

## **APPENDIX**

ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่

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## **Appendix 1: List of personal contacts**

### **ADM Straubing GmbH**

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### **Bioland e.V.**

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### **Danube Soya**

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1010 Wien  
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### **Global Soy Genetics, LLC**

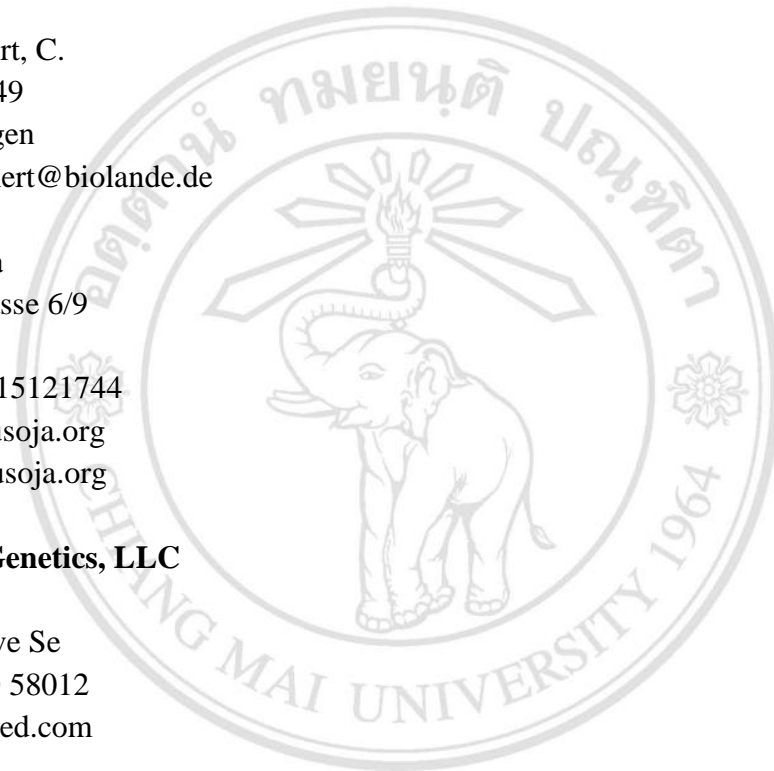
Mr. Fox, S.  
3510 154<sup>th</sup> Ave Se  
Casselton ND 58012  
sfox@unityseed.com

### **Josera Erbacher Service GmbH & Co. KG**

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### **Life Food GmbH**

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**Raiffeisen Krafffutterwerk Kehl GmbH**

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**Saatzuch Donau GesmbH & Co. KG**

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## **Appendix 2: List of contacted persons via telephone/ e-mail**

### **ADM - Archer Daniels Midland Company**

Telephone conversation/ E-Mail contact with Van der Poel, R., Managing Director, on July 11 2016. Wolfgang.geltinger@adm.com

Telephone conversation/ E-Mail contact with Geltinger, W., Trade, on July 29 2016. Wolfgang.geltinger@adm.com

### **AMI - Agrarmarket Informations-Gesellschaft**

Telephone conversation with Burghardt, B, Market Expert Plant Production, on July 20 2016.

Telephone conversation with Schenk, W., Market Expert/ Market Analyst Plant Production on July 14 2016.

### **Danube Soya**

Telephone conversation with Mr. Krön, General Manager, on February 02 2016. Krön@donausoja.org

E-Mail contact with Bittner, U., Association Manager, Vienna, Director, Communication/PR, on January 19 2016. bittner@donausoja.org

E-Mail contact with Rittler, L. Innovation and Research Manager, (many times January to July). agro@donausoja.org

E-Mail contact with Kalentic, M., Regional Director Novi Sad, Serbia, on January 18 2016. kalentic@donausoja.org

E-Mail contact with Dima, D., Regional Director Bucharest, Romania, on June 5 2016. dima@donausoaj.org

E-Mail contact with Iliencko, I., Representative Ukraine, on January 19 2016 and June 7/13 2016. ukraine@donausoaj.org

E-Mail contact with Micheloni, C. Representative Italy, on August 30 2016. c.micheloni@aiab.it

**Geflügelhof Heitlinger GmbH - Lighthouse project**

Telephone conversation with Heitlinger G., Manager, on June 22 2016.  
Chicken@t-online.de

**Johann Heinrich von Thünen Institute – Federal Research Institute for Rural Areas, Forestry and Fisheries**

Telephone conversation with Dr. Günter Peter, Institute for Market Analysis, on 5 August 2016. ma@ti.bund.de

**LEL - Landesanstalt für Entwicklung der Landwirtschaft und der ländlichen Räume Schwäbisch Gmünd**

Telephone conversation and E-Mail contact with Schmied, W., Expert for Markets for Plant Products, on July 21/22 2016. werner.schmied@lelbwl.de

E-Mail contact with Henning, K., Expert for the German Pig Market, on July 21 2016. katharina.henning@lel.bwl.de

**LTZ - Landwirtschaftliches Technologiezentrum, Augustenberg**

Telephone conversation and E-Mail contact with Recknagel, J. on February 26 2016/ June 20 2016/ September 02 2016. Jürgen.recknagel@ltz.bwl.de

Telephone conversation and E-Mail contact with Rupschus, C. and Dr. Raupp, J. on August 28 2016. Christian.rupschus@ltz.bwl.de, Joachim.Raupp@ltz.bwl.de

