

Agricultural Losses and Damages from *Hurricane Helene*

The purpose of this research study is to rapidly estimate the agricultural impacts resulting from Hurricane Helene 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 become Hurricane Helene developed into a tropical storm on September 24, 2024 in the northwest Caribbean Sea near the Yucatan Peninsula and then strengthened into a hurricane the next day as it moved northeast. It rapidly intensified, attaining Category 4 strength with 140 mph winds prior to making landfall near Perry, FL (Taylor County) on September 26. After landfall, Helene continued moving north-northeast, impacting north-central Florida and the southwestern peninsula. It weakened to a Category 2 hurricane after crossing into Georgia, and then further downgraded as it moved through the Appalachian region, affecting parts of South Carolina, North Carolina, Virginia, and Tennessee. Hurricane Helene was associated with heavy rainfall, significant storm surge, and moderate inland flooding.

Impacted Agricultural Acreage

Nearly 6.2 million acres of agricultural lands were affected, of which over 66% was grazing land. Across all commodity groups, around 90.8% of affected acreage experienced low-intensity weather conditions (Hurricane Composite Intensity Index [HCII] levels 1–3), 8.8% of affected acreage experienced moderate-intensity weather conditions (HCII levels 4–9), and only 0.4% of affected acreage experienced high-intensity weather conditions (HCII levels 10–15). The commodity groups that were most affected (in terms of acreage affected by moderate- or high-intensity weather conditions) by Hurricane Helene were Field and Row Crops (238,000+ acres), Animals and Animal Products (17,000+ acres, not including grazing land), and Vegetables, Melons, and Potatoes (12,000+ acres).

Production Losses

Estimated production losses for agricultural producers in Florida are \$116.5 million. The commodity groups that were most affected in terms of production losses are Animals and Animal Products (\$43.8 million), Vegetables, Melons, and Potatoes (\$31.6 million), and Field and Row Crops (\$23.2 million).

In estimating the annual production value for acreage affected by Hurricane Helene, we excluded the dollar-value losses caused by Hurricane Debby, which affected the same region less than two months prior. This approach ensures our assessment more accurately reflects the incremental damage attributable solely to Hurricane Helene, thereby avoiding double-counting for areas affected by both events.

Infrastructure and Production Damages

Reported damages to infrastructure include homes, livestock sheds and watering points, barns, perennial plantings, conservation structures, fences, farm equipment, hoop house structures, irrigation systems, and storage structures. Survey respondents also reported damage to or destruction of stored agricultural inputs including fertilizer, feed grain, pesticides, animal medicine, and seeds as well as stored products including hay, millet, milk, meat, and honey.

