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Preparing Farm Operations for Extreme Summer Weather

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Introduction

Summer can bring extreme weather events, such as hurricanes and flooding. These, as well as seasonal changes, can pose risks for farm operations. Time spent on preparation early can mean time saved during extreme weather.

This resource is part of a series of fact sheets and checklists for agricultural producers to inform short-term, immediate responses for farm operations, in preparation for impending extreme weather events. This fact sheet focuses on preparation strategies for the summer months.

Beginning Summer Season

Review the UConn Extension General Strategies checklist (link). Review all written emergency and communication plans with family and farm personnel, including a plan for evacuating and shelter in place for staff and livestock.

Inventory equipment with photos that can be used to support damage claims. Ensure that generators and chainsaws are operable in case you lose power or need to clean up fallen trees or limbs. Enable emergency alerts on your smartphone; NOAA and the National Weather Service send automatic alerts for impending weather events, including flood warnings and tornadoes.

You can also sign up for emergency alerts at portal.ct.gov/ctalert

If you keep livestock, review and update records for all animals on the property, ensuring that animals have at least one form of permanent identification, such as RFID tags. Have your veterinarian's number written down and in your phone.

Make a plan for keeping extra feed on hand in case you are unable to reach your hay supplier or the feed store for a few days. Check and inflate trailer tires in case you need to transport animals.

Before Any Possible High-impact Weather Event

The Atlantic hurricane season runs from June 1 through November 30. Hurricanes can bring torrential rain, flooding, extreme winds, extended power outages, and occasionally tornadoes.

Prepare for loss of power, impassable roads, or downed trees that can restrict movement on and off the farm. Photo-document standing crops throughout the season in case of losses.

At the start of the season, repair infrastructure that would be vulnerable to high winds, such as roofs, high tunnels, and missing siding. Have materials on hand to secure farm structures, including plywood, tie downs, tarps, and sandbags, as well as extra supplies in case you need to quickly make post-storm repairs to keep animals, crops, and equipment safe and out of the elements.

In addition to having at least a week's worth of animal feed available at all times, keep extra materials on hand during times of calving, lambing, foaling, or kidding, if you breed and raise livestock. Organize all necessary materials for these events in advance in case extreme weather events require early deliveries, or conditions make travel to supply stores unsafe.

Evaluate vulnerable systems and have a backup plan for freezers/coolers, furnaces, ventilation fans, heat for chicks, poults, and other young animals, electric fencing, water pumps, and other electric implements. Making a list of these systems can help ensure you have a backup system and keep you organized if the power goes out.

Check backup systems, such as generators and auxiliary water pumps, for functionality at the start of each season. Identify equipment that needs to be turned off before/during an outage.

Check trailer tires, generators, and chainsaws, and keep extra gas or diesel on hand. Be sure to store fuel supplies safely. Regularly use up stored fuel and resupply with fresh throughout the season.

Review emergency and contingency plans with farm staff and family regularly.

When a Hurricane is Forecasted

Review the above guidance along with recommendations for extreme rain and extreme wind. Harvest market-ready crops and document standing crops with photos in case of losses.

Ensure that all backup systems are operable and follow your plan for evacuation or shelter in place for family, staff, and livestock. Double check trailer tires, generators, chainsaws. Refill fuel and restock livestock feed and supplies as necessary.

Before Extreme Rain Events

Move animals, equipment, and supplies out of flood zones and areas that are likely to become muddy. Clear debris from gutters as well as drainage ditches, culverts, and access roads to prevent washouts or flooding.

Chemicals such as pesticides, including granular applications, should be stored in waterproof containers, and in locations where they will not be impacted by flooding.

Take special consideration with young and small animals like poultry who may be affected more quickly by flooding. Consider delaying direct seeding and fertilizer or pesticide applications when intense rain is likely, as extreme rain can wash away seeds or cause pollution issues. Similarly, manage manure piles throughout the season to minimize run-off.

