



Energy Efficiency in Pig & Poultry Production

General

Economy 7 Tariffs

UK electricity companies offer cheap rate electricity for 7 hours during the night. Because almost a third of the electricity used on a pig farm occurs during the Economy 7 period, large savings can be made by adopting this tariff.

Lighting

For the same light output fluorescent lamps use a quarter of the energy consumed by a normal tungsten filament lamp. Energy monitoring by the Farm Energy Centre has shown that the cost of tungsten lighting can be more than the cost of fan ventilation.

Ventilation

Minimum ventilation rate is the amount of air that has to be extracted from a building to keep it 'fresh'. In a heated building in winter the minimum ventilation is extracting heat from the building which has to be replaced. If the minimum ventilation rate is twice what it should be then this will double the running costs of the building, i.e. twice the amount of heating has to be replaced.

Pig Production

Creep Heating Controls

Maintaining the correct temperature in a creep box, not only means that the piglets will perform well, but also considerable energy savings can be made. Take, as an example, a 200 sow unit with 40 farrowing crates. The unit running 250W lamps with no control will have an energy bill of around £4,000 per annum which can be virtually halved by fitting thermostatic controllers.

Weaner Heating

Where heating with no mechanical ventilation is used, savings similar to those for creep heating can be made by fitting thermostatic controllers. When mechanical ventilation is used, the heating must be interlocked with the ventilation to stop the heating

being full on with maximum ventilation. Failure to do this can treble the running costs.

Poultry Production

Electric Heating

Electric heating is a viable alternative to fossil fired systems particularly for the smaller producer. Successful schemes have been installed for broilers, turkeys, pheasants and other game birds. Because electric heating relies on an efficient radiant heating system it is well suited to poorly insulated and 'barn type' structures where heating the whole house would be difficult and expensive.

Frost Protection

Time and money are wasted every year thawing out frozen pipes. Pipe heating cables are readily available and cost very little to run. The cost of installation can soon be recovered through savings in time and the cost of calling out the plumber.

Control

A lot of poultry installations have the heating and ventilation on separate thermostats. This can often lead to high running costs as the fan thermostat will operate to get rid of the heat and the heater thermostat will operate to replace the heat taken out by the fan. Fully interlocking the controls ensures that this scenario can't happen.

Energy Checklist

- ✓ Check with your electricity supply company that you are on the most suitable tariff.
- ✓ Use heat controllers to reduce running costs.
- ✓ Check the minimum ventilation rate and find out how to adjust it.
- ✓ Clean the ventilation equipment.
- ✓ Check that heating and ventilation systems are interlocked.
- ✓ Replace tungsten lights with fluorescent.