

European Lipid Technology Award Lecture: Processing the Right Oil for the Right Application: Local Ethics Versus Global Economics

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The oils and fats industry is going through turbulent times. Vegetable oil prices keep on increasing, due to the increasing biodiesel demand. Where biodiesel is produced globally, but to reply mainly to the EU and US energy demands, edible oils are more needed to satisfy the local food requirements in especially the growing Asian economies.

Today in the industrialised world, the focus is on energy from renewable biomass, in particular biofuels as a mean to complement mineral oils. In the oils and fats industry, this has led to investments all over the world. Over 200 new biodiesel plants are under construction, to convert more than 25 million tons of oils into biodiesel. The question whether oils will be used in the future more for fuel rather than for food is already affecting current world vegetable oil market prices. Palm oil and soybean oil, for example, are traded today at prices over 600 Euro a ton. As a consequence, both the edible oil and biodiesel industry are under pressure to look for alternatives. In many areas in the world, oil crops like rapeseed and sunflower, where production was steadily dropping due to imported crops like soybean and palm, are gaining back field. New crops are introduced to provide alternative solutions to the biodiesel industry.

The big challenge on short and mid term is the feedstock availability. The traditional food supply chain surely provides still room for growth for several ten million of tons of oils. Looking back, the increase in supply of vegetable oils and animal fats has been about 4-5 million tons per year in the last ten years and this trend will continue. But to satisfy the food needs, about 3-4 million tons extra oil a year are needed, so little room left for biodiesel. To make things even more questionable, nutritional oils like rapeseed oil are converted into biodiesel because of better profits, forcing the edible oil industry in especially developing countries, to look for cheaper and less quality food oil alternatives.

Also there is an increasing concern about the way the agro-industry is responding to the increasing biofuel demand. Large scale deforestation, replaced by monocultures of soybean and palm, is now subject to increasing critics by especially those countries who initiated the biodiesel boom.

But the oil and fats industry would not be where it is today, without the ongoing creativity to look for alternative solutions to satisfy both food and fuel demands. New crops, like jatropha, are being developed and tested. Agricultural areas, today used to grow the crops for both food and fuel, will return to pure food, whereas deteriorated and poor land will be made suitable for industrial crops. The development of algae is another good example with great potential. This will inevitably lead to a reduction of the competition but also to a global environmental acceptance of the biofuels.

But to sustain and extend further the biodiesel production, the two main political drivers, energy independence and renewable energy, need to remain. But there is also another political driver in especially the developing countries: job creation for the local economies.

But we cannot and should not neglect the primary use of vegetable oils and fats: they will remain one of the most important food ingredients. The increasing world population as well as the slow but steady increase of the standard of living in the developing countries will challenge the biodiesel market. At the end it will all come to processing the right oil for the right application.