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SUFISA OILSEED RAPE REPORT CASE STUDY in GERMANY AN EXTENDED SUMMARY

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“Farming in the past was geared towards increasing yields but the environment had to pay the price. The agriculture of the future will not be able to continue this pathway. Instead, the farmers and food entrepreneurs will have to meet the requirements of the society and protect the environment.”

“Cost reduction has reached the bottom. There is no more room for manoeuvre when margins continue to shrink.”

Content

1	Introduction	4
1.1	Use of oilseed rape.....	4
1.2	Characteristics of oilseed rape production	5
1.3	Key features driving the supply chain	5
2	Methodology.....	7
2.1	Data collection	7
2.2	Case study area of the Wetterau	7
3	Results: key themes	8
3.1	Policy and regulatory conditions for rape cultivation in Germany at a glance	8
3.2	Market issues and arrangements within the supply chain	9
3.3	Sustainability issues and resilience related to rape production	11
4	To conclude	13

1 Introduction

SUFISA aims to identify practices and policies that support the sustainability of primary producers in a context of complex policy requirements, market imperfections and globalization. Knowledge on market conditions and other driving forces exists, but in a fragmented way: relevant producer groups and regions have not yet been analysed or framework conditions and driving forces have changed in the meantime. More information can be found on the SUFISA website.

This summary report focuses in particular on the key market and regulatory conditions that potentially impact intensive crop farming, and the key strategies emerging to manage these risks and pressures. The report is part of the EU-funded Horizon 2020 project, SUFISA (Sustainable finance for sustainable agriculture and fisheries). This is an extended summary based on the full report, available [here](#).

The purpose of this report is to investigate the nature of policy requirements and market imperfections, and their implications for the sustainability and resilience of oilseed rape cultivation and marketing in Germany, as part of the EU-funded Horizon 2020 project, SUFISA (Sustainable finance for sustainable agriculture and fisheries).

1.1 Use of oilseed rape

Rapeseed (*Brassica napus*) also known as rape is a bright-yellow flowering member of the family *Brassicaceae*. Main countries cultivating rapeseed are China, Canada, India, Germany, France, Ukraine and Poland. Worldwide, rape grows on around 36.5 million ha. In 2014, farmers sowed globally genetically modified seed material on around 25% of the land (not in Germany.) Traditional plant breeding, however, played a significant role for the use of rape. The wild type of *Brassica napus* contains erucic acid that causes a bitter taste of the oil and is not suitable for human consumption. In addition, the *Brassicaceae* plants contain glucosinolates, which cause digestive disorders. Only when traditional breeding was successful reducing the content of both these substances was the cultivation widely spread. This cultivar is called 'double zero rape' or 'canola'. Its production is widely spread in Germany and – at the same time – controversially discussed for a variety of reasons covered by this case study analysis.

The oil is used for food, fuel and feed production, in chemistry, pharmacy and medicine, as well as in the technical industry. Due to the low content of saturated fat and the high proportion of linoleic acid and Omega-3 fat, salads are often prepared with it. In the food industry, the oil is a common ingredient of e.g. mayonnaise or cakes because it does not develop a bitter taste when mixed with egg or dairy products. The transformation of rapeseed oil into biofuel, which the petrol industry adds to fuel for vehicles, is of particular importance with respect to volumes, values and sustainability issues. Only a small proportion is turned into vegetable fuel, while the large proportion is processed into bio-diesel (rape oil methyl ester, RME). Representatives of the industry argue that the use of rape for bio-fuel is very positive because biodiesel is biodegradable, free from Sulphur, renewable and accounts neutral for climate relevant emissions. Emissions of cars that burn bio-diesel are less toxic than conventional diesel. Coupled products from processing of bio-diesel are protein rich rape kernel or rapeseed extraction meal used by the feed industry. Sometimes this vegetable material enters bio gas plants for energy and heat production. The pharmaceutical industry adds rapeseed oil to creams and medication. The oil affects metabolism positively and is rich in vitamin E. The cosmetic industry uses the oil as basic ingredient for hydrating creams, body lotions etc..