As high volume rain events become more common, be aware that culverts and other drainage sites that were adequately sized in the past may no longer handle extreme rain. Monitor culverts and other drainage during intense rainfall so that you can assess needed improvements, as safety allows. Be mindful that distant rains can flood local rivers and streams; any low-lying area, including urban locations, can flood rapidly. See Managing Flood Risks on Farms for more information.

Preparing for Extreme Winds

Collect and secure outbuildings and objects that could become airborne. Close all doors, windows, ventilation boards, or other openings in farm buildings. Seal up greenhouses and high tunnels as temperatures allow and add additional sandbags for row cover as needed. You may also consider removing row covers.

Drive additional posts for trellised crops, like tomatoes or peas, to prevent blow-down; keep in mind that posts are more likely to fail during high winds when the soil is saturated.

Extreme winds can also dislodge forage and grains; harvest before high winds if possible. Fill all water tanks with clean water for crops, animals, and people in case power outages create challenges with water sources reliant on electricity. Ensure that all animals, equipment, and supplies are moved away from trees, including hazardous chemicals, which should be securely stored.

Trim hanging branches and remove deceased trees from the property regularly. Unplug extension cords and other electrical equipment, when possible, to mitigate fire risk.

Hailstorms are Possible During Summer Months

If there is hail in the forecast, move vulnerable equipment under cover. Provide shelter to vulnerable animals.

Young poultry may not seek cover on their own. You can protect them by containing them within a coop or covered chicken tractors.

Move seedling trays under cover, as well, to protect their vulnerable vegetation. Harvest vulnerable crops that are market-ready, or nearly so, as appropriate.

Preparation for Thunderstorms

Thunderstorms can often lead to power outages: identify any necessary uses of electricity and determine a backup plan or purchase a generator. This includes action necessary for mitigating extreme wind, rain, and hail risks. Complete all outside tasks in advance so no one is outside during a thunderstorm.

If you do get caught out in the open during a thunderstorm, leave farm equipment outside and run to the nearest shelter. Leave behind any tools that conduct electricity, and unplug equipment not protected by surge protectors.

During Extreme Heat and Summer Heat Waves

Be sure staff and family are adequately hydrated and have regular water and shade breaks. Provide electrolyte powders or beverages, in addition to water. Plan the workday around the heat.

Use this resource as a guide for scheduling frequent and adequate breaks during high temperatures https://stacks.cdc.gov/view/cdc/45850.

Minimize time working alone so all staff can help monitor and address signs of heat illness. Review heat stroke, heat exhaustion, and dehydration symptoms with staff and family. Learn about heat stroke by visiting osha.gov/sites/default/files/publications/3431_wksiteposter_en.pdf (English) and osha.gov/sites/default/files/publications/3432_wksiteposter_sp.pdf (Spanish).

For crop operations, irrigate thoroughly before the heat wave begins. Evaluate the need for shade cloth on greenhouses and high tunnels. During peak heat periods, sprinklers can help provide evaporative cooling, particularly for high-value crops in greenhouse and high tunnel settings.

For animal operations, know the signs of heat stress and heat exhaustion for each species you keep. Feed animals early in the morning and late in the evening to minimize the addition of metabolic heat during peak atmospheric temperatures. Provide animals with additional watering stations as well as adequate shade and ventilation.

Check animals frequently to ensure they have access to clean water and provide electrolytes as needed. Fans can also be provided but should be monitored for overheating motors and fire risk. Avoid handling or transporting animals on hot days unless necessary. If needed, move animals during cooler parts of the day, like in the evening or early morning.

Although fairs and other animal events can be enjoyable, consider the risks of heat illness before deciding to take animals to an exhibition during times of extreme temperatures. In some cases, it may be in the best interest of the animal's health to leave them home.

Schedule shearing of sheep and other fiber-producing animals before summer to give them enough time to grow sufficient staple (one inch). This will help them avoid sunburn while minimizing overheating concerns associated with full fleece.

Swine have limited capacity to manage their own body temperature and may need to be hosed down with water in extreme heat.

Sheep, however, should not be hosed down, as wet fleece restricts their ability to cool themselves.

