

The Bio-diesel vision – a farmer case study

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In early 2005 a group of growers at Rupanyup and Minyip joined together, with the help of the Bendigo Bank's Community Enterprise arm, to look at the feasibility of forming a grower group in the central Wimmera in Victoria. Their aim was to establish a grower owned fuel distribution group with the difference being the addition of Bio-diesel.

On the 15th of May six growers took delivery of 45,000 liters of a B20 blend of petroleum diesel and bio-diesel (20% Bio-diesel component). The Bio-diesel is manufactured by the Australian Bio-diesel Group (ABG), which is currently the largest manufacturer of Bio-diesel in Australia. The Bio-diesel we are using is mainly produced from reconstituted fish and chip oil, which was primarily canola oil.

What changes did we make?

The only significant changes we made were to our fuel tanks, which were tested by ABG for any algal problems associated with storage tanks. Of all the delivery points tested no algae was present which was a good start. Bio-diesel is a great cleaning agent, which is why tank cleanliness is important. The tanks were all fitted with new filters rated at 5 micron to make sure that they delivered clean fuel to the motors. One of the myths associated with the use of bio-diesel is the filter clogging, which we hope to have overcome by going through this process. To date we have had no problems at all in this area and filter changing has remained at the normal service intervals. We have now used over 30,000 litres of blended fuel to this point and have had no problems with the bio-diesels' quality. One change the addition of bio-diesel has is to lower the flash point of the fuel. This can be an issue in cold conditions however if we were ever going to have a problem then it would have been during sowing last year where we experienced some of the coldest mornings on record. Temperatures were down to minus 4 degrees Celsius, which was as cold as I have ever experienced in my time farming, and we still had no problems starting the motors.

What do we hope to achieve?

We hope, in time, to create a community owned bio-diesel storage and production plant system for the benefit of the local area. The benefit of this type of ownership structure is the shared profits being returned to the community. Since the first bio-diesel load has been delivered we have seen over 300,000 litres of blended fuel delivered to the local area, with more than 30 farming enterprises now having experienced using the product, and to this point we have had no significant problems, which has been very encouraging for the group.

Benefits

One of the major benefits is the fact that as growers of grain we can in time become the feedstock producer through the growing of crops such as Canola and potentially new mustard varieties. This will have an economic effect of underpinning our fuel inputs to a crop type.

Unlike regular petroleum diesel, bio-diesel is a fully renewable energy source. One of the main environmental benefits of bio-diesel is a reduction in the carbon monoxide emissions and total hydrocarbons, when compared to fossil fuel, and the elimination of 98% of the particulates and cancer causing compounds.

At a local level the impact on our fuel pricing has been significant however the real benefits will be seen in the future through the environmental gains and commodity price impact.

How will we achieve our goals?

Our goals have been to initially use the product and gain confidence in it. We have now formed a group called Central Wimmera Community Enterprise, which has a goal of raising pledges of financial support from the community through an organised campaign. The ultimate aim is to build a storage facility or production plant but we will have to go through the process of a feasibility study and development of a business plan. If they are successful, a public share offer will be opened to raise the necessary capital.

Problems

The current drought has had a significant impact on the enthusiasm of the farming community in general. We had hoped to have the first stage completed by now with storage tanks sited in the local area. With the drought fuel usage has been significantly lower so we plan with the support already pledged to setup a storage tank facility in the near future. Feed stocks will be an ongoing concern but from my point of view that's a great problem to have knowing that there will be a market in place with a reasonable price outlook.

The warranty problems with some motor manufacturers is an issue that needs resolving. With the help of government, VFF and groups like ABG we hope to be able to work towards a set of industry standards for the blending of bio-diesel. This will be a significant step forward for the bio-diesel industry.

Opportunities

There is enormous opportunity for the farming sector in general to benefit through the introduction of new crop types. Potentially crops that may have previously been bred for the food industry might now have an opportunity to be reutilised through the significant segregated storage and handling system that we see across most of the east coast of Australia. The ongoing reliance on fossil fuels is not healthy. With the world oil stocks depleting at an ever increasing rate we need to be proactively looking at all sorts of alternative renewable fuel sources.