1.2 Characteristics of oilseed rape production

Farmers grow oilseed rape in many regions throughout Germany. In the Federal States of Mecklenburg-Vorpommern and Schleswig-Holstein, rape plays an important role in crop rotation (up to 33%). In the Wetterau are, arable farms cultivate rape on around 10-15% of their fields. In the 1990s and early 2000s, farmers grew more rape and less sugar beet due to economic reasons. In 2007, the areas planted with rape peaked in 2007 due to policy measures that aimed to foster renewable energy sources. Compared to sugar beet, rape was superior in crop rotation for many years in the Wetterau. With the abolition of the sugar beet quota in 2017, it is unclear how rotation systems and the related production volumes will develop in the areas with high-yielding arable farming such as the Wetterau.

Oilseed rape breeding has improved yields and resistance to many diseases in the last decades. Today, farmers can select hybrid varieties, which combine high yields with good resistance. Rape is an intensive crop that requires costly inputs. The highest amounts of nitrogen applied vary from 150 to 230 kg N per ha. Sulphur fertilization sometimes takes place, especially for the winter crop due to lower sulphur leaching. The annual amounts range between 30 to 60 kg S/ha. Oilseed rape receives organic manures mainly as slurry, depending on availability. Despite the considerable uptake of nitrogen in autumn compared with cereals, recovery of this nitrogen in the seed is very low (Christen, 2000). The use of Glyphosate herbicides is common. Application occurs before sowing in autumn to control broadleaf and grass weeds. Several diseases can infect oilseed rape and frequently result in yield losses. The main problems arise from fungal infections. The efficiency of fungicide use is an issue due to expenditures of each application. Treatments against pests are routinely applied depending on the incidence of the pest. Slugs sometimes are a major problem in winter rape, especially after wet summers. Other significant pests are thrips (*Thrips angusticeps*) and flea beetles (*Phyllotreta spp.*). During spring, the most consequential pest is the blossom beetle (*Meligethes aeneus*) (Christen, 2000). Winter oilseed rape is predominately harvested by direct threshing. The harvest accounts for around 4 tonnes per ha. Oil mills process this volume into around 1,600 litre rape oil or bio-diesel plus 2,100 kg rape meal, which is a regionally sourced high-quality protein feed. Most rapeseed harvested is sold after threshing. Honeybees can produce around 40 kg of honey from one hectare of flowering rape.

1.3 Key features driving the supply chain

Renewable energy from the field since the 1990s

Overall, the German renewable energy sector has a long tradition in being highly influenced by legislation and the related policy conditions. First, overproduction of cereals and other agricultural products was a significant issue. In 1992, there was a political decision to have an obligatory percentage of 15% of set-aside-areas (Mc Sharry reform) but the regulation prohibited the cultivation of food crops on these areas. Second, the 'Electricity Feed-in Law' (Stromeinspeisungsgesetz or StromEinspG, 1991) introduced a minimum compensation for electricity from renewable sources that producers fed into the grid. The 'Electricity Feed-in Law' represented the starting point for energy production based on bio-gas technology; while previously, such energy was mainly used for turning manure into fertiliser. It was of significant importance for the farming sector when the German government established the Renewable Energy Law in 2000 (Erneuerbare-Energien-Gesetz or EEG). This law offered the opportunity to feed energy from renewable sources into the grid on the basis of a guaranteed tariff for a period of 20 years. In the wake of EEG introduction, an expansion of the feed-in compensation by a so-called NaWaRo (Nachwachsende Rohstoffe = renewable raw materials) bonus for renewable materials led to rapid growth in energy crop cultivation. Two amendments in 2004 and 2009 helped to increase bio-energy production from farming even further.

