

***agri benchmark* Cash Crop Conference 2013 - Key outcomes and some food for thought**

The 2013 *agri benchmark* Cash Crop Conference took place in Voronezh, which is one of the most fertile regions for crop production in Russia. About 45 international partners from about 25 countries participated. Of these, about 32 contributed presentations and statements. Together with the Russian *agri benchmark* partner IKAR, the Global Forum with Russian experts and stakeholders in crop production was organized – this time called “Where the Margin Is”. The conference closed with a two-day post conference farm tour in the greater Voronezh region.

This year’s conference highlights

Of course all presentations and workshops yielded very interesting and enlightening insights, however the following sessions may be of particular interest:

(1) 2012 – a very successful year for global crop producers

When first looking at global commodity markets in 2012, Yelto Zimmer pointed out that framework conditions for all major commodities have been rather good. In most crops, output has been more or less flat and so were stock-to-use ratios. Hence, there was no room for lower commodity prices. However, the outlook for 2013 was much less pleasant: In all crops an increase in the stock-to-use ratio is projected and from January until May prices have already gone down significantly.

When looking at *agri benchmark* farm level results for 2012, it appears that on many farms wheat was a profitable crop. However, even with wheat prices at about 300 USD, some Western European farms struggled to cover total cost in wheat. The Russian and Ukrainian producers had the lowest production cost. This competitive advantage was driven by low land cost, while direct and operating cost on a per ton¹ basis were comparable to other major international competitors.

What happens when global grain production takes off and prices go down? What is, under current conditions, the production threshold? At what prices can producers continue producing in order to cover at least part of their fixed cost? The answer is in the outcome of recent *agri benchmark* figures: Variable costs are in the range of less than 100 USD per ton and 150 USD per ton for the bulk of typical farms. This means that, even if prices go down that much, producers will continue to produce.

Corn producers also had a very good year in 2012 – in fact basically all typical farms analysed made a profit on corn, which was not true for wheat. However, the rather high crop prices of about 250 USD per ton have to be kept in mind.

Finally, when looking at the whole farm profitability of crop production, *agri benchmark* data for the last 4 years revealed that land rents have been on the rise for basically all farms. Therefore, further increases in land rents and land prices are very likely. The international experts reported that in recent years high commodity prices

¹ Throughout the entire paper we talk about metric tons.

have already led to sharp increases in land prices, especially in the USA, Germany and Brazil.

(2) Why huge yield gaps? – case studies from Poland, Ukraine and Brazil

One of the main findings of last year's conference was that (especially in Eastern Europe) yields differ heavily between farms within one region. Therefore Janina Krug coordinated case studies with selected *agri benchmark* partners to identify reasons for these yield differences. Pawel Boczar from Poland, Roman Slaston from Ukraine and Mauro Osaki from Brazil presented the outcome of their case studies. In one of the major crop producing regions they conducted focus group discussions with growers and advisers as well as individual interviews respectively. It seems that there are very different causes for those untapped potentials. While in the Brazilian and the Ukrainian case the lack of capital to purchase inputs – in particular fertilizers – seemed to be the major cause, the Polish study suggested that the lack of awareness is the main reason.

A comprehensive report on the details of the study is under construction and will be published by *agri benchmark* Cash Crop in the future.

(3) Russian crop production and agricultural policy

Dmitri Rylko from IKAR (Russia) introduced partners to the political framework conditions for Russian crop production. His main point was to highlight the strong political support to Russian producers which – to his mind – should be more wisely targeted to those areas where the growth in agriculture is coming or will come in the future. The total producer subsidy equivalent to the Russian farming industry is on a similar level as in the EU.

According to Dmitri Rylko, Russian agricultural policy makers are trying to manage two conflicting objectives: on the one hand they are trying to capitalize on the enormous potential to generate growth and exports from agriculture, in particular crop production; on the other hand policy makers are concerned about domestic food prices and employment opportunities for rural people.

