

# *Poultry Engineering, Economics & Management*

## Newsletter of the National Poultry Technology Center, Auburn University

### ***Critical Information for Improved Bird Performance Through Better House and Ventilation System Design, Operation and Management***

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## Winter is coming! Get ready NOW

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As the season starts to change and the cool fall air refreshes us after the long summer, poultry growers should take this time when the weather is typically cooperative to prepare for winter, when the weather can cause substantial problems. At this time of year, growers usually remember important maintenance steps such as tightening up your poultry house to prevent unwanted air leaks and checking brooders, primary minimum ventilation fans and vents for optimum operation. There are a number of newsletters to be found on these common wintertime readiness requirements at [www.poultryhouse.com](http://www.poultryhouse.com).

However, there are a few other important points of maintenance that often get overlooked during this prime time for winter preparation. These include: 1. Attic and truss inspection, 2. Rodent control, 3. Back-up generator checks, 4. Drinker maintenance, and 5. Drainage maintenance.

### **Attic and Truss Inspection**

A top winter preparation priority should be getting into the attic to look for signs of leaks or structural problems so you can make any needed repairs before the winter rains, snow or ice cause more problems. Pay special attention to the truss plates that hold the trusses together. Over time these can become loosened and put individual trusses at peril of failure from increased snow/ice loads. If one truss fails, it often causes other trusses to fail as the loads are unequally spread down the house. Ultimately, one truss failure can lead to total house collapse. Most minor truss issues can be repaired relatively easily and cheaply if addressed early on. Note: As long as you are getting into the attic, take fresh rat bait with you (next page).



**Moisture intrusion from roofing metal leaks or ceiling leaks combined with contraction/expansion from temperature fluctuations can cause truss plates to come loose. This damage can lead to a truss failure and ultimately a total roof system failure and house collapse. If caught early, loosening truss plates can usually be repaired easily before they become major problems. See [www.poultryhouse.com](http://www.poultryhouse.com) Newsletter #73, "Can Your Trusses be Trusted?" and #70 "Avoiding Snow Disaster" for more details.**

## Rodent Control

Rodents can cause structural damage, harbor disease and consume poultry feed. We recommend every grower maintain a year-round, rotational, multi-faceted rodent control program. However, we all know that in the winter, rodent pressure is greatly increased as the temperatures fall. Take the time this fall to clean and refresh your bait stations around the perimeter of your houses with new bait. Check the stations in the generator shed as well. Fall is a good time to put out fresh bait in the attics of your houses too.



**Are rodents working behind the scenes on your farm? Rodent pressure is increased in the winter with dropping temperatures. Rodents cause structural damage, carry disease and can even effect ventilation as seen in this photo of a sidewall vent stopped up from rodent activity. Fall is the time to ramp up your rodent control efforts.**

**See [www.poultryhouse.com](http://www.poultryhouse.com) Newsletter #87 "Simple Steps to Stop Rodent Damage."**

## Back-up Generator Checks

Two things that often cause problems for generators in winter are moisture in the fuel and weak batteries. Temperature changes can promote condensation in your fuel tank. The best way to combat this issue is to keep the tank full of fuel. Growers should also treat their tanks in the fall with moisture dispersion additives. It is also imperative that part of your normal generator service includes checking the tank for moisture, and if any is found, taking appropriate action to clean the tank. Make sure block heaters are operational and generator is starting, transferring and running under load routinely.



**The backup generator may be the single most important piece of equipment during a natural disaster in either winter or summer. During the tornados that caused so much devastation in Alabama in April 2011, the number one problem with generator failure was not electrical. It was bad fuel or contaminated fuel.**

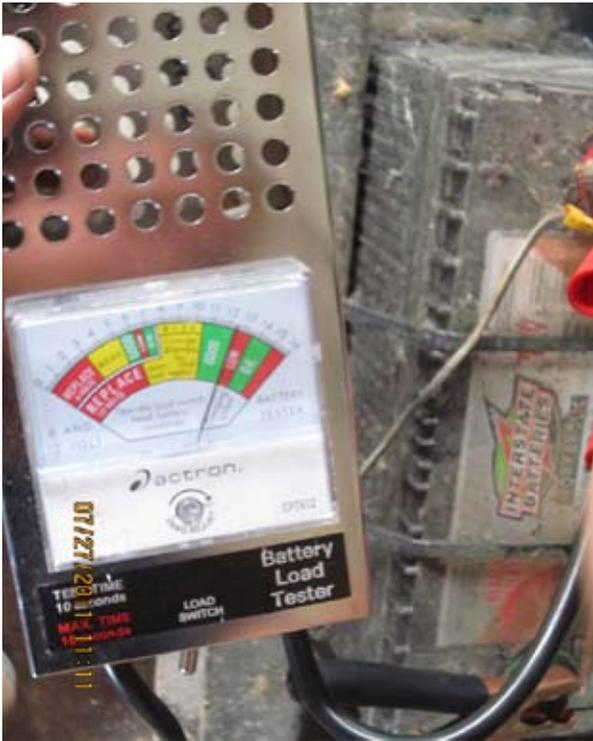
**Check your generator fuel tank for moisture using a moisture indicating paste, or if equipped with a bottom tank drain valve, open the valve and drain any water out. As water is heavier than fuel, it will sit on the bottom of the tank.**