Pushed by this development, people from Wetterau machinery association (Maschinenring), the water- and soil associations (Wasser- und Bodenverband) and the Hessian Farmers' Union (HBV) developed a strategic plan for the use of the set-aside-areas in 1993. They searched for information, tested and discussed a variety of options in respect to fibre or bio-fuel processing and marketing. When they settled a sales contract with a biofuel processor in Nordrhein-Westfalen, stakeholders from the three local organisations founded the Nawaro Economic Association. This initiative started with 150 members and 500 ha of rape from set-aside-areas aiming to realise the highest possible price for the member farmers. The liaison of Nawaro Association and the enterprise WAS Ldt offered biodiesel, biodiesel-Service stations and biodegradable lubricants. Moreover, they provided information for farmers about the use of biodiesel in farm machinery. The Nawaro initiative managed to set-up a regional market for biofuels in cooperation with other distributors and machinery rings in the Federal State of Hessen. The circular flow model 'Biofuels from Hessen Farmers' grew. Farmers were able to realise a higher added value due to the establishment of a supply chain from production to fuel consumption. In the period 2004-2007, the production of oil from agricultural plants for bio-fuel rose significantly. On-farm price for rape from regional stock lay 1-3 Euro per 100kg rapeseeds higher compared to the conventional sales channel in 2006. At that time, the local government initiated a round table on biomass supported by the Nawaro initiative and with attendance of artisanal food processors, energy supply companies and other enterprises or stakeholders in the Wetterau. Back in time, the round table projected an increase of renewable energy use of up to 15% for the year 2015. The idea was to improve regional business cycles and increase added value aiming to secure and sustain employment in the area, diversify incomes in agriculture and forestry and to install pilot projects. Until 2009, the association managed the registration and subsidy payment of bio-energy plant cultivation on set-aside-land for its members with the Federal Agency for Agriculture and Food (BLE). After 2007, nationally produced bio-fuel volumes and the proportion of bio-fuel in fuel mixtures for vehicles remained relatively stable in Germany. Oilseed rape is the most important culture for the German production of bio-fuel.

However, the trend changed and the area of rape cultivation for bio-fuel shrank again. Producers and traders such as the Wetterau rape farmers' association tried to cooperate more closely with the food and feed industry. The producer association could adjust its sales strategies and moved away from the supply chain of alternative energy crops. In the wake of this strategic change, the association changed its name to HERA (instead of Nawaro) because the focus was no longer exclusively on renewable material production.

Concentration processes in the milling industry

Crop farmers, farmers' organisations, trade companies, oil mills, and (to a certain degree) food and bio-fuel providers are involved in the oilseed rape supply chain. Supply chains have bottleneck structures because the rape requires cleaning, drying and pressing for any further processing in food, bio-energy, pharmaceutical or technical industries. This structure is characterised by a large number of producers who sell to a very limited number of oil mills. The processing industry experienced significant concentration processes in the past. Only a limited number of oil mills process nationally produced and imported oilseeds.

The next oil mill for rape growers in the Wetterau used to be an oil mill in Mainz but this closed down in 2016. Now, HERA, traders or individual farmers sell the harvest from the Wetterau to oilseed mills that are located outside the region at the river Rheine or even further, near the North Sea harbours. The 17 large-scale processors in Germany are located outside the Federal State of Hessen and operate on an international level.

Small and medium-size oil mills present an alternative market channel. These so-called decentral oil mills founded an association in 2005 that represents their interests in their economic and political environment. The decentral oil mills are mainly small plants with a daily capacity between 15 and 1,000 kg of oilseeds. However, HERA tried to engage in small-scale processing with the marketing of speciality oil but volumes are very small and difficult to market before the sell-by date (12 months).

2 Methodology

2.1 Data collection

Key to the approach taken has been to put the farmers themselves at the centre of the research, in order to get their perspectives on the key issues that need to be considered. The case study work in the Wetterau area was based on a multi-method concept. The basis was a literature review collecting statistical data, research studies, publication on oilseed rape production and marketing as well as region- or sector-based information such as brochures or homepages.

We conducted semi-structured interviews with key stakeholders in the area and on the national level, organised a Focus Group with 12 farmers and a stakeholder workshop with 10 participants were organised in cooperation with the regional branch of the Farmers' Union.

Additional information came from a national-level conference on future-oriented arable farming, held in November 2017. Presentations and discussion focused on similar issues as identified in our SUFISA analyses. Many experts in conventional and organic farming, representative from policy and administration, and scientist from different areas in Germany contributed to the conference. The conference's agenda and the analyses of economic, environmental and social impacts in and for Germany and Europe reflect the relevance of questions asked by the SUFISA project.

To complement the qualitative data, we conducted a telephone survey of around 40 dairy farms in the beginning of the year 2018. We asked for information for the latest completed financial year (July 2016 – June 2017). The survey was designed to achieve an in-depth knowledge of the supply chain arrangements in arable farming in the Wetterau.

