



Practical Experiences with Rye Whole Plant Silage as a Source of biogas – A Farmer Reports

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Lying on the western edge of the Mecklenburg Lakeland District – Gut Karow farms almost 2700 ha of land. The location experiences average rainfall of 658 l/m²/a with a soil value number of 30.

The land of this mixed farming operation is divided into 1000 ha of arable land with cultivated wheat, rapeseed, rye and corn, 400 ha of grass land and 1300 ha of forest. The grassland is managed as a source of feed for the farm's own herd of Angus cattle.

The operation also owns a biogas plant with 625 kWh electrical output. This is “fed” 7500 t corn silage, 3500 t rye whole plant silage and 1500 t cattle manure per year. Rye whole plant silage (rye WPS) has been used for generating biogas for four years now. At 187 m³ biogas/t FM with a methane content of 55 % and 34.8 % DM, Benedikt Biermann, Managing Director of Gut Karow, is convinced that rye WPS is a suitable input material.

Rye is cultivated primarily for preserving the fertility of the soil. With the cultivation it is intended that corn, as a high drainer of humus, be decreased to a minimum in the crop rotation system. Biermann urgently requires the humus on lighter locations to serve as a buffer for the water supply.

In Biermann's experience the other benefits that come with the farming of rye include the improved utilisation of the farm's own drilling technology, the flattening of peak workloads and the good preceding crop effect for the rapeseed that follows.

Rye WPS is harvested when it becomes lactic ripe (approx. 15th – 20th June). Biermann ensures that the dry substance content of the whole plant is in the region of 30 – 36 %. The chop length of 5 – 7 mm has yielded good silage properties to date.

Despite the quantity advantage experienced with corn at Gut Karow (350 DT FM/ha) compared to rye (300 dt FM/ha), the operations manager regards the cultivation of rye for biomass production as being a sensible addition to the overall enterprise.

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