**Rabobank-Food & Agribusiness Research and Advisory (FAR)**

Telephone and E-Mail contact with Vogel, S., Head of Agri Commodity Markets research, Global sector strategists grains and oilseeds on July 5 2016.  
Stefan.vogel@rabobank.com

E-Mail contact with Mera, C., Senior Commodities Analyst, on July 21 2016.  
Carlos.mera@rabobank.com

**Scheffler GmbH**

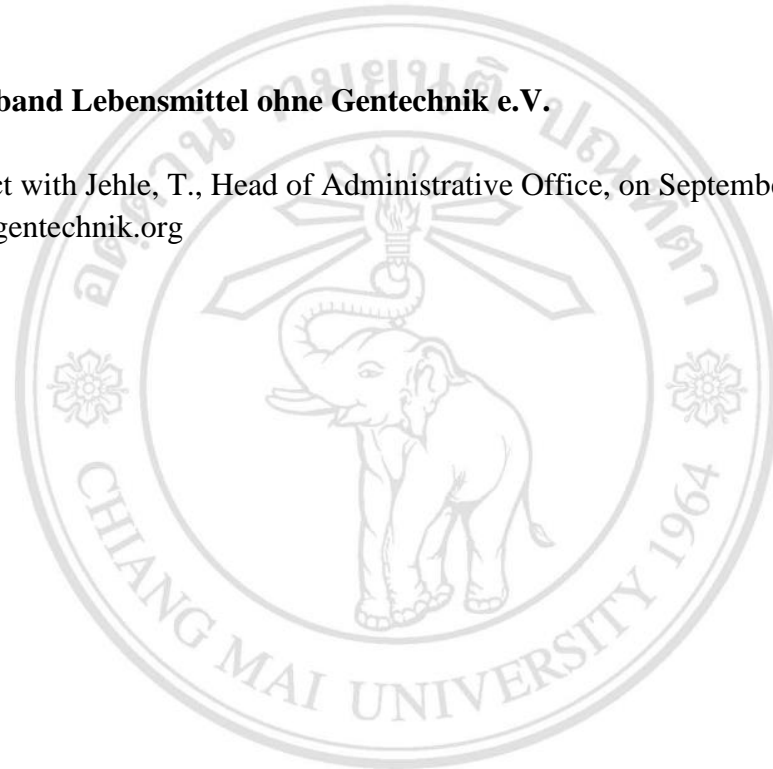
E-Mail contact with Schöll, H. Dipl. Agricultural Engineer, on July 17 2016.  
Zentrale@SchefflerGmbH.de

**SB, Soyabrokers Germany GmbH**

E-Mail contact with Stege M. on July 29 2016. markus@soyabrokers.com

**VLOG - Verband Lebensmittel ohne Gentechnik e.V.**

E-Mail contact with Jehle, T., Head of Administrative Office, on September 7 2016.  
t.jehle@ohnegentechnik.org



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### Appendix 3: Questionnaire – Taifun – Life Food, State Plant Breeding Institute

Freiburg, 17.12.2015

- Companies:
1. Taifun – Life Food
  2. Department for seed cultivation University of Hohenheim

- Interviewees:
1. Mr. Miersch
  2. Mr. Dr. Hahn

(Translated from German)

#### General and introductory questions

1. What were the reasons for getting involved with soy cultivation and soy grocery production?
  - Development of the demand (what would be the main reasons for this?)
  - Access in the field of genetic engineering, environmental aspects, strengthening of the own region, independence?
2. What is your attitude towards green genetic engineering?
  - What is this attitude based on?
  - Where do you see the most important tasks for reaching GM technology freedom?
3. A very important issue in regard to soy sales from the Donau region is the consumer demands for regionally produced food. According to the DLG 45 % of consumers rate regionality as highly important and 61 % do not believe that this is merely a temporary trend. Would you consider the in public interest regional soy or soy products from the Danube region as short-term, medium-term or rather long-term? Why?
4. What main advantages and disadvantages can you name that the EU is facing due to soy production in the European Region and particularly in the Danube Region?

- (1) political
- (2) economical
- (3) ecological
- (4) European/regional

### **Seeding material/ Seed cultivation**

5. What were and are the greatest challenges in seed cultivation and purchasing of seeding material? What went especially well?
  - Quality testing for non-GMO
  - Which ones went well, which solutions were found?
6. Where did you experience success/ problems within the processes of registration of varieties and testing of varieties? What could be optimized? Which solutions were found?
7. Were there other successes or problems in your soy cultivation career?
8. What are you basing the license assignment and license elicitation on?
9. There are different maturity groups known (13 groups between 0000-X). Which maturity groups as well as maturity classification do you use?
  - Do you know CHU (Crop Heat Units) also for the EU area?
  - In your opinion, what would be the most plausible maturity group classification in Europe?
10. Are there other techniques/categorizations/methods which you got to know about during workshops, travel activities, discussions with other market participants and which could be useful for farmers and seed producers?
  - E.g. in the area of work simplification, variety selection, gentle preparation, agronomic measures such as early detection and prevention of diseases



11. Have you experienced GMO pollution in the value chain? What solution approaches do you apply to this problem (e.g. monitoring systems)?

- At what point in the value chain do you install controlling check-points?
- Who is responsible for the inspections?

1. Who are the main soy market supporters and drivers in the Danube region/Europe?

Who is opposing and supporting the soy market in the Danube region?

- breeder, consumer, oil mills, fodder producer, farmers, governmental decision makers, retail

### **Pricing**

12. How are prices for raw materials/producer prices set?

(In Germany or other EU countries to which export might take place?)

