

What is Controlled Irrigation?

Proper irrigation techniques can be used to increase the efficiency of farm inputs and at the same time help the plant grow healthier. It suggests simple but water-wise pre-planting farm practices and uses an observation well to know the right timing of irrigation when executing safe alternate wetting and drying (AWD) during the crop growing period.



Benefits

- Reduces water used in rice production by 16-35% without decreasing grain yield
- Aids in proper seed germination and seedling survival, tillering, and grain uniformity
- Increases the efficiency of the plants in using soil nutrients and applied fertilizers
- Keeps a good balance of available nutrients in the soil
- Helps in controlling weeds
- Minimizes golden apple snail attack since there is an excellent water level control
- Significantly reduces cost in pump irrigated areas
- Stabilizes soil and plant base, hence helps minimize crop lodging
- Facilitates farm mechanization especially in the harvesting and hauling of harvests
- Reduces farm inputs such as oil, fuel, and labor
- Provides for timely water needs of farms at the tail-end of an irrigation system

Target Users

1. Farms with limited water supply or those farms with supplemental irrigation such as the following:
 - Near tail-end of an irrigation system
 - Using small water impounding systems
 - Using small farm reservoir
 - Using communal irrigation systems
 - Using pump irrigation system (shallow tube or deep well)

2. Farms near main canals with the following circumstances:

- Unstable plow layer or hard pan that causes difficulty in land preparation, harvesting, and hauling
- Nutrient imbalances such as zinc and sulfur deficiencies
- Poor root growth owing to accumulation of excessive organic acids from decomposing materials.

Important Considerations in Irrigating

1. Method of planting

- Transplanted (common during wet season and in places where control of water is difficult)
- Direct Seeded (lesser water is used in direct seeding specially dry seeding)

2. Season of planting

- Dry season (more irrigation water is needed)
- Wet season (less frequent irrigation)

3. Soil texture or soil type

- Fields with clayey (fine-textured) soil have longer pond-water retention, usually 3-5 days at 5 cm initial depth. Hence, irrigation is less frequent
- Fields with loam to sandy loam (medium-to-coarse-textured) soil retain pond water for less than 12 hours. Hence, irrigation is more frequent. However, pond-water depth should be at 2-3 cm during irrigation to decrease water losses.

How to Determine the Texture of a Soil

The “feel method” can be used to determine the textural class of a soil. Soil samples are moistened and rubbed between the thumb and the fingers.

(A) Fine-textured soil – sticky, cohesive, and forms a ribbon after pressing and rubbing. Examples are clay, clay loam, silty/sandy clay loam.



(B) Medium-textured soil – less cohesive, feels gritty, and does not form a rigid ribbon after pressing and rubbing. Examples are loam, silt loam, and sandy loam.



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