Energy Review

Dale Farm

Energy use is mainly associated with the maintenance of good environmental conditions for housing the stock.

**Energy use**

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| --- | --- | --- | --- |
| **Source** | **Use** | **Amount used per annum** | **Review** |
| Public electricity supply (engie) | Ventilation, feed, lights and on site caravan. | To be recorded  (see separate sheet)  20l max  Dependant on power cuts. The generator is run every week to ensure its in FWO. | Lights are on for a maximum of 15 hours in the poultry house. Lights in the packing area are on when needed – during packing hours (8 hours per day) |
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|  |  |  |
| Petrol | Strimmer | Used infrequently. Weed control. |
|  |  |  |
| Red Diesel | Back up generator | As and when needed. Always full. |
|  |  |  |
| Water  Borehole and mains | Washing and drinking | Borehole in use for poultry only. (mains as a back up)  Mains water is delivered to the sink unit in the packing area and the on site caravan. |

**Energy efficiency review**

**Ventilation**

Internal conditions have a direct impact on the performance of the birds so it is crucial to get ventilation right. The shed “set temp” is around 19 degrees, and the ventilation is temperature controlled by the built in Viper system.

* **Maintain system components to ensure efficiency**

Energy consumption of ventilation equipment can increase by up to 60% if regular maintenance is not undertaken

Dirty or faulty components directly affect system efficiency and will increase running costs and risk of breakdown.

The performance of the whole system is reviewed constantly by computer in the new buildings. Automatic sensors are in place to automatically control ventilation within strict parameters.

* **Avoid excessive ventilation by using good control**

Small errors in ventilation rates have a large impact on running costs so use controls to optimise ventilation rates and reduce energy use. This is particularly important during cold weather.

All buildings are thermostatically controlled by the Viper system.

* **Optimise airflow through well-designed inlets, roof chimneys and popholes.**

Ensure internal surfaces of ducts are smooth and that well-designed air inlets are used to increase ventilation efficiency by 20%. Ensure there are no obstructions to airflow. As well as costing more to run, dirty ventilation systems will be less effective and fan motor life will be shortened.

Regular inspection of the inlets, chimneys and popholes are made as part of routine maintenance. They are all powerwashed after each crop.

* **Maintain pipe work**

Check pipe work for leaks and have equipment serviced regularly by a reputable firm. This is carried out by the supplier.

**Lighting**

* **Control lighting in sheds**

Lighting is the most important factor of a laying hen. The pullets are brought in around 15-16 weeks old and are put onto a 10 (or 11, weight dependant) hour day length. Each week, again dependant on weight we increase by 1 hour. After getting to the 15th hour of light, the birds will reach peak performance. Therefore no more light is given. The light/dark periods reflect the outside daylight hours.

All lights are operated on a “dawn to dusk” program – this is done automatically through the Viper system.

* **Refurbishment**

Light bulbs and fluorescent tubes are replaced with the most efficient available at the time of replacement.

* **Staff**

Staff operate a “switch off” policy when leaving a building.

**Energy Supply techniques**

We are looking at potentially getting solar panels fitted to the 16000 unit. We have confirmed with the builder that the structure can withstand them.

**Energy Plan**

Reduction in energy usage will need to be compared to previous years of use.

Key opportunities are:

Continue to maintain automatic control of ambient conditions in the sheds to optimise energy use for lighting, heat and ventilation.

Continue programme of building improvement and invest in best available techniques where appropriate.

Continue with replacement of fluorescent tubes, as appropriate, with modern, thinner more efficient tubes or LED lights.

Continue to ensure equipment and surfaces are cleaned between crops to optimise efficiency.