Monitor Drought

Manage grazing to prevent damage to pasture and consider implementing supplemental feeding during low pasture availability. Ensure that livestock have adequate access to fresh water at all times. Irrigation and livestock watering sources, especially surface water, should be monitored for quality.

Crop managers should irrigate judiciously, being mindful of well/water body capacity and possible depletion; focus irrigation on high-value or drought-sensitive crops. Reduce tillage and maintain residue to conserve soil moisture.

Monitor drought conditions for your area, especially during the summer months, at drought.gov/.

Wildfire Smoke

Whether from local or distant forest fires, smoke can lead to poor air quality. Local air quality can be monitored at airnow.gov. Give special consideration to managing inside ventilation, if animals are kept in buildings such as barns, as a decline in general air quality may increase the risk of respiratory challenges. Keep masks on hand for yourself and farm personnel.

Note that masks must be N95 or better; KF94, KN95, medical, and cloth masks do not protect you from wildfire smoke. During distant fire events, air quality tends to be worse in your local area in the early morning and later afternoon. Protect farm employees and animals by avoiding work during peak poor air quality.

Find additional wildfire smoke safety resources at agriculturaljusticeproject.org/wildfire-smoke-safety-resources-2/

Summer Conditions, Including Drought, Can Elevate Fire Risk

Monitor fire danger levels at portal.ct.gov/deep/forestry/forest-fire/forest-fire-danger-report. Check fire extinguishers and smoke alarms at the start of the season. If possible, consider installing fire extinguishers and smoke alarms in barns and outbuildings.

Clear dead leaves, brush, grasses, straw, and other readily flammable materials from areas surrounding buildings as well as work areas where sparks, flames, or hot equipment might be present. Always have a water source handy when doing work that could make sparks, such as cutting metal, or when hot equipment could come in contact with flammable materials.

Determine fire risks that are presented by your own operation, such as a buildup of dust around sources of electricity, and identify ways to mitigate fire risk. For example, remove dust frequently from stalls and storage areas, and examine electrical equipment for rodent nesting material.

Take care to prevent heat buildup in baled hay (learn more at extension.sdstate.edu/minimizing-hay-storage-loss-heating-or-fires). Furthermore, note the location of flammable materials on your farm map.

Tornadoes are Possible in Connecticut

A *tornado watch* means there are favorable conditions for tornado formation–stay alert.

A t*ornado warning* means a funnel cloud has been sighted–time to seek shelter.

Do not risk your life trying to protect equipment, structures, livestock, or crops when a tornado is imminent.

High Ground-level Ozone

Educate yourself and your staff on which of your crops are sensitive to ozone stress which can lead to stress in sensitive crops like cucumbers and beans; recognize symptoms in each crop. When possible, prepare by irrigating to minimize drought stress and avoid additional plant stressors like foliar sprays during ozone alerts.

Schedule outdoor work for early morning or late evening, as ground-level ozone peaks around mid-afternoon. Educate staff on symptoms of ozone exposure: coughing, shortness of breath, chest tightness.

Current ozone levels and recent trends can be monitored at airnow.gov.

Special Considerations

Extreme summer weather, including intense heat, can increase stress and parasite pressure. It is recommended to conduct FAMACHA scoring on small ruminants (i.e. sheep and goats) every 2-3 weeks during the summer. A FAMACHA score is a visual estimate of Barber pole worm load and can indicate if deworming practices are needed. If you are new to FAMACHA scoring, ask your veterinarian for assistance and consider enrolling in a certificate course (web.uri.edu/sheepngoat/famacha/).

Tropical storms can carry migratory corn pests such as fall armyworm, corn earworm, and western bean cutworm into Connecticut. Increase monitoring immediately after storms, using pheromone traps or scouting to track moth activity. Monitoring helps inform timely insecticide applications.

Conclusion

While summer can be an extremely busy season for farmers, and it is normal to prioritize the most immediate tasks on the to-do list, it is important to spend time planning and preparing for extreme weather impacts.

While hopefully none of the above affects your farm, inevitably some will, and you'll save time, money, and heartache by being prepared.

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