**We suggest you buy a couple of spare fuel filters and an air filter and put them in your generator shed today.**

**Photo at left shows a generator service person checking a tank for water with a moisture-indicating paste on a wooden dowel. This tank passed the test. Would yours?**

**See [www.poultryhouse.com](http://www.poultryhouse.com) Newsletter #74 "Will Your Standby Generator Stand Up?"**





**The generator battery should be checked in the fall using a load tester. Replace if the battery is showing any weakness. The battery charger should be checked for proper amperage. Do not rely only on the indicator light on the charger to determine if it is working properly.**

### **Drinker Maintenance**

One of the biggest obstacles growers face in the winter is moisture removal. If we don't ventilate sufficiently to remove moisture, many problems occur that cost money to resolve. Wet litter, poor air quality, ammonia damage to birds – all ultimately cause poor performance and low pay checks. The only ways to remove moisture from the house are with the ventilation fans or the litter machine. Running more fans in the winter can be costly due to the cold temperature of outside air being brought in while trying to maintain warm temperatures in the house with heaters. One opportunity growers need to take advantage of this fall is to spend some time addressing drinker issues. If we can limit the amount of water going into our litter via leaking drinkers, then that is less we have to remove with the fans.



**Wet litter caused by drinker leaks can cause major problems with house environmental management. Having to increase ventilation rates to remove this added moisture from the house will cost additional electricity and heating fuel. Growers can benefit themselves in a multitude of ways by addressing these drinker issues early and keeping on top of their overall drinker management. Proper system cleaning, replacing/repairing leaking nipples as needed and proper height and pressure adjustment are key components to not allowing your drinker management to hurt you this winter.**

**See [www.poultryhouse.com](http://www.poultryhouse.com), Newsletter #78 "Is Poor Drinker Management Costing You Fuel Dollars?"**

## Drainage Issues

With the expected increase in rain every winter, many poultry farm's drainage systems become overtaxed and overrun. The cause is simple—drainage ditches and culverts between and around the houses often get overlooked and overgrown during the long summer. This can cause numerous problems in winter. When the side house ditches become full because of a stopped up culvert between the houses at the feed bins, this water can enter the houses, causing serious problems. Severe erosion issues can also result from poorly maintained drainage systems. Some erosion problems can become so severe as to threaten the structural stability of the poultry house. Take time this fall to clean out those culverts, work those ditches and prepare for the rains to come.



**Proper drainage around the poultry house is very important but often overlooked. Erosion issues can quickly become severe and problematic. Time needs to be spent cleaning out culverts, working and clearing ditches and making sure all rain water is directed away from the poultry houses and away from the farm.**

**Standing water next to a house is a major concern. Why? 1) If this water leaks into the house it will destroy the litter and growing conditions. 2) It offers rodents easy access to water, making the house an excellent winter harbor. 3) Standing water can attract migrating birds to nest beside the house, allowing for possible direct contamination with diseases, including Avian Influenza.**

**NPTC**  
**National Poultry**  
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***Our mission: To improve the bottom line profitability of the live production sector of the US poultry industry by providing timely applied research and education, resulting in increased efficiencies in housing, equipment, energy, and environmental control.***



The *Poultry Engineering, Economics and Management Newsletter* provides up-to-date information on topics of interest to poultry production personnel, focusing on most effective and efficient uses of modern technology and equipment, with a special emphasis on economic implications. The Newsletter is published as needed to address issues of concern to the industry. Contact: Jess Campbell, National Poultry Technology Center, 226 Corley Bldg., Auburn University, AL 36849-5626, (334) 844-3546, fax (334) 844-3548, jesscamp@aces.edu. The NPTC team:

  
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