Cows may hold the key to greener fuels

July 29 2011, by Deborah Braconnier

Scientists in Scotland are turning to cows and the tiny organisms and enzymes found in their stomachs for a potential way to create industrial products such as biofuels from plant waste and plan to unveil their ideas at a presentation next month in Edinburgh.

The research was conducted by Professor John Wallace from the Rowett Institute in Aberdeen, the life science company Ingenza and the ARK-Genomics facility in the Roslin Institute. Wallace plans to give a presentation on August 4th at a technology event presented by the Scottish Agricultural College.

The research has looked at the enzymes that are found in the stomachs of cows and other ruminants, or animals that chew cud. These animals, unlike humans, have the ability to break down tough tree and plant matter.

Wallace believes that by identifying these enzymes and replicating them on a large scale, it may become possible to use them to break down plant waste and create renewable energy alternatives such as diesel fuel and petrol.

If the researchers are able to identify the enzymes, Ingenza plans to use its current production systems to mass produce them.

While researchers have been looking at various ways to unlock the possible energy potential in plant and tree matter, Dr. Ian Fotheringham, President of Ingenza, believes that instead of looking for new ways to do

this, turning to nature could be more productive. Cows already have the ability to break down this plant matter. Harnessing this successful natural ability on an industrial level could be the key many scientists have been looking for.