2.2 Case study area of the Wetterau

The Wetteraukreis (NUTS III area) is located in the middle of the German Federal State of Hessen. Both rural and urban structures characterise the area due its rural towns and villages and the proximity to the Rhine-Main conurbation. This county includes 25 municipalities; the area has 295,408 inhabitants (2013) and covers an area of about 1,100 km². The region is one of the most productive agrarian regions in Germany: the climate is moderate and the soil is very fertile. Intensive agriculture is widely spread. Arable crop rotation with wheat, oilseed rape or sugar beet are characteristic. Sometimes pork production or dairy is linked to arable farming. Over decades, a steady decrease of livestock farming took place. Only the number of horses increased over time.

Around 1,300 farms are located in the area; around 55% are full time farmers. Farmers cultivate 3 % of the land under an organic farming scheme (but usually no organic rape cultivation.) Low-intensity systems represent the majority of permanent grassland cultivation in wet or conservation zones or in the mountainous areas towards the northern and eastern borders of the Wetterau. Approximately two thirds of farm households have several income sources. In most farm households, at least one member has a permanent off-farm employment. Only around 20% of farm households receive their main income from primary agricultural production. In the mid-mountain and low-intensity grassland

areas, part-time farming is widespread. The proportion of leased farmland is high. In 2013, the average price for arable land Hessen accounted for 197 Euro/ha and year. Soil fertility in the Wetterau district is far above the Hessen average, which impact on the price (see as well Section ‘factors of production’).

The primary sector represents around 1% of the local GDP, the secondary sector accounts for nearly one third and the tertiary sector for around two thirds of the economic activities. Traditionally, the industry and regional economy of the Wetterau is highly diversified. Thus, high-tech industry and global players are located here as well as traditional handicraft, small-scale enterprises and family businesses. Most employees work in the service area (>70%).

Farmers’ close cooperation has a long tradition in the area. Back in the 1980s, farmers established a machinery ring aiming to reduce workload and high costs for the investment in large-scale machinery for arable crop production, in particular harvesters and transport capacities for cereals and sugar beet. In the 1990s, the Wetterauer Agrar Service GmbH (WAS), a daughter enterprise of the machinery ring, was founded. It is responsible for the sales of cereals, sugar beet, bio-fuel, and high quality feed pellets. Another daughter organisation of MR Wetterau is the HERA economic association for oilseed rape (Hessische Erzeugerorganisation für Raps w. V.), which used to be ‘Nawaro Ltd’ since 1994.

3 Results: key themes



The availability of nitrogen for the development of small rape plants in spring is a key success factor for the harvest. This requires excellent management of nitrogen levels before and after the winter months.

3.1 Policy and regulatory conditions for rape cultivation in Germany at a glance

Policy programmes, related funding law and the different regulations impact directly and indirectly on the production of oilseed rape and the mentioned above key topics. European legislation regulates the use and the protection of natural resources such as water. However, German farmers point out that the national implementation and control system of EU law differs between countries, and that German farmers are facing stronger restriction than competitors in other EU countries. In non-EU countries, environmental legislation tends to be even less restrictive which reduced international competitiveness. However, farmers argue for high environmental standards but do not accept lacking

restrictions for the use of imported raw food material. They highlight lacking sustainability standards in vegetable oil production abroad.

Specific legislation

Apart from the EEG and its amendments, the specific legislation for agriculture with EU-regulations and national law related to land, water, soil, pesticide use, transportation, taxation etc., including the related costs and controls, play a major role for arable farmers in Germany. As everywhere in the EU, the compliance requirements link the Common Agriculture Policy (CAP) with the specific legislation and the national/regional implementation ('Cross Compliance'). It has been a successful mechanism to enhance the compliance with the legal framework in the past but seems to contribute to the distortion of cross-national competitiveness even within the European Union. This issue is a policy issue of high relevance for the rape farmers.

CAP pillar I and II

Rape producers, as all farmers with arable land or grassland, usually apply for direct payments, which provide a safety net ensuring a 'basic income'. This support is decoupled from production, and contributes, through greening, and in combination with cross-compliance, to providing basic public goods. The other core element of the first pillar from CAP is Regulation (EU) No 1308/2013. This regulation establishes a common organisation of the European markets for agricultural products such as cereals, fruit and vegetables, wine, olive oil, dairy products, seeds and many more. These market support measures do not support the European market for oilseed rape but only covers the rape market in the context of seeds for sowing and raw material for animal feeding (rape cake). For that reason, the Europe market for rapeseeds is linked with the global market for vegetable oils from palm plantations, rape, sunflower, and soya cultivation.

