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Curtain Drop/Alarm System Failures

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The advent of tunnel ventilation has resulted in a dramatic increase in the percentage of houses which are power-ventilated during the summer. This shift toward the use of power ventilation has enabled producers to take a more active role in controlling house environment lessening the impact of Mother Nature. With the ability of creating a more desirable house environment than what would naturally occur, these producers have seen increases in both bird performance and profits.

But, nothing comes without a price. In the case of power-ventilated houses, one of the biggest costs is increased responsibility. Nowhere is this more evident than in the area of ensuring that the birds will be safe in the case of power failure. In a naturally-ventilated house, if the producer becomes aware of a power outage within a few hours, his birds may suffer but probably won't die. In a power-ventilated house, however, there are only minutes to react to avert disaster. If the curtains on the house are not dropped immediately, mortality is a certainty. The unforgiving nature of power-ventilated houses makes a properly operating curtain drop/alarm system essential.

Though almost all houses nowadays do have some type of curtain drop/alarm system, there are an alarming number of birds that still die due to "suffocation" each year. The reason for the failure of curtain drop/alarm systems vary, but regrettably many of the failures could have been avoided if just a few simple precautions were taken.

120 Volt Drop/Alarm Systems:

Caution should be taken when considering the use of 120 volt alarm/drop systems. Power is supplied to a house on three lines. Two lines have 120 volts of potential, the other is a neutral (0 volts). In order to obtain 240 volts, a fan or a feed auger motor is connected to both of the 120 volt lines ($120 + 120 = 240$). Equipment that requires 120 volts of potential is connected to one of the 120 volt lines and the neutral line ($120 + 0 = 120$).

PUTTING KNOWLEDGE TO WORK

Most of the time when power is lost both 120 volt lines go dead. However, it is possible for just one of the 120 volt lines to be lost and not the other. This is often caused by a faulty breaker only partially tripping. If the alarm/drop system is connected to the line that isn't lost, it will not sense a power outage even though the fans are unable to operate. This may seem like an unlikely occurrence; however, there have been reports of this happening on at least four farms in the last couple of months. To avoid this unacceptable possibility, producers should if possible use curtain drop/alarm systems which sense both lines of power (240 V), not just one (120 V).

Back-up Systems:

In order to further minimize the potential for disaster, it is crucial to have power outage alarms backed up by high/low temperature alarms. With a double layer of coverage the likelihood of "suffocation" is dramatically reduced. If for some reason it is not possible for your alarm system to sense both power lines, then it is absolutely essential that the curtains be set up to drop automatically in case of high temperature.

Temperature Sensor Placement:

Improper temperature sensor/thermostat location is another cause for curtain drop/alarm system failure. Sensors/thermostats should be located in a place where they are most likely to measure average house temperature. Often they are placed on the sidewall which may subject the device to direct sunlight in the summer. This would set the alarm off prematurely, forcing the grower to set the alarm artificially high. By the same token, do not locate an alarm sensor/thermostat in the inlet end of a tunnel-ventilated house. If the exhaust fans were to go off, this area of the house would probably not heat up much due to the curtain opening allowing fresh air to enter the house. Proper sensor/thermostat location is important during cold weather as well. For example, a small curtain crack could keep an alarm sensor/thermostat mounted on a sidewall cool while the rest of the house heats up.

Installation and Maintenance:

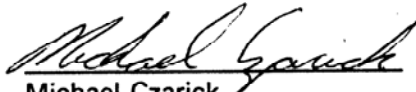
Installation/Operation manuals aren't typically the most fascinating reading, but a number of potential problems can be avoided if they are examined. One problem in particular is connecting two or more winches to one curtain drop. If not done precisely according to directions, it is possible for the winch handles to get tangled in the drop lines preventing curtains from falling. The safest thing to do is to have a separate curtain drop for each winch handle.

Between growouts, clean off thermostats, curtain machines, and curtain drop devices. Check to see how accurate alarm sensor/thermostats are by comparing the temperature they indicate to a thermometer. If the system operates off a battery, make sure it is properly charged by checking the cells with a hydrometer.

Testing:

The best insurance against curtain drop/alarm system failure is periodic testing. Cut the power to the system and see if it does what it is supposed to do. It is very important that you actually allow the curtains to drop completely from time to time. This is the only way that you really know your system is working.

Your curtain drop/alarm system is an insurance policy. Your payments are in the form of spending a little bit of time with it. If you make your payments, you will be covered in the case of a disaster and you will probably sleep better. If you don't make your payments, you have no protection.


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