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Cover Crops in the BMP Era for Vegetable Crops Grown in Florida in the BMP Era¹

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This publication is one of a series entitled Fertilizer and Irrigation Management in the BMP Era.

This series is divided into nine principles described in the Introduction Chapter (HOS-897). This publication is part of Principle 4, "Practice Year-Round Nutrient Management Fertilizer and Irrigation Management in the BMP Era." BMP implementation requires a global approach to production management. However, for presentation purposes, each aspect of vegetable production is described in a separate publication.

Cover crops serve many purposes but are primarily used to protect the land from erosion until the main crop is ready to plant. Cover crops also improve soil structure and composition by adding organic matter and augmenting soil fertility. In addition, cover crops help to prevent erosion and improve soil porosity, thereby allowing rainwater to better percolate and reducing surface water runoff. When managed properly, cover crops can aid in increasing long term crop production through improved tilth, integrated pest management, and by providing an organic, slow-release source of nutrients. Cover crops can also serve to "trap" excess nutrients left in the soil after the primary crop is harvested.

Working Definition

Cover crops are grasses, legumes, or other herbaceous plants established to protect the soil from erosion during idle periods between plantings.

Crop Planning - Things to Do

- Carefully plan the crop in order to maximize the benefits to the soil and the primary crop.
- Select a cover crop that is suitable for your climate, soil type, and specific goals (i.e., nutrient uptake or nitrogen fixation).

Crop Planting - Things to Do

- Always plant the cover crop as soon as possible after the cash crop is harvested.
- Adequately prepare soil before seeding cover crop to enhance cover crop establishment.
- Always maintain and properly calibrate planting equipment to ensure correct broadcasting rate, planting depth, and spacing.

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Things to Avoid: Potential Pitfalls

- Avoid storing unplanted seed in moist, damp or unventilated areas.
- Minimize usage of fertilizers and pesticides on cover crops to save money and protect water quality.

Operation and Maintenance Issues

- Restrict grazing of cover crops.
- Chop and incorporate cover crops into the soil as a source of green manure.
- Check pesticide labels before use on cover crop.
- Assess the risk of cover crop becoming a weed if allowed to produce seeds.

Other Considerations

- Consider planting legumes as a cover crop. Through nitrogen fixation, legumes convert atmospheric nitrogen into organic nitrogen compounds that can also be used by the crop and result in lower fertilizer costs.
- Always test your soil and follow UF/IFAS lime and fertilizer recommendations as closely as possible.
- Remember that cover crops help increase the organic matter content and soil moisture holding capacity.
- Cover crops also provide food and shelter for wildlife.
- Cover crops might need a small amount of fertilization for adequate biomass production.