

# Trade and Economics

Summary remarks presented by **Dr. Gisbert KLEY** (Germany)

The topics of the session were very diverse:

We had two presentations on economics, one on chemistry and processing technology and three lectures on biodiesel stretching from plant breeding to markets and to health effects of gas emissions of engines using biodiesel. from oil seed rape.

As to economics, in his lecture on “International competitiveness of oil and protein crop production systems”,

Professor Isermeyer from the German Federal Institute of Agricultural Research depicted AgriBenchmark as a tool which enables economists to compare competitiveness of agricultural production in various regions worldwide, actually including 13 countries in its database. AgriBenchmark is a global association of agricultural economists, advisers and farmers. They are regularly meeting for defining agricultural production systems in the various regions of the world, identifying farming systems and technology, explaining the level of production costs and the reasons for advantages and disadvantages in costs of production. The tool enables the scientists to compare competitiveness of farms by clearly analysing production systems, productivity and production costs.

The actual analysis was extended to three competing oil crops, namely soybean, rape seed

and sunflower, which were made comparable by calculating a rapeseed equivalent in terms of yield per ha, taking into account both the oil and the by-product protein. The increase in oil seed rape prices relative to soybean prices are primarily driven by the growing demand for biodiesel.

For comparing production costs for soybeans data from Argentina USA and Ukraine were used, for rapeseed those of Canada, Germany, France, UK, Sweden, Czech Republic, Hungary, Poland and Ukraine, for sunflower those of Argentina, USA, Hungary, Czech Republic and Ukraine, so in total a comprehensive collection.

Basically European farmers produce at higher costs than those of USA, Canada, South Americas and Ukraine. But they are striving for higher yields per ha and, thus compensate the higher costs to some extent.

Their main disadvantages are the higher operating costs due of the number of operations per field employed. In the long run oil seed producers from countries in America and from Ukraine, producing on a lower cost level, will exert pressure on

the EU price level so that its farmers will be forced to adjust their production costs, in particular the number of operations per field.

Rainer Kühl, Professor of Agricultural Economics at the University of Gießen, gave a lecture on “Market development and competitive forces in emerging markets of rape seed and oil products”.

His starting point was the actual structure of the oil seed market and the reaction of the various stakeholders in the market chain. So far, nowadays oil seeds constitute more or less a commodity and thus according to production and supply markets were very volatile which during the last years was alleviated by the ongoing increase in demand. But, basically, the driving forces only were quantitative aspects, availability and disappearance.

On the other hand he referred to the changing consumer pattern, which is increasingly differentiated. Consumers being food consumers, the chemical industry or the biofuel industry, ask for more specialties and the plant breeders in turn are making available oil seed rape varieties exhibiting diverse fatty acid compositions and thus differentiated attributes adjusted to specific uses.

This leads to considerations, whether in future the real driving force on the market is a more specified and thus more consumer driven demand which can be responded by contractual production systems of those specialty oils and an enhanced participation of the oilseed producers in the chain for generating more added value. This in future requires networking of the stakeholders.

All other four presentations tackled various aspects of rapeseed oil for biodiesel: J. P. Despeghel, Breeding Director for oil seed rape and sunflower for Europe and Africa with Monsanto, gave a specified overview on “New oil seed rape oil qualities for biodiesel” which basically are already attained by making new varieties available to farmers by plant breeding..

Oil seed rape varieties with low levels of saturated fats ( $> 75$ ) and low linolenic acid content ( $< 3,5$ ) meet best the quality parameters of biodiesel. He also emphasised to further enhance the yield potential by hybrid breeding and by that improving productivity and competitiveness of oil seed rape producing farmers.

Dr. Guo Pingmei of the Institute of Oil Crop Research in Wuhan reported on an improved catalyst for manufacturing biodiesel from rapeseed oil by transesterification which leads to a high efficiency and can easily be recycled.

Axel Munack, Professor for Biosystem Engineering of the German Federal Institute of Agricultural Research, reported on comparative studies of exhaust gas emissions and related health effects. After trials run on a Mercedes diesel engine, he could show that from all feedstuffs tested oil seed rape methylester (RME) offers

advantages in the hydrocarbon, carbon monoxide and particle emissions, also the mutagenicity is low. RME met all the standards for exhaust gas emissions set by the EU. This is a comparative advantage of RME compared to fossil diesel or other distillates and blends which were under trial. But, it also should be mentioned, that pure rape seed oil as such exhibited the worst results.

In his lecture “Biofuels in Germany – Market Trends and Competition”, Dieter Bockey, in charge of promotion and marketing of oil seeds as feedstuff for biodiesel and chemical uses with UFOP – German Union for Oil and Protein Crops- gave an excellent overview on the potentials, but also the constraints of the leading market for biodiesel, which is Germany. He depicted the regulatory and legal framework, the statistically very positive development of biofuel production capacities, summing up to 5 Mio tons per year right now, which is about half of the European production. But he also indicated rising problems in progressing on the biofuel market, when governments cease or lift relief in taxation as it just happened in Germany.

In addition, in another session on industrial materials and biodiesel, there were further reports from Denmark, Peoples Republic of China, Australia and Herzegovina on biodiesel from rape seed oil revealing that this use for biodiesel is of general interest all over the world and opens the door for bright perspectives on the market for oilseed rape products.

### **Brief in summary:**

1. The number and the content of lectures made evident that the topic of biodiesel was a bit overrepresented, which perhaps could be expected, since a new market is now on the horizon and a lot of new questions are raised which need scientific clarification.
2. There was a complete lack in analysing concrete market and trade developments which was difficult to understand, as we are facing a lot of changes in fast growing markets and a wide range of diversifications in offer and demand.
3. In the years to come we should endeavour to make our rapeseed world more attractive to agricultural economists, as we only had two papers in Wuhan.  
All science and plant breeding finally have to pay off and end into economics. Therefore we need more analytical work in this respect.