



# SKOV International

POULTRY EDITION

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## House temperature and air humidity have great impact on the quality of the litter

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The current house temperature and air humidity are crucial factors as regards the distribution of the birds in the livestock house and thus also for the quality of the litter. Uneven distribution results in a poor litter.



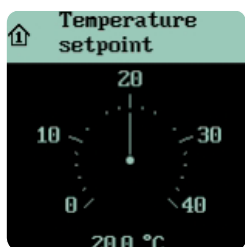
Temperature measurement of the litter

The temperature in the litter should not be lower than 20° C. If the litter cools down and reaches a temperature below 20° C, there is a great risk of bringing the composting process to a standstill and the litter will be poor.

Therefore, one should pay attention to the **temperature setpoint** and the **humidity setting**. Especially in those cases where there is a tradition for turning off the heating when the birds reach a certain age or if the heating system is underdimensioned and cannot retain the correct temperature.

### Example of a sequence of events in case of insufficient heating

Experience has shown that we often see the following scenario: The broilers have been stocked a few weeks ago and in keeping with tradition, the heating has been turned off whereas the humidity control is still active. Temperature setpoint is 20° C and the humidity setting is 70%.



Temperature setpoint is 20° C



Set humidity 70%

If the current humidity in the livestock house rises as a result of a humid outdoor climate – e.g. 8° C and rain, the climate computer will increase the ventilation level in an attempt to bring the air humidity in the livestock house down to the set 70% humidity. This makes the house temperature fall as it is not possible to supply heat.



Current house temperature

In a situation where the outside temperature falls even further, e.g. at the end of the day, the inside temperature will of course also fall.

If the humidity requires so, the temperature can fall to 0.3° C below **temperature setpoint heating**. This setting will often be 18° C in the current situation. The house temperature is thus 17.7° C.

The climate computer does **NOT** allow the ventilation to increase further as the house temperature has fallen below **temperature setpoint heating**.

Setpoints	
..Return	
Temp. setpoint incl. additions	21.4 °C
Temperature	20.0 °C
Heater setpoint	18.0 °C

Temperature setpoint heating

In case the house temperature is 2° C below **temperature setpoint heating**, the climate computer will switch to error condition. At this stage, the house temperature is 16° C. In the error condition of heating, the climate computer will gradually increase the temperature again by reducing the ventilation. To begin with to 18° C and later to 20° C when the air humidity and the temperature allow it.



Increase the humidity setting

If the producer turns the heating off after all, the **temperature setpoint** should **NOT** be lower than 24° C unless the litter is in tip-top condition.

If the **temperature setpoint** is 24° C, the house temperature could fall to 20° C in the worst case scenario.

### Conclusion

House temperature of 16 - 17° C is far too low for the litter and most likely also for the birds in the livestock house. Therefore, SKOV still recommends **NOT** to turn off the heating.

Increase the humidity setting instead of turning off the heating.

Setpoints	
..Return	
Temp. setpoint incl. additions	25.6 °C
Temperature	24.0 °C
Heater setpoint	22.0 °C

Recommendations concerning temperature setpoint in case the heating has been turned off.

The complex of problems concerning litter is a subject which will be further elaborated in the coming issues of SKOV International.



Climate for Growth