitive due to cooling). A well designed layout on 40 acres can take 3-9hours (including map).
- Technical expertise: While this practice is considered an NRCS 'engineered practice' it does not require hi level of technical expertise and is easily taught. Can be mastered with practice.

How can conservation professionals help growers with increased adoption of this practice?

- Provide awareness of benefits of controlling erosion AND irrigation efficiency (Friction tubing vs. pressure compensating irrigation systems).
 - Prioritize 'soft practices' in water quality management planning at the field level and at strategic funding level.
 - RCD/NRCS has received fewer requests from growers with this practice over the years. Why? Maybe growers have learned how to design on their own. Maybe there are more independent contractors providing this service.
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Grassed Roads



Grassed Furrows



Grassed Roads and Furrows (Page 23 of Guide):

The establishment of grass in the roads, furrow bottoms and other vulnerable areas of the farm to protect from erosion. Consideration of seed selection, method of planting, irrigation and management are important.

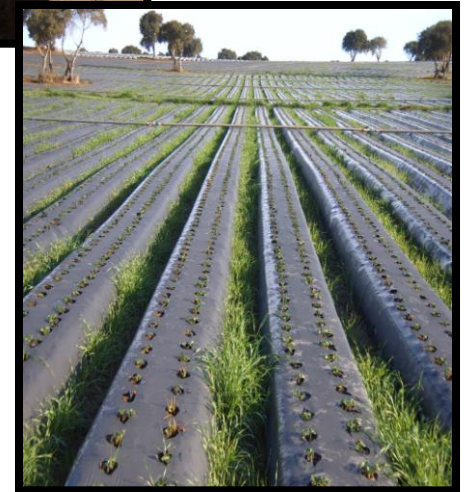
- While this is a practice is relevant to all crop systems on sandy hill slopes, it's most common in **strawberry production** since the roads and furrow bottoms are the only areas not covered with plastic and recently been disked during the fall months.
 - Most common grass is **Barely** UC 37 variety well suited for erosion control since its quick to establish, cold tolerant and cost effective at \$.37/lb. and 100/lbs per acre.
 - Seed is **broadcast with a belly seeder** in the bare areas of road between the blocks and furrow bottoms when rows are steep.
 - Common practice is to **cover seed with straw mulch** to maintain moisture, protect seed from birds and to protect the soil from the impact of the rains while the grass is being established. However, there are reasons why a grower may not want to use the straw. Straw cost can range from \$7-10/bale and is applied at approximately 40 bales/acre of road.
 - Maintenance requires irrigation to establish the grass and mowing throughout the year grass goes to seed or gets taller than the plant as this will create competition for the strawberry plant. By Spring, grass will die off due to traffic and/or grower will mow or spray herbicide.
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**Barley UC 937 Variety- \$.37/lb.
Seeding Rate- 100-150/lbs per acre**



**Rice Straw- \$7-10/bale
Seeding Rate- 40 bales/acre**



Maintenance requires sprinkler irrigation (ideal) to establish the grass and mowing before the grass goes to seed or gets taller than the plant.

Barriers to implementation

- Cost of materials and labor.
- Timing: seeding should occur at the end of planting and diversion ditches have been dug as to not disturb the seeds and allow for even stand of growth.

How can conservation professionals help growers with increased adoption of this practice?

- Provide Erosion Control Program in your county or grower group
- **Additional Benefits:**
 - **Foster relationships between grower community and conservation professionals.**
 - **Leads to additional conservation practice implementation and capacity building**
 - **Easily integrate participants to other programs, funding, etc.**



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