3.2 Market issues and arrangements within the supply chain

The supplying farmers, farmers' organisations, trade companies, oil mills, and (to a certain degree) food and bio-fuel providers are involved in the oilseed rape supply chain. Supply chains have bottleneck structures because the rape requires cleaning, drying and pressing for any further processing in food, bio-energy, pharmaceutical or technical industries. This structure is characterised by a large number of producers who sell to a very limited number of oil mills. Due to high costs of harvesting, storage and transportation, horizontal cooperation between farmers plays an important role for both the procurement of inputs and the marketing of the produce. In many areas typical for rape cultivation, cooperatives or producer associations ensure horizontal cooperation. Farmers appreciate a long-term trust-based cooperation along the supply chain. However, a growing group of farmers negotiates with traders and/or processors individually. Since farmers' become more flexible in selecting marketing channels (in particular when prices are low), producer organisations experience more competition with private trade enterprises than in the past. The need to consider the pros and cons of different sales channels is widely spread among farmers and their families.

Producer organisation 'HERA'

Producer organisations and farmers' cooperatives play a major role for the sales of the rape harvest. Due to the high oil content of the seed, storage of rape is difficult (and cost-intensive). Involved enterprises – including farmers and farmers' organisations - aim to avoid storage, and usually sell the harvest immediately. However, lacking storage capacities limit sales options (and price negotiations), and sometimes cause logistic problems during the season.

In the Wetterau, some producers market their rape harvest directly to traders or oil mills. The large number of farmers sell jointly through their producer association HERA. The association negotiates prices and fixes contracts with traders and processors over 25 years. Some years ago, HERA had an agreement with a food corporation for the delivery of rape for the food oil production. This contract included additional environmental standards and payments for the participating farmers. During these years, HERA was the role model for the processor corporation and an environmentally friendly vegetable oil production with a slightly higher price (1-2 €/tonne) including agri-environmental payments for each partner farm. This was as an excellent concept for many farmers. When the mill in Mainz closed down, the corporation shifted the model to northern Germany, and the favourable contracts for the Wetterau farmers ended. Moreover, the processor corporation lost the interest in oil production contracts based on higher sustainability standards because the enterprise branch became subject to an outsourcing process.

Many years ago, the producer organisation together with the regional marketing organisation 'Gutes aus-Hessen' run a pilot project that tested the direct marketing of vegetable oils from farmers for the replacement of pork fat in traditional sausage making. This project was not a break-through. However, the small-scale processing and the direct marketing of around 1,000 litres per year through local farm shops has been a success, although still of very limited importance for the area.

Market access, market differentiation and certification

Farmers have market access. However, large scale, over-regional and international oil mill structures and long transport distances limit options for the sales strategies of individual farmers and farmers' cooperatives. In general, most German farmers producing oilseed rape have the option to use two-three marketing channels through agriculture trading companies or processors.

The supply chains of oilseed rape lack differentiation opportunities. Since organic production is difficult, there is no organic supply chain in the Wetterau area. Other supply chains based on specific product or process standards do not exist. Rapeseeds and vegetable oil are no-name commodity goods. Farmers confess they would like to maintain higher environmental standards, which they used to realise during the agri-environmental contract with the food corporation but they have not yet found a solution how to cover the additional costs of production.

International markets and producer prices

Rapeseed is an oilseed cash crop that competes on international markets for vegetable oil and meals. The development of the rapeseed price in Germany strongly depends on prices for crude oil, soy and soybeans, which are the leading products for the entire oilseed sector. Since 2014, global prices have been remaining on a low level similar to the period of crisis of 2008/2009. With increasing prices in input and factor markets, cost coverage and reduced profitability is an issue for the industry.

