

DRAFT Rice Producers Guide to Preparing for and Recovering from Hurricanes in Mississippi Delta Rice-Production Region

This is a draft of guidance being developed by the USDA SE Climate Hub to help rice producers prepare for and recover from hurricane damage.

This section will focus on:

- Situational Assessment, Preparation and Forecasting
 - Reconnaissance, Resurgence and Resolutions to Maximize Grain Quality and Minimize Yield Loss.
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I. Pre-hurricane Planning – Short-term Preparedness

Hurricane season in the southeastern portion of the U.S. spans from June to September, with the peak months being in August and September. Uncoincidentally, this is also the time frame where most MS producers are reaching physiological maturity or have begun harvesting rice. Forecast predictions of hurricanes moving from the Gulf of Mexico to the inlands typically leave producers within a short time frame to make a decision on how to prepare for such an event. The suggestions discussed below are provided to rice producers as a guideline for quick action to mitigate losses. These guidelines should not be perceived as a definitive preparation response as every scenario may vary.

When a Hurricane Is Forecast to Impact Your Area (1 to 7 days before)

Weather models have forecasted a hurricane to make landfall where it will soon begin its journey of destruction inland. Producers are left with only 7 days of preparation and there is no time to waste. So what should we do, where do we start, and how can we be the best prepared? First and foremost, always fully assess the situation prior to taking immediate actions. Pulling up field maps and evaluating at what growth stages each rice variety and field is at will give an indication on whether harvest is feasible or not. In a best case scenario, a producer that has fields with grain moisture ranging from 25 to 18% may consider a sodium chlorate application as a harvest aid. This will allow producers to begin harvest in approximately 4 days after application and harvest as much grain as possible with the remaining days ahead. However, if you are unable to complete harvest within 7 days after application it is best to wait as this will cause a reduction in grain quality and yield loss due to shattered kernels. Furthermore, moisture retention in the stem of the rice plant provides stability that will allow the rice to keep standing. In the event some rice fields are not quite ready for harvest it is best to pay attention to the rain forecast in the days ahead. Rice grain that is not fully matured and submerged in floodwaters will diminish the quality of the grain and will not be suitable for human consumption. Therefore, examining the rain forecast and determining how much rain accumulation is predicted is important. In a scenario where there are high levels of rainfall with rice still in the field that is not fully matured it may be best to slightly reduce the flood in the field to compensate for the rainfall, so as to not submerge the grain. However, it should be noted that in addition to high levels of rainfall the storm winds are a

significant factor that contributes to “downed” rice. Varieties that are rated for minimal to zero lodging have a greater chance of withstanding the elements and may still be standing post-storm.

One Day Before a Hurricane is Forecast to Impact Your Area

At this point in time there is little to nothing that can be done. Equipment and pesticides should be moved to higher grounds or placed in a sturdy shelter. Any electrical power to shops or other buildings should be disconnected. Any rice that is left in the field past the hard dough growth stage may withstand the high winds if it is left in the flood. As mentioned earlier, anything not past this growth stage will damage the grain and not be suitable for sale if it becomes submerged in the flood waters. Therefore, if high levels of rainfall are predicted it would be best to drain fields as low as possible. Additionally, it may be beneficial to take as many pictures before the storm of all rice fields and document what growth stage they are at. Have multiple pictures of each field using a digital camera or a drone/airplane and be sure to multiple angles. Keep in documentation is important and having as many photos will help, but so is picture quality and clarity, take your time and cover all areas thoroughly. This will help for insurances purposes if necessary. Once everything has been properly stored and secured it is time to evacuate your area if it is recommended.

II. Post-hurricane Recovery

Immediately After the Hurricane has Passed

In the days following a hurricane, or tropical storm, it is recommended to wait a few days until reports have confirmed the area you reside in is safe to return to. At this time, it would be best to contact all employees or neighbors to ensure everyone is safe and devise a plan on when to return back to the farm.

Within a Week Following Hurricane Impacts

Producers should be scouting all fields and documenting all damage with pictures or videos. Again, using a digital camera or a drone/airplane to cover all basis of your field is important. Additionally, producers should be determining what can be salvaged at this point and determine whether or not to harvest certain fields. Draining off all fields that were flooded either prior to or during the storm should be a top priority. Given that it is probably still too wet to harvest it would be best to do a check-up on all machinery and ensure that no damage was caused by the storm. Producers should contact their local grain terminals to determine whether or not they can be up and running and will be accepting grain once harvest can resume. Similarly, if a producer is storing grain in a personal bin it will need to be inspected for damage and the dryers will need to be inspected.

Within a Month Following Hurricane Impacts

After one month, producers should be picking back up where they left off prior to the storm. Any fields that received damaged, yet were still able to be harvested should be prioritized from the worst to the greatest to ensure minimal profit losses.

This draft guidance was developed by subject matter experts from Mississippi State University Extension Services, Mississippi Rice Promotion Board, and Louisiana State University Extension Services.

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