The engine company.

PRESS RELEASE

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DEUTZ natural gas engine for tractors at the first national Organic Field Days show

- Industry event for the organic farming sector
- DEUTZ natural gas engine reduces pollutants and CO_2 emissions
- Fully functional experimental tractor has proven successful in field trials

In a joint research project with the University of Rostock and the Thünen Institute, DEUTZ, an independent manufacturer of diesel and gas engines, has developed a natural gas engine for tractors which will be on show at the first national Organic Field Days show. The event is taking place on 21/22 June 2017 at the Hessian State Domain Frankenhausen, a teaching and research farm in North Hessen owned by the University of Kassel. The event is aimed at farmers who are interested in or already using alternative and environmental friendly technologies. The natural gas tractor will be exhibited at the show by the Thünen Institute, a government research institute dedicated to the protection and sustainable use of natural resources.

The project involved DEUTZ engineers converting a diesel engine to run on natural gas and then successfully installing it in a tractor made by Same-Deutz-Fahr, another project partner. The aim was to reduce pollutants and CO_2 emissions without any loss of performance. The advantage of natural gas is that it burns much more cleanly than petrol or diesel. It produces less CO_2, and emissions of nitrogen oxides and particulates are also substantially lower. While the last two can be contained relatively easily with modern exhaust aftertreat-

ment systems, CO_2 emissions are primarily dependent on the type and quantity of fuel used. The use of natural gas can lower CO_2 emissions by up to 24 per cent.

A DEUTZ TCD 3.6, a particularly compact 4-cylinder inline engine with an output of 50 to 90 kW and a maximum torque of 480 Nm, was used for the project. Converting the engine to run on natural gas required several major component adaptations. The self-igniting diesel injectors first had to be replaced with a spark ignition system, and the pistons and cylinder head had to undergo mechanical adjustments. The crucial element, however, was analysing and completely understanding the combustion process in the gas engine. The result is a fully functional experimental tractor that has already clocked up well over 500 operating hours in the fields of the Thünen Institute of Organic Farming in Trenthorst.

The project began in 2012, and a prototype was presented at the Agritechnica in Hannover in 2015. At this year's Organic Field Days show, the tractor is being introduced directly to an audience of organic farmers.

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