(LEL Schwäbisch Gmünd criticizes missing producer prices)

- What is your pricing based on?
- Do you know European quotations on pricing of soy as raw material?

2. To which extent do main producing countries (Brazil, Argentina, USA and Canada) influence sales and price setting in Europe and the Donau region?

- e.g. stockpiling → selling for highest possible prices
- crop shortfall through droughts (e.g. Brazil)

### **Questions on agricultural policies**

13. In which associations and organisations are you involved in?

- National Soy Network (Bundesweites Sojanetzwerk)
- VLOG
- Further? Are any further memberships planned?

14. Which assistance measures in form of policies do you believe to be the most important?

- Greening

- Eiweißprämie (Premium for non-GMO products)
- Consumer support (Surveillance)
- Marketing support (Labels)
- Research support

15. From which organizations, associations, initiatives, clients or other customers do you experience most support and demand? – Or also resistance/difficult demands? In which form? Financial, cooperative?

16. In welchen der aktuellen politischen Fördermaßnahmen sind bereits eindeutige Erfolge zu verzeichnen, wo bleiben diese noch aus?

(GAP-Reform, Greening, Eiweißinitiativen, Prämie für GVO-Freiheit)

Sind Ihnen noch weitere bekannt? Welche?

- Where would you have suggestions for improvement?
- How could the GAP reform support the future European protein and soy supply?
- Do you know about respective **agricultural policy forecast models**?

17. What are the paramount political targets of the strategy on proteins in your opinion?

How do you evaluate the subsidies in their amount?

## Markets

18. Which existing barriers hinder/support the European soy production significantly?

Where are those barriers barely perceptible or even possible to circumvent?

- legal framework conditions
- political and lobby barriers (grain club, meat lobby)
- Technical (harvest, transport, storage, detection of genetic engineering, separation of goods)
- Knowledge transfer (communication/information exchange between agricultural enterprises, processors, retailers, **consumers**)
- Market barriers (transparency of market prices, price competition, **lacking structure** (processing, transport))

- Environmental (climate, biological, agricultural land)

3. What would be the **most important** change within the various segments of the value chain to support a further and sustainable expansion of soy production in the Donau region/Europe?

What long-term conditions are necessary to sustainably expand soy production in the Donau region?

- Breeding/seeding material
- Cultivation/production
- Registry/storage
- Quality assessment/upgrading
- Processing
- Trade
- Customer/final consumer

19. Do you have further knowledge on plans to expand the European soy market?

- e.g. expansion of processing facilities (such as oil mill Straubing)

### **Food market**

20. To what extent is the human consumption of soy developing in the European market?

Is the market development happening rather slowly? Are there any differences among the countries?

e.g. for tofu, tofu products (burgers, sausages, cold cuts), soymilk?

- Soybean oil
- Soya lecithin (E 322) in food, feed, cosmetics, biocides, insecticides
- Is the demand growing or rather constant? What is the percentage growth?

21. Where is your soy processed? What happens with the extracted oil?

Which role does the oil play as “byproduct“ of the protein plant in Europe and the Danub region?

## **Agricultural area**

22. How do you see the competition (e.g. area, added value, contribution margin) towards other varieties? Will soya be able to establish in the near future? Or are presently growing acreages just an agricultural policy phenomenon caused by greening, non-GMO subsidies etc.?
23. Could soy substitute another crop? (For example, other protein plants or legume plants such as rape and broad bean?) If so, on what grounds?
24. What crucial role has soybean as a protein supplying crop in animal feeding?

- Qualitative
- Quantitative

## **GMO**

25. If Europe alone, not practically deals with genetic engineering, could not it be that the EU as regards the breeding / technical progress eventually fall by the wayside?
26. Do you see the current transparency on directives and regulations for genetic engineering threatened through TTIP? What do you believe the impact of TTIP might be in regard to European soy production?

## **Overview/ Questions at the end of the interview/ Ad-hoc questions**

27. Based on which indicators would you predict the market development for soy?
- Will the market for soy continue to grow as it did between 2014 and 2015?

In which areas do you still have questions?

#### **Appendix 4: Questionnaire – Saatzucht Donau / NPZ (Plant breeding)**

Reichsberg, 25.01.2016

- Companies:
1. Saatzucht Donau
  2. Norddeutsche Pflanzenzucht Hans Georg Lembke KG

Hohenlieth, 18.02.2016

- Interviewees:
1. Mr. Birschwitzky and Mr. Mayr
  2. Mrs. Beyermann

**(Translated from German)**

#### **General and introductory questions**

1. What main advantages and disadvantages can you name that the EU is facing due to soy production in the European Region and particularly in the Danube Region?
  - political
  - economical
  - ecological
  - European/regional
2. „Saatzucht Donau“ had already taken several steps to a breeding program.
  - Regarding to market environment, what were the main difficulties in these steps?
  - Which of these steps still exist today and which of them are no longer a problem?
3. What is the opinion of Saatzucht Donau concerning the topic of „green genetic engineering“?
  - What are the internal challenges facing the company to avoid genetic pollution?
  - Which are the different problems for your cooperation countries RO, SK, UA?

What are the main tasks in order to comply with the non-GMO status?

4. A very important issue in regard to soy sales from the Donau region is the consumer demands for regionally produced food. According to the DLG 45 % of consumers rate regionality as highly important and 61 % do not believe that this is merely a temporary trend. Would you consider the in public interest regional soy or soy products from the Danube region as short-term, medium-term or rather long-term? Why?