Due to high costs of production, harvesting, storage and transportation, horizontal cooperation between farmers plays an important role for both the procurement of inputs and the marketing of the produce. In many areas typical for rape cultivation, cooperatives or producer associations ensure horizontal cooperation. Farmers appreciate a long-term trust-based cooperation along the supply chain. However, a growing group of farmers negotiates with traders and/or processors individually. Since farmers' become more flexible in selecting marketing channels (in particular when prices are low), producer organisations experience more competition with private trade enterprises than in the past. The need to consider the pros and cons of different sales channels is widely spread among farmers and their families.

3.3 Sustainability issues and resilience related to rape production

For a long a time, intensive systems of animal husbandry were in the centre of public criticism. However, that has changed because the new topics in the context of arable farming emerged, which are high nitrogen and phosphorus levels in water bodies, disappearing insects, or reduced biodiversity in the agricultural landscape. Many farmers are prepared to change their production processes but these adjustments will increase operating costs.

Contribution to economic dimension of sustainability and to the farms' resilience

The contribution of rapeseed production to the farm income has been positive in the past. Due to the competitiveness of the crop, the area of rape production increased significantly in the long term. Because of the increase in prices, chances for the safeguarding of farms and the continuation by the successors may have risen in the past. The demand for rapeseed of the processing industries is expected to remain high or to even rise but global market prices drive the supply strategies of processors and traders.

An on-farm price of 345 Euro per tonne covers the cost of production and ensure a return. However, several of the costs show increasing trends such as land prices, machinery costs, or transportation costs. When prices remain on the stable or are volatile, the financial situation of the farms is at risks.

Farmers' associations such as MR, WAS, and HERA as well as the Farmers' Union offer information and training. Newsletters, brochures, information and training activities aim to improve the farmers' management, production systems and to foster on-farm diversification. The vocational school of Wetterau district is located in the rural town of Friedberg, and provides qualification opportunities.

Plant breeding and mechanisation were preconditions for the expansion of rape cultivation in the past. Apart from plant protection, farmers and stakeholders do not expect technological innovations to play a major role in the near future. Farmers are worried about the future availability of pesticides after the ban of glyphosate and neonicotinoids. They face the risk that the economic situation of rape production might change. Alternative solutions, including innovative approaches of pest control, will become highly relevant.

Contribution to the environmental dimension of sustainability

The intensification of arable farming resulted in higher yields, which was positive in the last decades. However, environmental and plant health issues developed accordingly due to reduced crop rotations, the elimination of landscape elements and a very high and often undifferentiated use of fertilizers and pesticides. Disappearing species and shrinking populations of important species cause less ecosystem services such as pollination and biological pest control. These result not only in environmental problems but will have negative economic impacts as well.

Apart from this general trend, the effects of rape production on the natural environment are relatively neutral with some potentially positive as well as negative effects. The use of biodiesel has positive effects on greenhouse gas emissions. However, the effects on biodiversity and landscape are rather discussed.

The introduction of a *brassicaceae* specie expands crop rotation, which is positive. Farmers emphasize that rape has positive effects on the following crop. However, this depends on the consideration of alternative crops potentially planted such as maize versus legume crops. Beekeepers benefit from the flowering rape.

On the other side, the cultivation of rape regularly requires the application of pesticides in conventional farming due to a significant pressure of plant deceases and pests. Pesticides affect

biodiversity in agricultural landscapes and affect the water bodies. Spraying is a key element of the production system, and can be a threat for pollinating insects and honey production. Natural pest control requires a favourable environment for useful insects and predators.

Rape cultivations enrich the landscape due to the yellow flowers that colour the landscape in spring.

The Wetterau has numerous springs. The mineral water industry is important for the area (value added and employment). Approx. 15 % of the bottled mineral water comes from here. The partly very intensive agriculture causes nitrate loads and problems with drinking water. Since nitrogen leaching results from a large variety of agricultural cultures, it is impossible to distinguish between cereals and oilseed rape or other arable crops. (Only legume crops reduce nitrogen leaching on fields.)

Contribution to climate change mitigation and adaptation

Oil production from rape replaces – to a certain degree – the import of vegetable oil from processes with significant climate change impacts (deforestation for palm oil plantations or soybean cultivations, transportation to Europe).

Biofuel from oilseed rape is a renewable resource and replaces a certain (politically defined) proportion of fuel from mineral oil. Bio-fuel reduces the use of fossil fuel, which is positive. However, bio-fuel production on agricultural land competes with food production.