Christian Kowalczyk talked about his experience in managing a private 25.000 ha farm based on external investor money in the greater Voronezh region. The philosophy behind the entire business model is joining forces between foreign expertise in crop management and Russian expertise in managing very large farms. For foreigners, being able to speak Russian is a must at his farm. Christian Kowalczyk pointed out that good interaction with local government is essential because – given the specifics of Russian legislation – local authorities have the option to block nearly everything at any time if they feel this to be appropriate.

He is running a tight management with rather strict obligations and rules. He realizes average tractor run times of more than 2,500 h per year. Based on such an efficient mechanization, he ends up having just about 440 USD of capital investments per hectare. After the re-cultivation of land (it has laid idle for almost a decade) he was able to increase wheat yields from 3 t per hectare to 4.5 t per hectare. He expects a further increase to more than 5 t per hectare by improving farming practic-

es. As the average wheat yield in the black soil region is still just at about 2.5 t per hectare, his improvements indicate a huge potential for Russia to boost outputs.

Klaus John from Prodimex (Russia) introduced the audience to the specifics of the climatic conditions in the central black soil region of Russia. He reminded partners of the following facts:

- (a) When looking at precipitation figures, one has to bear in mind rather high temperatures in the black soil region, hence evaporation of plants tends to be higher than in many other regions in the world.
- (b) The heat in itself is also a major risk factor – in particular when it comes to flowering and grain filling. For example Klaus John mentioned the year 2013, when average daily temperatures in May were slightly more than 20 °C.

(4) Perspectives for Russian corn and soybean production

Aaron Baldwin, CEO from InAgrotech (Russia) presented some data on the climatic and agronomic framework conditions for corn and soybean production in Russia. His main conclusion was that there is huge potential to expand acreage and yields although there are a number of risks and shortcomings to overcome. Risk is mainly caused by the lack of precipitation during crucial growing periods, as well as periods of early frost. As far as soybeans are concerned the biggest challenge is the lack of proper non-GM breeding programs. In addition, there is a lack of drying capacity which will require some major investments.

Based on statistical data, it became obvious that – starting from a rather low level - corn is already booming in Russia, mainly in the Central Black soil region. According to Oleg Sukhanov from IKAR and Yelto Zimmer, the growth rate of corn acreage in this region was more than 30 percent per year while yields went up by about 7 % year upon year. In comparison, wheat yields only increased by 1 percent per year. Furthermore, the economics of corn production tend to be rather favorable in Russia. While corn prices are usually below wheat prices on the global market, in Russia, corn usually gets a premium compared to wheat. When looking at data from Russian *agri benchmark* farms, the reason for the growth in acreage became rather clear: profits from corn production have been at least twice as high as wheat profits in two out of three years. The drought in 2010, however, led to higher losses in corn compared to wheat.

Roman Rutt from Monsanto (Russia) provided some insights into the perspectives of Russian corn breeding. The key message: variety trials in 2012 indicate that depending on the different regions, corn yields in the range of 6 to 8 t per hectare are achievable in Russia. He foresees an increase in Russian corn acreage from slightly more than 2 million hectares in 2013 to 3.5 million hectares in 2018.

(5) Comparison of land markets – What can Russians learn from others?

Yelto Zimmer and Aline Barrozo Ferro from CEPEA (Brazil) showed that Russian arable land is heavily undervalued – both in purchase prices as well as in land rents - when compared to similar locations in the Western world. It is projected that in the mid to long-term, a steep increase in Russian land prices can be expected.

Furthermore, it appears that in the Western world – the speakers looked at Brazil, Argentina, the US and Canada – in recent years, annual increases in land rents and prices of up to 15 per cent have been observed.

Contractual arrangements are rather diverse across the countries looked at, but a close link between commodity prices and land rent prices is a rather common feature. This means that on the one hand landlords get a much higher share of the value generated but – contrary to the situation in Russia as well as in many Western European countries – they also share in the risks. The closer link to more recent commodity markets is also created by much shorter durations of rental contracts: three years is the maximum.