Seeding material/ Seed cultivation

5. What were and are the greatest challenges in seed cultivation and purchasing of seed material? What went especially well?

- From where do you obtain it?
- Quality testing for non-GMO?

6. Where did you experience success/ problems within the processes of registration of varieties and testing of varieties?

- What could be optimized?
- Which solutions were found?

7. Were there other successes or problems in your soy cultivation career?

What are you basing the license assignment and license elicitation on?

8. There are different maturity groups known (13 groups between 0000-X).

Which maturity groups as well as maturity classification do you use?

- Do you know CHU (Crop Heat Units) also for the EU area?
- In your opinion, what would be the most plausible maturity group classification in Europe?

9. Which area when standardized would simplify or support substantially of soy production or development of soy market?

- for instance, determination of maturity groups)
- How does SZ Probstdorf categorize maturity groups?

10. Are there other techniques/categorizations/methods which you got to know about during workshops, travel activities, discussions with other market participants and which could be useful for farmers and seed producers?

E.g. in the area of work simplification, variety selection, gentle preparation, agronomic measures such as early detection and prevention of diseases

11. Have you experienced GMO pollution in the value chain? What solution approaches do you apply to this problem (e.g. monitoring systems)?

- At what point in the value chain do you install controlling check-points?
- Who is responsible for the inspections?

12. Who are the main soy market supporters and drivers in the Danube region/Europe?

-Who is opposing and supporting the soy market in the Danube region?

- breeder, consumer, oil mills, fodder producer, farmers, governmental decision makers, retail...

### **Pricing**

13. Where are price differences between suppliers, how can you explain that?

What define the prices for seed subsequently? (In Germany or other countries is exported)

- What is your pricing based on?

14. To which extend do main producing countries (Brazil, Argentina, USA and Canada) influence sales and price setting in Europe and the Donau region?

- e.g. stockpiling --> selling for highest possible prices
- crop shortfall through droughts (e.g. Brazil)

## Questions on agricultural policies

15. In which associations and organisations are you involved in?

- National Soy Network (Bundesweites Sojanetzwerk)
- Danube Soya Association (NGO)
- VLOG

16. Which assistance measures in form of policies do you believe to be the most important?

- Greening
- Eiweißprämie (Premium for non-GMO products)
- Consumer support (Surveillance)
- Marketing support (Labels)
- Research support
- associations, alliances

17. What are the paramount political targets of the strategy on proteins in your opinion?

18. Do you think the soy market in the EU can continue its market position beyond the phasing out of subventions in 2018? If yes, why? How do you rate the extend of the subventions?

## Other countries

19. What are the explicit challenges for Romania in order to guarantee genetically unmodified agricultural production and consumption? (e.g. increased surveillance and costs?)

20. How would you describe the mentioned ‘big process of change’ in Ukraine? What is changing? (In relation to non-GMO production, political framework or structural change)

- If so, how can this be defined, where are these changes?
- What do you think are the reasons for these?



- How do you prevent illegal GMO contaminations in Ukraine?
- What is approximately the size of this share?

## Markets

21. Which existing barriers hinder/support the European soy production significantly? Where are those barriers barely perceptible or even possible to circumvent?
  - legal framework conditions
  - political and lobby barriers (grain club, meat lobby)
  - Technical (harvest, transport, storage, detection of genetic engineering, separation of goods)
  - Knowledge transfer (communication/information exchange between agricultural enterprises, processors, retailers, consumers)
  - Market barriers (transparency of market prices, price competition, lacking structure (processing, transport))
  - Environmental (climate, biological, agricultural land)
22. What would be the most important change within the various segments of the value chain to support a further and sustainable expansion of soy production in the Donau region/Europe?
23. What long-term conditions are necessary to sustainably expand soy production in the Donau region?
  - Breeding/seeding material
  - Cultivation/production
  - Registry/storage
  - Quality assessment/upgrading
  - Processing
  - Trade
  - Customer/final consumer

24. Do you have further knowledge on plans to expand the European soy market?
- e.g. expansion of processing facilities (such as oil mill Straubing)
25. What is your position in regard to the statement that soy imports are indispensable in order to retain meat processing businesses – thus value addition and workplaces – in Germany

(Statement by the Grain Club: For the supply of domestic protein demand: Next to quantity the qualitative fodder requirements are to be secured to competitive prices. The delay in the EU-approval procedure for GM-varieties and the subsequent zero-tolerance promotes an unbearable legal uncertainty for stakeholders. The current demands for an extension of freedom from GMOs across the whole meat-processing sector (including poultry production) is unrealistic)

#### **Agricultural plain**

26. Global competitiveness is to be enhanced through improved varieties over most important crop types (corn, wheat, rape, barley).
- How do you see the competition (e.g. area, added value, contribution margin) towards other varieties ? (in percent)
  - How long do you assess will it take until then?
  - In which countries this goal could be achieved earlier?
27. Or are presently growing acreages just an agricultural policy phenomenon caused by greening, non-GMO subsidies etc.

#### **GVO**

28. Over time it has become increasingly difficult to obtain soy beans free from genetic modification. With genetically unmodified soy beans as a niche product, do you believe that Europa has a chance to become one of the only few selfsustaining regions worldwide? Probably also use its competitive advantage to be able to offer and export this niche product on the world market?

29. Do you think that Europe could have one disadvantage in the long term due to the prohibition of genetic engineering?

If so, which? In which areas?