Contribution to the social dimension of sustainability

Back in time, HERA economic association helped improving the image of farming in society when energy production in agriculture was 'en vogue'. Today, social acceptance of bio-fuel production has changed significantly due to global food safety reasons.

With the changes from sugar beet production to rape for bio-fuel and rape for vegetable oil/fat, the producer association developed alternative processing and marketing channels for the farmers. The different cooperative initiatives and related activities were successful over the last three decades. For that reason, the confidence of farmers in collective action has been strengthened.

Local traditions and traditional production techniques are untouched by vegetable oil production in the Wetterau. Hessen has an annually nominated 'Raps-Königin' (rapeseed queen) who represents the rape producing and processing sector in policy events, traditional fairs, thanks giving etc.

Nowadays, the social acceptance of farming (in particular spraying) in the rural neighbourhood is a major problem. Neighbours and inhabitants of the rural towns express their attitude that they do not accept current farming practices. The reputation of farmers' activities is bad. The bullying of farmers' children in schools has always been an issue but the pressure from the public increased. Some farmers address this social problem by inviting groups of children for a farm visit. The communication with public media is very difficult because reporters have little insights and understanding in farming, in particular, the regional radio station. Farmers' representatives highlight that even the cooperation and communication with the Ministry for Agriculture causes problems because staff in charge have insufficient insights in agricultural practices and related challenges in the area.

This social issue is (apart from nutrient surpluses and other negative impacts on the environment) an important driver to change arable farming in the future. Farmers realise more and more that the acceptance for their common production systems is shrinking in the broader society. Urban and rural dwellers no longer support local cropping and intensive animal husbandry. Farmers and stakeholders expect the social pressure to rise, which questions the established policy support for farming systems.

Oilseed rape in Germany is GMO-free

Rapeseeds are (still) free from GMO, which is a chance for the industry. This is the positive result of the testing of more than 300 seed samples analysed by the responsible authorities of the federal states in 2017. Seed propagators always face the risk that genetic material from genetically modified plants spreads into non-modified plants or seeds. However, recent analyses indicated that rapeseed in Germany is still GMO free which is a good news farmers reckon.

In Germany, there is a strong trend towards and support of local protein production for feed. Policy fosters national protein crops and feed production. Moreover, consumers prefer meat from animals that received GMO-free feed. Vegetable oil production delivers protein rich feed meal as an important by product used by the feed industry. However, potential genetic modification based on modern breeding technology is an issue in rape breeding. Genome Editing is another technology that changes targeted genes in plants.

4 To conclude

The significant changes of oilseed plant production used for bio-energy production in the early 2000s and back to food ten years later is an interesting example for an agricultural industry that has been steered by changing policy and regulatory conditions. In addition, oilseed rape cultivation replaced partly sugar beet in the crop rotation. Currently, it is unclear which non-cereal crop Wetterau farmers will favour in their crop rotation systems. With the ban of neonicotinoid use for the protection of rape and sugar beet seeds for sowing, the risk of significant yield losses increases. Increasing costs and productivity losses caused by pests can reduce profitability of both oilseed rape and sugar beet. In 2018, farmers are uncertain how local arable production systems will continue in the near future.

“It is nearly impossible to sell a high-quality oil from a smaller mill or a producer cooperative on a niche market. We tried but volumes are very small.”

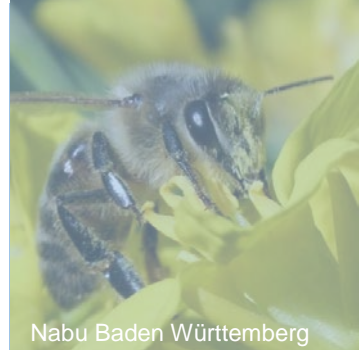




“Strengthening laws and administration measures for regulating and monitoring of nutrient surpluses is an important step forward.”

“We know that German authorities apply and control specific regulations more thoroughly than in other countries. This weakens our competitiveness not only on the international but also on the European level.”

“We have higher costs for land. The heritage system with a traditional division of farmland among siblings and the demand for land from the nearby Rhine-Main area put pressure on the land market.”



Nabu Baden Württemberg

“Who pays for higher environmental standards: for bee protection, flowering stripes, or alternative pest control?”





www.oekolandbau.de/BLE



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