

New crop trials promises a viable maize alternative

Early trials are underway ahead of a major UK-wide agronomy trial of a low-input, high-output perennial crop that promises to replace maize, with the aim of solving many of the problems associated with cropping rotation.

Trials in Kent, north Lincolnshire and South Wales will test the performance of Sunergy, whose Latin name is *Silphium perfoliatum*. Also known as compass or cup plant, it is a member of the Asteraceae family, has a 10–15-year life span, and once established is resilient, reliable, and unaffected by major pests or diseases, whilst also offering significant environmental and financial benefits.

Sunergy has a wide range of end uses, including as an anaerobic digestion (AD) fuel, ruminant feed, and even as a human food source. It has a complex root structure which acts as a carbon sink while improving soil health, as well as offering an excellent nectar source for pollinators.

Offsetting carbon emissions

Suited to a wide range of growing sites, and being a perennial plant, Sunergy's roots continue to grow year on year while the soil remains undisturbed. This allows networks of beneficial microbes to flourish, further increasing the amount of sequestered carbon.

Looking towards a future where carbon credits will be traded and farms will make an income from offsetting companies' carbon emissions, this is a potentially lucrative application of the maize alternative that also brings major environmental benefits.

The Sunergy root system also loosens the soil and supplies it with oxygen, causing it to absorb more water and reducing the risk of erosion. In addition, the soil is covered and protected all year round, and this maize alternative provides an ideal habitat for insects and birds.

It also has a very low fertiliser and agricultural chemical input requirement, making it cost effective and good for the environment. Another attractive proposition is AD energy production, for which the new alternative's dry matter yield is similar to a good crop of maize silage.

"The gas yields are approximately 80 percent of that of maize but, due to the low input nature of the crop, there is an economic advantage to growing Sunergy over a ten-year period," says Nick Green, agronomist at Newtowne

Agriscapes, which is the UK distributor for the maize alternative.

"Sunergy is a more consistent crop than maize so budgeting for production is made easier without concerns of over and under production of feed stocks, meaning less land rents or outsourcing production," Mr Green adds.

Described as a low maintenance crop that is sown once then harvested for 10-15 years, the maize alternative's wider usages are still being explored. Work is underway to develop use of its fibre in packaging and to use its proteins in products such as cosmetics, whilst it is also suitable for use in vegan friendly foods.

"Once established, Sunergy is a very low input crop with high outputs," says Mr Green. "It's resilient and reliable in a changing climate and is suited to a wide range of sites, even the more marginal ones.

"It's beneficial to the environment and wildlife, can be used as silage for anaerobic digesters, and has multiple other benefits and applications, from animal feed to carbon sequestration. It's a way for farmers to remain productive and profitable while also being kinder to the environment and wildlife.

The 'Holy Grail' of modern farming

"I'm from a practical farming background and have worked within the seed trade for 10 years as a technical sales specialist. I specialise in forage and regenerative agriculture and in agronomy for unusual seed crops. My approach to agronomy is to use biological and cultural methods before heading to the spray shed.

"I discovered Sunergy by chance in conversation with a colleague and quickly realised I had hit upon something unique. I'm extremely excited about Sunergy as a crop type, not only because of its benefits to the grower but for the impact on our environment and farmland wildlife."

Rhys Jenkins, who is running the South Wales trial at Model Farm in the Vale of Glamorgan, adds that he is delighted to be trialling the maize alternative. "Like Nick, I'm committed to farming methods that benefit wildlife and the environment, and the advantages offered by Sunergy are vast," he says.

"As a crop that couples so many environmental gains with cost savings and the potential to create further lucrative income streams, Sunergy really is the Holy Grail of modern farming. I'm looking forward to developing our use of it over the coming year."

The maize alternative is distributed in the UK by Newtowne Agriscapes, the UK Agent for Freudenberger UK. Farmers interested in taking part in the trials of Sunergy are invited to contact Nick Green.