(6) Future of precision farming

Bernhard Bauer from the Institut für Bodenkultur und Pflanzenbau (Germany) took the participants out for a virtual tour on future precision farming when small scale differentiation in all major operations within one field would be feasible. The respective field trials looked at an optimized application of nitrogen and phosphate as well as plant protection products based in the following sources of information:

- Yield maps
- Soil type data
- Soil tests (nutrient content, pH)
- Soil conductivity (water holding capacity)
- Satellite images (color of plants)

The outcome: an increase in wheat yield of 1.8 t per hectare (compared to a standard of 7.9 t per hectare) and significant savings in input cost. Provided the correct algorithms were available – as well as machinery that is able to translate those algorithms into precise operations – these findings would be reproducible in day to day crop production and thereby create a new “green revolution”.

(7) Chinese corn production

Xiangdong Hu from Beijing Agricultural University (China) demonstrated typical Chinese corn production systems and their economics. His report on 5 main corn producing regions in the Chinese corn belt yielded the insight, that even though a lot of operations are currently done by machines, hand labor is still an important component in operations. Due to relatively high opportunity cost for labor – caused by high wage rates in nearby industry – this leads to high production cost; in some cases even higher than currently high corn prices. One of the new typical farms presented is a large scale farm from the Heilongjiang province – it seems that under the current economic conditions in China, such a farm will be very competitive.

Furthermore, Chinese corn yields are still relatively low when taking into account the excellent growing conditions in terms of soils, temperature and precipitation. Due to subsidies, growers are strongly motivated to make use of domestic varieties, which may be a cause of relatively low yields. Furthermore, rotations with corn tend to be rather narrow. Very often growers produce corn continuously or they go for a wheat/corn rotation, which typically leads to high pest and disease pressure.

(8) Workshops

Several parallel workshops were organized to discuss ongoing and new *agri benchmark* projects and initiatives:

- Based on a workshop on the competitiveness of sugar beet and sugar cane farms in Europe and South-Africa, *agri benchmark* will expand the network in other major sugar cane production countries. Partners from Brazil, Thailand and Vietnam expressed their interest in this initiative.
- During a workshop on transportation and logistics, Stefan Ellsiepen highlighted the impact of logistic cost on the competitiveness of the typical farms in selected import markets. The *agri benchmark* Center will come up with a proposal as to whether and how to include this information in the annual data gathering process.
- *agri benchmark* partners from the United Kingdom, Denmark, Ukraine and Germany met in order to discuss results generated in a recent project on the cost of environmental regulations to crop producers so far. Thomas de Witte, the coordinator of the projects, prepared a list of crucial issues. Preliminary results indicate that on a per-ton basis the effects on cost of production in wheat are not that high. The report on the outcome of the project will be published in 2014.
- Based on funds provided from FAO, *agri benchmark* will speed up and expand the work in rice with special focus on South-East Asia. A respective workshop was conducted in order to summarize what has been achieved so far and what the next steps are. One important milestone will be a South-East Asian *agri benchmark* rice workshop in December in Vietnam.
- Reimer Mohr presented the first results of 9 typical potato producing farms from 5 countries. The workshop participants got a very detailed insight of the different production systems and intensities, which showed a clear distinction between the high yielding European farms and the low yielding farms in North and South Africa. Pieter van Zyl from the South African Potato Association clearly pointed out the challenges for this *agri benchmark* initiative:
 - ⇒ How is the complete value chain including storage and packaging to be considered?
 - ⇒ How can potato production be seen as part of the rotation rather than as a single crop?
 - ⇒ How can we extend the sample of typical farms?

If you are interested in a particular topic, please get back to us, we will try to make sure you get access to more detailed figures and results.

Contact person:

Yelto Zimmer, e-mail: Yelto.zimmer@ti.bund.de, phone: +49-531-596 5155