A Remarkable Visit to Guy and Wright, Tomato Growers, The Vineries, Much Hadham

A Local Enterprise Where Nothing Goes to Waste

When we think of tomato growing, most of us picture a simple greenhouse operation. Our recent visit to Guy and Wright, The Vineries in Much Hadham revealed something quite extraordinary - a pioneering business where tomato production has been brilliantly combined with renewable energy generation, creating what owner John describes as a "circular economy" where virtually nothing goes to waste.

Growing Tomatoes with Precision

Our tour began in one of the spectacular glasshouses, where 4000 young tomato plants arrive each January from Holland. These compact plug plants are doubled in number using side shoots, each grown in a mixture of dried coconut coir - remarkably, just one bag supports eight plants. The tomato vines were a sight to behold, woven into thick, organised ropes extending for metres along neat rows, with hundreds of tomatoes ripening on healthy, vibrant plants.

Computer-controlled irrigation monitors sunlight levels and releases water precisely when needed - on dull days, this means a small amount every 50 minutes, following the principle of "little and often." As the plants grow, they're trained up strings to the roof, with side shoots coiled onto additional strings. One plant can support eight separate tomato lines, with the crop circulating every nine days to produce the familiar punnets of five tomatoes we see in supermarkets.

The plants themselves help cool the glasshouses through transpiration, remarkably keeping the interior cooler than outside when temperatures rise above 28°C. But the real innovation lies in how this traditional growing operation has been transformed by renewable energy.

The Biogas Revolution

Alongside the tomato houses stands an equally impressive operation - two anaerobic digesters that transform waste into energy. Several lorryloads of organic waste arrive daily: spent grain, malt, flour, beetroot juice, and tank washings from food factories. These companies are paid to have their waste removed, which is then analysed for its gas yield potential.

Inside the digesters - which John memorably described as "huge cow's stomachs" - millions of bacteria break down this waste, producing methane gas. This biogas powers four substantial engines that generate approximately 1.3 megawatts of electricity, enough to power up to 1,500 homes after meeting all the business's own energy needs.

A Symphony of Interconnection

The genius lies in how these two operations support each other. The engines' exhaust gases, initially reaching over 400°C, pass through catalytic converters (much like car exhausts but larger) to remove pollutants. Heat from the engines is captured via heat exchangers and stored in massive 60,000-gallon buffer tanks, creating a thermal reservoir of hot water that provides consistent heating for the glasshouses through an extensive network of heating pipes that ingeniously double as trolley rails for the staff battery powered trollies used for plant work.

Even more cleverly, the CO_2 from the cleaned exhaust is pumped into the glasshouses, boosting atmospheric levels from the normal 420 parts per million to up to 1,500ppm. This enhancement increases both tomato size and yield by around 40% - as John noted, without this CO_2 boost, they'd have a third fewer tomatoes and smaller fruit.

Pollination the Natural Way

Gone are the days of hand-pollinating tomato flowers. Fresh bumble bee hives arrive every two weeks, with the industrious bees working early mornings along the tomato lines, flower by flower, just as their hedgerow cousins do naturally. After their intensive two-week stint, these seasonal workers are replaced, having earned their keep many times over.

Completing the Circle

Even after the anaerobic digestion process, the story doesn't end. The remaining liquid is rich in nutrients and makes excellent fertiliser. It's stored in a vast lagoon – which holds 10,000 tonnes- and distributed to local farmers' fields up to six miles away using a specially adapted tractor with wide application arms. The farmers receive superior fertiliser at no cost except a contribution to fuel, whilst The Vineries avoids expensive tanker removal fees.

This arrangement faces seasonal challenges - government regulations prevent autumn spreading, leading to lagoon overflow during winter rains and potential spring runoff problems. Nevertheless, it demonstrates how waste from one process becomes a valuable resource for another.

Innovation and Independence

John, the managing director and owner, has designed and constructed most of these developments himself. His philosophy of buying and maintaining equipment rather than hiring has enabled remarkable innovations, including the methane dome structure and computer systems that monitor gas analysis and fertiliser mixing.

The anaerobic digesters themselves are engineering marvels - surrounded by earth bunkers 6 metres deep, with Italian-supplied domes hiding bladders that rise and fall with gas production. The liquid inside maintains the optimal 37-40°C through carefully designed heat exchangers.

Facing Market Realities

Despite this remarkable innovation, The Vineries faces the same challenge as many producers - supermarket buying power that has kept tomato prices unchanged for thirty years. The biogas operation provides crucial income diversification, helping balance fluctuations in produce prices whilst contributing to renewable energy targets.

The business now generates renewable obligation certificates due to its green fuel source, and exports enough clean electricity to power up to 1,500 homes. It's a compelling example of how traditional agriculture can evolve to meet 21st-century challenges whilst supporting the local farming community.

A Vision for the Future

Our visit revealed more than just an efficient business operation - it showcased a vision of sustainable agriculture where waste becomes resource, where traditional farming embraces cutting-edge technology, and where local innovation contributes to national energy security. As we face increasing pressure to reduce carbon footprints and find sustainable solutions, The Vineries offers an inspiring example of what's possible when creativity, determination, and environmental responsibility come together.

What makes John's achievement even more remarkable is that when he began this journey fifteen years ago, the biogas industry was far less developed and many considered anaerobic digestion unproven, expensive, and risky technology. With no guidebooks, few experts to consult, and certainly no guarantee of success, John's willingness to embrace the unknown and learn through trial and error exemplifies the very best of British entrepreneurial spirit. In a world increasingly focused on sustainability and energy security, his pioneering investment has transformed a traditional family business into a beacon of innovation that now powers 1,500 homes whilst achieving complete energy independence.

For our U3A community, it was a fascinating glimpse into how modern British agriculture is adapting and thriving, proving that the best innovations often come from understanding how natural systems work - and working with them rather than against them.

Thanks to Marion for arranging this remarkable visit, and to John and his team for their generous hospitality and fascinating insights into their pioneering operation.