

## **Best Management Practices (BMPs): Perimeter Borders<sup>1</sup>**

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### **Introduction**

Best Management Practices (BMPs) have been identified for different commodities, regions, and situations throughout Florida. This publication addresses perimeter borders as a BMP.

The objective of a perimeter border is to provide a barrier (either of natural or synthetic material) that results in less erosion and greater water infiltration which benefits both agricultural production and the environment.

### **Description of Perimeter Border**

Soil erosion is a major concern in crop production. Soil erosion may result from wind or from surface runoff. Soil erosion influences the productivity of agricultural systems by decreasing the amount of soil and its nutrient quality (Sullivan, 2004). Not only does erosion influence the health of the crop (by reducing the soil quality), but it also can contribute to water quality degradation. Soil particles that are eroded often contain phosphorus and other chemicals (such as nutrients and pesticides). As these particles and chemicals are transported from agricultural fields, they can enter water systems and

have a negative environmental influence (Al-Kaisi et al., 2003).

Perimeter borders vary widely depending on the agricultural operation. Perimeter borders may be used in row crop production (Figure 1), nursery production (Figure 2), and other agricultural production systems. Perimeter borders are most effective when established around an entire field.



**Figure 1.** Vegetative growth placed among rows in a Florida melon field as a perimeter border Credits: J.W. Hinton

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**Figure 2.** Vegetative hedge perimeter border in a Florida nursery Credits: J.W. Hinton

### Perimeter Border Benefits

The benefits of perimeter borders vary depending on the particular application. Benefits of a perimeter border may include: 1) improved off-site water quality; 2) minimized plant blow over and associated fertilizer spillage; 3) increased overhead irrigation efficiency and uniformity; 4) reduced spray drift; 5) reduced erosion from wind and water; 6) reduced evapotranspiration; 7) increased wildlife and bird habitat; 8) reduced harmful insect populations and a possible harbor for beneficial insects; 9) improved air quality; 9) enhanced aesthetics; and 10) increased carbon storage.

### Perimeter Border Maintenance

Perimeter borders generally require some maintenance and in some circumstances, may need irrigation to establish. In the case of vegetated borders, use of native species is encouraged to minimize maintenance needs. If an annual plant is used, replanting will be necessary at critical times during the cropping cycle to ensure adequate soil and water protection.

Common maintenance of a vegetative border includes mowing or harvesting, trimming to maintain desired height, and scouting for pests and invasive species control. Perimeter borders may become a habitat for wildlife and birds, therefore maintenance activities should be conducted considering the multiple uses of the perimeter border. Also, perimeter borders may not be appropriate if wildlife

may not be a positive addition to agricultural production area.

When selecting a vegetative material for perimeter borders, keep in mind the plant root depth as the more established the rooting system, the greater the stabilization of surrounding soil. In addition, always inspect perimeter borders and repair any damage after a major storm event.

### References

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