New research explores high-value applications for rapeseed oil

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Rapeseed field. Credit: StooMathiesen, Flickr

A team of researchers, including biologists from the University of York, are a step closer to producing a biodegradable lubricant made from a new type of oilseed rape.

The new crop could have huge implications for the global lubricant market – it is estimated that half of all lubricants sold world-wide end up in the environment.

Currently there are few alternatives available to the mineral-based products that can be harmful pollutants.

The new oilseed rape (OSR) will not only provide a high-quality

renewable alternative, but will have low toxicity and be biodegradable.

OSR is the third-largest crop by area in the UK and is used as a break crop in wheat production. Sold both as a foodstuff and for biodiesel, growers are vulnerable to changes in EU policy, which could significantly affect the crop's market value.

This new crop has the potential to protect growers from future market fluctuations by opening up a new multi-billion pound market for rapeseed oil as a biolubricant.

Professor Ian Bancroft, from the Centre for Novel Agricultural Products which is based in the University of York's Department of Biology, said: "Our research focuses on the relationships between genome evolution and the control of plant characteristics that are of relevance to food security, health, conservation or sustainability. This project is a great example of harnessing our knowledge of genomics to do just that."

The project is being developed by a collaboration of researchers and plant breeders, led by Velcourt.

It is being funded by Innovate UK and the Biotechnology and Biological Sciences Research Council. Other research partners include the University of York, Biorenewables Development Centre (BDC) and Limagrain UK.

Keith Norman, Technical Director at Velcourt said: "The type of OSR we are investigating is hugely exciting not only because it is food grade and less harmful to the environment, but also because it is thermally-stable which has been a barrier to previous biolubricants."

Helen Shiels, Business Development Manager at the BDC, added: "We will be producing novel oils for industry evaluation and would urge any

interested companies to get in touch to explore how they might be able to assess this new product for their applications."

Provided by University of York