Would it be conceivable, that European breed and technology get left behind due to the prohibition of genetic engineering?

30. Do you see the current transparency on directives and regulations for genetic engineering threatened through TTIP? What do you believe the impact of TTIP might be regarding to European soy production?

**Overview/ Questions at the end of the interview/ Ad-hoc questions**

31. Based on which indicators would you predict the market development for soy?

Will the market for soy continue to grow as it did between 2014 and 2015?

32. In which areas do you still have question?



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## Appendix 5: Questionnaire – Josera (Feed industry)

Kleinheubach, 24.02.2016

Company: Josera

Interviewee: Mr. Marquart

(Translated from German)

### General and introductory questions

1. Josera is a versatile company with different business divisions. For a start could you briefly introduce the different business areas?
2. Does the company follow a soy strategy?
  - If yes, which strategy?
  - What are the goals of the strategy?
3. On the first page of your website it is to be read that Josera does not use genetically modified ingredients as well as wheat and soy additives.
  - For which feed does that apply?
  - Why do you renounce soy? Would you also renounce regional, GMO free soy?
4. Josera strongly emphasizes quality, regionality as well as sustainability of their raw materials and feedstuff. This is guaranteed by inspection systems and certification schemes. Do you also use other quality labels (regional, GMO free) to communicate your position as producer of quality feedstuff towards the consumers (farmer/consumer)?
  - If yes, which ones and in how far do they give you advantages?
  - If not, why not? Why certificates and not trademarks?
  - Are there any reasons against a membership within the Danube Soya Initiative?

### Regionality

5. A very important issue for Josera is regionality. According to the DLG 45 % of consumers rate regionality as highly important and 61 % do not believe in a long-term megatrend.

- Why do you believe that this trend is considered to continuing in the long run?
  - What do you think of the current developments in regional soybean cultivation?
  - Do you think Europe will be accepted as “regional” by the consumers?
  - How do you and the company Josera define “regionality”?
  - Do you consider the labels “organic” and “GMO free” as complementary?
  - If Europe were to be able to support itself solely with regional soy production and distribution, do you believe that producers will sooner or later also resort to GMO soy due to difficulties in detectability?
6. The RKW-Kehl became interested in regional soy in the Rhine plain already in the 1980s. When did the interest for regional soy or a soy-strategy arise in Josera?
7. What main advantages and disadvantages can you name that the EU is facing due to soy production in the European Region and particularly in the Donau Region?
- (5) political
  - (6) economical
  - (7) ecological
  - (8) European/regional
8. Have you experienced GMO traces in the value chain? Which solutions are being applied for such problems (e.g. control mechanisms, traceability)?
- a. At which part do inspections take place?
  - b. -> costs, efforts
  - c. Who carries out inspections?
9. Who are the main soy market supporters and drivers in the Donau region/Europe?  
Who is opposing and supporting the soy market in the Donau region?  
(Grower, breeder, consumer, oil mills, fodder producer, farmers, governmental decision makers, retail...)

(According to the Association against genetic modification (Verband ohne Gentechnik (VLOG)), ABRANGE and the ProTerra foundation there is pressure

from the side of the food retail industry, the fast food industry and environmental associations)

Who are your purchasers and suppliers? Which of them are the major and most important ones?

### **Pricing**

10. How are the prices for soy components and soy feed supplements set in Josera?
  - a. How much is the premium for GMO free products?
  - b. Are there additional financial subsidies? If yes, wherefrom?
11. Does Josera work with contract farmers? If yes, how are the producer prices set? (in Germany and other EU countries to which export takes place?) (LEL-Schwäbisch Gmünd criticises lacking binding producer prices)
12. How do these surcharges reflect in final products as well as in subsequent animal products (e.g. meat, eggs, milk)? (Price setting concept)
13. Which consumer and buyer are generally willing to pay additional surcharge for 'regional' and 'non-GMO' fodder/products? (classification in categories according to company size and type of animal husbandry)  
Do you believe that in the long run the majority (also major corporations) can be convinced to purchase European soy? If yes, for which price? If no, what are the reasons?
14. To which extent do main producing countries (Brazil, Argentina, USA and Canada) influence sales and price setting in Europe and the Donau region?
  - a. e.g. stockpiling → selling for highest possible prices
  - b. crop shortfall through droughts (e.g. Brazil)

### **Questions on agricultural policies**

15. Are there any associations or organisations that Josera is a member of which supports mutual interests? Such as
  - Friend's association
  - Danube Soya Association

- VLOG (Association against genetic modification)
- National soya network

If not, why not?

If yes, which? Are there further memberships being planned? What is the motivation for a membership?

16. Which assistance measures in form of policies do you believe to be the most important? From where do you experience most support and the highest achievements?

- a. Greening
- b. Eiweißprämie (Premium for non-GMO products)
- c. Consumer support (Surveillance)
- d. Marketing support (Labels)
- e. Research support
- f. Associations, Organisation

17. Do you know about any other support measures? Which ones?

- a. In your opinion, where do you see margin for improvements?
- b. In the future, how could the GAP-reform further support the European protein-/soy supply
- c. Are there any further forecasting models on agriculture policies you could name in this regard?

18. What are the paramount political targets of the strategy on proteins in your opinion?

19. Do you think the soy market in the EU can continue its market position beyond the phasing out of subventions in 2018 (as compared to the 1980s)? If yes, why? How do you rate the extend of the subventions?

## Markets

20. Which existing barriers hinder/support the European soy production significantly?

Where are those barriers barely perceptible or even possible to circumvent?

