



Landmark installation delivers heating and passive cooling

Finn Geotherm's landmark installation for leading European agricultural plant breeder RAGT Seeds delivers both heating and passive cooling with significant energy savings.

RAGT's initial brief was to reduce heating costs for six glasshouses used for developing new crops. LPG had previously been used to heat the glasshouses which, with a U value of around six, meant the boiler was in constant use in winter, leading to issues with fuel supply and heat distribution as the system couldn't keep up with the heat being generated. RAGT needed a new system to work with its existing grow tubes.

Finn Geotherm installed three Lämpöässä T120 ground source heat pumps linked to three Akvanti 2400 litre thermal stores with a network of 21,000 metres of collector loop. Controlled using Trend building management, the 350kW ground source heat pump totally replaces RAGT's previous LPG system.

During specification, Finn Geotherm identified an opportunity to utilise the new system to deliver air circulation and cooling. This would ensure a constant temperature for crops to thrive in during the summer. The cooling system had to be carefully developed to ensure it did not impact negatively on the Renewable Heat Incentive (RHI).

Finn Geotherm devised a bespoke passive cooling system to circulate air at ambient ground temperature from the ground loop. Cool air is circulated through 24 Jaga AVS fan coil units using a control system which

activates if the temperature increases by 1°C from target. Air circulation from the cooling system has made a significant impact too, providing a 'gentle summer breeze.' Along with the better regulated temperature, RAGT is also now enjoying enhanced plant growth and expects to reduce chemical inputs.

Steve Brown, Operations and Production Manager, RAGT Seeds, said: "The ground source heat pump system is delivering everything we hoped at a lower energy cost than expected. The quality of workmanship was exceptional with obvious care and pride being put into every aspect of the installation. We fully expect the system to make a huge contribution to our energy efficiency and to improve our glasshouse productivity, as well as dramatically reducing our emissions and enabling a reduced use of chemical fungicides."

Key benefits:

- Bespoke system delivering heating and passive cooling
- Revolutionised RAGT's glasshouse operations
- Highly efficient
- Low running costs
- Government payments through RHI

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The renewable heating experts