Estimated Cost Per Acre of Bare-Ground Vegetable Production Damaged by Hurricane Michael

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In Georgia, vegetables are grown using either the plasticulture system and/or on bare-ground. Hurricane Michael affected both cultural practices. This study focuses on the cost of bare-ground production system damage by the Hurricane. Our calculations are based on the recommendation of the Extension Vegetable Team, Vegetable Growers and County Agents in South Georgia (Table 1).

Although plasticulture has several advantages, which include higher yields, the system is much more expensive. As a result, many Georgia Growers still use bare-ground production system, which accounts for approximately 64%, equivalent to 38,000 acres of the vegetable production damaged by Hurricane Michael. Sweet corn was the largest acreage crop at approximately 15,000 acres. Producers using bare-ground production system experienced crops (particularly corn, snap beans, fresh pick, etc.) being laid over, excessive wash-out from rain of rows and field lay-out (roadways, access roads, etc.), and loss of residual fertilizer and soil fumigant. Additionally, land preparation was needed to recover fields for future planting.

Table 1: Analysis of the Estimated Costs of Bare-Ground Production Loss Due to Hurricane Michael in South Georgia, 2018.

Description	$-Total/Ac
Land structure recovery from Hurricane Michael damage[1]	
Tractor/driver/equipment - $17.76/A x 2 passes	$ 35.52
Land prep including mowing and harrowing under damaged plants	
Tractor driver @ $15.53/hr. – ½ hr./A x 3 passes[2]	$ 23.30
Tractor/fuel @ $10/A x 3 passes	$ 30.00
Lime – ½ T/A - $36.50/A for soil fertility adjustments	$ 18.25
Fertilizer – 450 lb./A - $600/ton ($.30/lb.) [3]	$ 135.00
Fumigant – 8 gal./A - $ 20/gal. [4]	$ 160.00
Cover crop to prevent erosion damage	
Seed for cover crop - $20/A	$ 20.00
Fertilizer for cover crop - $40/A	$ 40.00
Planting - tractor/driver/fuel – $17.76/A	$ 17.76
Total Bare-ground Production Loss[5]	**$ 479.83**

[1]Land preparation – leveling/rows/roads, etc.

[2]#hrs/acre depends on the size and/or HP of the tractor.

[3]1.5 x normal rate due to leaching loss.

[4]1.25 x normal rate due to leaching loss & pest pressure.

[5]These figures are guidelines as growers adopt different agricultural practices and obtain different prices for inputs.

To recover from the damage caused by Hurricane Michael, the following agricultural practices were needed: (a). Land preparation due to unharvested crop, (b) plant material to prevent spread of insect and disease field wash-out, and; (c). replacement of fertilizer/fumigant lost through leaching. In many cases, a cover crop was required to prevent soil erosion by water or wind. Table 1 below is an estimated breakdown economic analysis itemizing the operational recovery cost per acre for bare-ground field production damaged by Hurricane Michael.

The total cost of bare-ground production loss due to the October 10, 2018 Hurricane Michael damage in South Georgia is estimated at $479.83/acre (Table 1).

If you have further questions or need any clarification, by all means, do not hesitate to contact us via email: gfonsah@uga.edu; hayesbw@uga.edu; torrance@uga.edu; wgay5@uga.edu; bstarr@uga.edu; or justin1@uga.edu