- legal framework conditions
- political and lobby barriers (grain club, meat lobby)
- Technical (harvest, transport, storage, detection of genetic engineering, separation of goods)
- Knowledge transfer (communication/information exchange between agricultural enterprises, processors, retailers, **consumers**)
- Market barriers (transparency of market prices, price competition, **lacking structure** (processing, transport))
- Environmental (climate, biological, agricultural land)

21. What would be the **most important** change within the various segments of the value chain to support a further and sustainable expansion of soy production in the Donau region/Europe?

What long-term conditions are necessary to sustainably expand soy production in the Donau region?

- Breeding/seeding material
  - Cultivation/production
  - Registry/storage → Which central registry points do you know?
  - Quality assessment/upgrading
  - Processing
  - Trade
  - Customer/final consumer
- Which segment bears the highest investment costs to guarantee genetically unmodified agricultural production?

22. Do you have further knowledge on plans to expand the European soy market?

- e.g. expansion of processing facilities (such as oil mill Straubing)
- Further feed manufacturer that may intend to obtain European soy



## Feeding

23. Which crucial role does soy play as protein supplier in livestock farming with its valuable amino acid composition in the refinement?

- Qualitative
- Quantitative

How would you guarantee a valuable amino acid composition without soy?

24. Does rapeseed meal or other protein suppliers represent a reasonable alternative to soy in livestock farming?

What do you think about the following statement:

According to the Grain Club new application potential has been shown after extensive feeding tests in cattle, pig and poultry, this supposedly lead to increased acceptance for rapeseed meal in livestock farming over the last years.

25. What do you think about the statement that soy import is inevitable if the net value added and the job situation regarding animal processing shall stay constant in the country?

(Statement of the Grain Club about covering the national protein demand: Beside quantity also the quality for meeting feeding requirements need to be secured at competitive prices. The delay in the EU approval procedure for genetically modified varieties and the associated zero tolerance represent a strong legal uncertainty for actors. Current demands for designation of non-GMO usage in the entire meat production also beyond poultry is unrealistic.)

## GMO

26. What do you think is the most important argument for genetically unmodified products (e.g. political framework conditions, consumer acceptance, environmental impact...)?

- Do you think this attitude may change at some point?
- Why, or why not?

What are the rules for genetically inmodified products especially in feed production? What are the internal rules regulating non-GMO?

27. Apart from consumer concerns, where do you see the biggest controversies regarding genetically modified crops within the fodder industry/the food sector?
- How and in what way did consumer concerns become noticeable?
  - Are there any verified impacts on the animals itself as well as product quality? (Sources?)
  - Please elaborate your doubts on the touted benefits of GMOs and treatment with broad-spectrum chemical herbicides.
28. Over time it has become increasingly difficult to obtain soy beans free from genetic modification. With genetically unmodified soy beans as a niche product, do you believe that Europa has a chance to become one of the only few self-sustaining regions worldwide? Probably also use its competitive advantage to be able to offer and export this niche product on the world market?
29. Do you see the current transparency on directives and regulations for genetic engineering threatened through TTIP? What do you believe the impact of TTIP might be in regard to European soy production?

**Overview/ Questions at the end of the interview/ Ad-hoc questions**

30. Based on which indicators would you predict the market development for soy?
31. In which areas do you still have questions?

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## Appendix 6: Questionnaire – RKW (Feedstuff industry)

Kehl, 20.01.2015

Company: Raiffeisen Kraftfutterwerke

Interviewee: Mr. Stoll

(Translated from German)

### General and introductory questions

1. Which measures are taken by RKW to communicate your position as producer of quality feedstuff (regional, GMO free) towards the consumers (farmer/consumer)?
2. How and when did the membership in the Danube Soya Initiative begin?  
What are the greatest advantages that you experienced due to this membership?
3. As member of the Danube Soya Initiative in 2014 you obtained the first 500 t of soy from Hungary.
  - By how many percent could the share of regional soy be raised?
  - Have other countries joined?
  - In your opinion, which countries have the greatest potential for soy cultivation?

### Regionality

4. A very important issue in the sale of soy from the Danube region is the request for regionality. According to the DLG 45 % of consumers rate regionality as highly important and 61 % do not believe in a temporary phenomenon.
  - Why do you believe that this trend is considered to continuing in the long run?
  - In your opinion, what are the striking indicators for the tendencies of current developments (RKW presentation)?

- Are further studies (apart from the DLG study) known? Where does the convincement come from?
  - Is Europe being accepted as “regional” by the consumers?
  - Do you consider the labels “organic” and “GMO free” as complementary?
  - If Europe were to be able to support itself solely with regional soy production and distribution, do you believe that producers will sooner or later also resort to GMO soy due to difficulties in detectability?
5. The RKW-Kehl became interested in regional soy in the Rhine plain already in the 1980s. What do you think are the reasons that this former EU project and the connected soy production were cancelled?  
Why is this different today?
6. What main advantages and disadvantages can you name that the EU is facing due to soy production in the European Region and particularly in the Donau Region?
- (9) political
  - (10) economical
  - (11) ecological
  - (12) European/regional
7. Have you experienced GMO traces in the value chain? Which solutions are being applied for such problems (e.g. control mechanisms, traceability)?
- a. At which part do inspections take place?
  - b. - costs, efforts
  - c. Who carries out inspections?
8. Who are the main soy market supporters and drivers in the Donau region/Europe?  
Who is opposing and supporting the soy market in the Donau region?  
(Grower, breeder, consumer, oil mills, fodder producer, farmers, governmental decision makers, retail...)

