Agricultural Losses and Damages from Hurricane Milton

The purpose of this research study is to rapidly estimate the agricultural impacts resulting from Hurricane Milton in the state of Florida. Survey results have been combined with a detailed baseline database on agricultural assets in Florida to estimate and communicate agricultural losses and damages in support of informed local, state, and federal decision-making processes related to disaster declaration, response, and relief.

Event Description

The tropical system that would eventually become Hurricane Milton originated in the western Caribbean Sea and consolidated in the Bay of Campeche (Mexico) on October 5, 2024. Gradual intensification occurred as it slowly moved eastward, becoming a hurricane early on October 7 and undergoing explosive intensification to become a Category 5 hurricane with winds of 180 mph (285 km/h). Increasing wind shear caused the hurricane to weaken as it turned northeast towards Florida, weakening to Category 3 status before making landfall near Siesta Key late on October 9. Afterwards, Milton rapidly weakened as it moved across the state into the Atlantic Ocean. Hurricane Milton was associated with a significant tornado outbreak, heavy rainfall, and flooding.

Impacted Agricultural Acreage

Over 5.7 million acres of agricultural lands were affected, of which over 68% was grazing land. Across all commodity groups, around 60% of affected acreage experienced low-intensity weather conditions (Hurricane Composite Intensity Index [HCII] levels 1–3), 39% of affected acreage experienced moderate-intensity weather conditions (HCII levels 4–9), and less than 1% of affected acreage experienced high-intensity weather conditions (HCII levels 10–15). The commodity groups that were most affected (in terms of acreage impacted by moderate- or high-intensity weather conditions) by Hurricane Milton (not including grazing land) were Field and Row Crops (100,000+ acres, including hay and sugarcane), Citrus (166,000+ acres), Animals and Animal Products (70,000+ acres), and Vegetables, Melons, and Potatoes (58,000+ acres).

Production Losses

Estimated production losses for agricultural producers in Florida are $428.0 million. The commodity groups that were most affected in terms of production losses are Greenhouse/Nursery ($142.3 million), Vegetables, Melons, and Potatoes ($142.1 million), and Citrus ($55.0 million).

In estimating the annual production value for acreage impacted by Hurricane Milton, we have excluded the dollar-value losses previously caused by Hurricanes Debby and Helene for each agricultural parcel. This approach ensures our assessment accurately reflects the incremental losses attributable solely to Hurricane Milton, thereby avoiding double-counting (or triple-counting) within agricultural areas impacted by more than one of these events.

Infrastructure and Production Damages

Reported damages to infrastructure include homes, livestock sheds, watering points, greenhouses, perennial plantings, conservation structures, honey bee boxes, fences, farm equipment, irrigation system, farm equipment, and aquaculture facilities (e.g., lost gear and bags). Survey respondents also reported damages to or destruction of stored agricultural inputs including loss of hay, feed, seeds, fertilizers, strawberry plants, and aquaculture medicine as well as stored harvested products including eggs, honey, meat, and food fishes.