(According to the Association against genetic modification (Verband ohne Gentechnik (VLOG)), ABRANGE and the ProTerra foundation there is pressure from the side of the food retail industry, the fast food industry and environmental associations)

Who are your purchasers and suppliers? Which of them are the major and most important ones?

## Pricing

9. In which area are the current commodity prices for European soy and for Brazilian GMO free soy?
  - What is the European listing for pricing soy as commodity?
  - How much is the premium for GMO free products from Brazil?
  - Are there additional financial subsidies? If yes, where from?
  - Are European prices competitive with Brazilian prices? Do you see a long-term competitiveness?
10. Does RKW work with contract farmers? If yes, how are the producer prices set? (in Germany and other EU countries to which export takes place?) (LEL-Schwäbisch Gmünd criticises lacking binding producer prices)
11. How do these surcharges reflect in final products as well as in subsequent animal products (e.g. meat, eggs, milk)? (Price setting concept)
12. Which consumer and buyer are generally willing to pay additional surcharge for 'regional' and 'non-GMO' fodder/products? (classification in categories according to company size and type of animal husbandry)  
Do you believe that in the long run the majority (also major corporations) can be convinced to purchase European soy? If yes, for which price? If no, what are the reasons?

13. To which extend do main producing countries (Brazil, Argentina, USA and Canada) influence sales and price setting in Europe and the Donau region?
- e.g. stockpiling → selling for highest possible prices
  - crop shortfall through droughts (e.g. Brazil)

#### Questions on agricultural policies

14. In which associations or organisations (Danube Soya) do you have memberships?
- National soya network
  - Danube Soya Association
  - VLOG

Are there further memberships being planned? What is the motivation for a membership?

15. Which assistance measures in form of policies do you believe to be the most important? From where do you experience most support and the highest achievements?
- Greening
  - Eiweißprämie (Premium for non-GMO products)
  - Consumer support (Surveillance)
  - Marketing support (Labels)
  - Research support
  - Associations, Organisation

16. Do you know about any other support measures? Which ones?
- In your opinion, where do you see margin for improvements?
  - In the future, how could the GAP-reform further support the European protein-/soy supply
  - Are there any further forecasting models on agriculture policies you could name in this regard?

17. What are the paramount political targets of the strategy on proteins in your opinion?

18. Do you think the soy market in the EU can continue its market position beyond the phasing out of subventions in 2018 (as compared to the 1980s)? If yes, why? How do you rate the extend of the subventions?

### Markets

19. Which existing barriers hinder/support the European soy production significantly?

Where are those barriers barely perceptible or even possible to circumvent?

- legal framework conditions
- political and lobby barriers (grain club, meat lobby)
- Technical (harvest, transport, storage, detection of genetic engineering, separation of goods)
- Knowledge transfer (communication/information exchange between agricultural enterprises, processors, retailers, **consumers**)
- Market barriers (transparency of market prices, price competition, **lacking structure** (processing, transport))
- Environmental (climate, biological, agricultural land)

20. What would be the **most important** change within the various segments of the value chain to support a further and sustainable expansion of soy production in the Donau region/Europe?

What long-term conditions are necessary to sustainably expand soy production in the Donau region?

- Breeding/seeding material
  - Cultivation/production
  - Registry/storage → Which central registry points do you know?
  - Quality assessment/upgrading
  - Processing
  - Trade
  - Customer/final consumer
- Which segment bears the highest investment costs to guarantee genetically unmodified agricultural production?

21. Do you have further knowledge on plans to expand the European soy market?
- e.g. expansion of processing facilities (such as oil mill Straubing)
  - Further feed manufacturer that may intend to obtain European soy

### **Feeding**

22. Which crucial role does soy play as protein supplier in livestock farming with its valuable amino acid composition in the refinement?

- Qualitative
- Quantitative

23. Does rapeseed meal or other protein suppliers represent a reasonable alternative to soy in livestock farming?

What do you think about the following statement:

According to the Grain Club new application potential has been shown after extensive feeding tests in cattle, pig and poultry, this supposedly lead to increased acceptance for rapeseed meal in livestock farming over the last years.

24. What do you think about the statement that soy import is inevitable if the net value added and the job situation regarding animal processing shall stay constant in the country?

(Statement of the Grain Club about covering the national protein demand: Beside quantity also the quality for meeting feeding requirements need to be secured at competitive prices. The delay in the EU approval procedure for genetically modified varieties and the associated zero tolerance represent a strong legal uncertainty for actors. Current demands for designation of non-GMO usage in the entire meat production also beyond poultry is unrealistic.)

### **GMO**

25. RKW produces without genetic modification (<0,1%) on a matter of principle. What do you think is the most important argument for genetically unmodified



products (e.g. political framework conditions, consumer acceptance, environmental impact...)?

- Do you think this attitude may change at some point?
- Why, or why not?

What are the rules for GMO products especially in feed production? What are the internal rules regulating non-GMO?

26. Apart from consumer concerns, where do you see the biggest controversies regarding genetically modified crops within the fodder industry/the food sector?

- How and in what way did consumer concerns become noticeable?
- Are there any verified impacts on the animals itself as well as product quality? (Sources?)
- Please elaborate your doubts on the touted benefits of GMOs and treatment with broad-spectrum chemical herbicides.

27. Over time it has become increasingly difficult to obtain soy beans free from genetic modification. With genetically unmodified soy beans as a niche product, do you believe that Europe has a chance to become one of the only few self-sustaining regions worldwide? Probably also use its competitive advantage to be able to offer and export this niche product on the world market?

28. Do you see the current transparency on directives and regulations for genetic engineering threatened through TTIP? What do you believe the impact of TTIP might be in regard to European soy production?

#### **Overview/ Questions at the end of the interview/ Ad-hoc questions**

1. Based on which indicators would you predict the market development for soy?
2. In which areas do you still have questions?

## Appendix 7: Questionnaire – ADM (Oil Mill)

Straubing, 5.04.2016

Organisation: ADM, Straubing

Interviewee: Mr. Van der Poel

(Translated from German)

### General and introductory questions

1. From the middle of the year ADM will enter in soy production.

Why did a Bavarian location for rapeseed currently invest in soy processing?

2. Regarding to your quote in „Agrarzeitung“: „ (...) thanks to the additional processing line, it would be easier to respond flexibly to market requirements “.

Could you specify these requirements?

Which of them have priority? And which are very difficult to meet?

3. As one of the first major investors, do you believe in a long term soy trend, and, where appropriate, in a trend for soy from Danube?

When considering as a whole the processing line soy is not a new type of crop. Would you go so far as to say that current European markets developments have long been overdue?

4. How many tones should be processed by the plant?

### Regionality

5. A very important issue in regard to soy sales from the Donau region is the consumer demands for regionally produced food. According to the DLG 45 % of consumers rate regionality as highly important and 61 % do not believe that this is merely a temporary trend.

- Why do you believe that this trend is considered to continuing in the long run?

- What are the most pivotal indicators and drivers for this development?

- Have there been conducted any other studies apart from the DLG study?  
Where is the belief for trending regionality based on?
- Do consumers see Europe as 'regional'?
- Do you see the labels 'Organic' and 'GMO Free' as complementary?
- If Europe were to be able to support itself solely with regional soy production and distribution, do you believe that producers will sooner or later also resort to GMO soy due to difficulties in detectability?

6. Regional soy production in the Rhine-plain was initially introduced in the 1980s' as a EU project.

Why did the project, thus the regional soy production, become abandoned?

7. What has changed/What is different today? What main advantages and disadvantages can you name that the EU is facing due to soy production in the European Region and particularly in the Donau Region?

- (1) political
- (2) economical
- (3) ecological
- (4) European/regional

8. Can you name examples of GMO pollution in the value chain? What solution approaches do you apply to this problem (e.g. monitoring systems, traceability)?  
At what point in the value chain do you install controlling check-points?

Identity from field to shipment – Expense and effort? Who is responsible for the inspections?

9. Who are the main soy market supporters and drivers in the Donau region/Europe? Who is opposing and supporting the soy market in the Donau region? (Grower, breeder, consumer, oil mills, fodder producer, farmers, governmental decision makers, retail)

(According to the Association against genetic modification (Verband ohne Gentechnik (VLOG)), ABRANGE and the ProTerra Stiftung, the poultry industry in Germany and Europe has decided against GMO fodder due to pressure from

the side of the food retail industry, fast food industry and environmental associations)

## Pricing

10. What is the current price for raw soy for European and also Brazilian GMO free soy?

Which European quotations of prices for raw soy are presently existing?

How high is the current surcharge for raw non-GMO soy from Brazil? Are there any other financial subventions? If yes, which ones and from where?

Can European soy prices compete with Brazilian prices? How is the competition between European and Brazilian prices in the long term?

11. In Germany most soy production is based on contract cultivation. What are the cultivation circumstances at the DSA?

How are the producer prices determined?

From which countries do you know the producer prices.

To what amount they are?

12. How do these surcharges reflect in non-GMO soy products from ADM? (Price setting concept)

13. Which consumer and buyer are generally willing to pay additional surcharge for 'regional' and 'non-GMO' fodder/products? (classification in categories according to company size and type of animal husbandry)

Do you believe that in the long run the majority (also major corporations) can be convinced to purchase European soy? If yes, for which price? If no, what are the reasons?

14. To which extend do main producing countries (Brazil, Argentina, USA and Canada) influence sales and price setting in Europe and the Donau region?

e.g. stockpiling -> selling for highest possible prices

crop shortfall through droughts (e.g. Brazil)

## Questions on agricultural policies

15. What are the most prominent advantages for companies that are members of DSA? In addition to Donau Soja Association is there any other association or federation you have a membership with?
16. Which assistance measures in form of policies do you believe to be the most important? From where do you experience most support and the highest achievements?
- Greening
  - Eiweißprämie (Premium for non-GMO products)
  - Consumer support (Surveillance)
  - Marketing support (Labels)
  - Research support
  - Associations, Organisation
17. Do you know about any other support measures? Europe-wide or country-specific? Which ones?
- In your opinion, where do you see margin for improvements?
  - In the future, how could the GAP-reform further support the European protein-/soy supply
  - Are there any further forecasting models on agriculture policies you could name in this regard?
18. What are the paramount political targets of the strategy on proteins in your opinion?
19. Do you think the soy market in the EU can continue its market position beyond the phasing out of subventions in 2018? If yes, why? How do you rate the extend of the subventions?

## Other countries

20. Concerning **Serbia** you mentioned that it is the only country that is self-sufficient in regard to soy-supply and moreover has a fully integrated agriculture system without GMOs. However, through WTO pressure and a potential accession to the EU this would need to change.

Which developments be expected in the Serbian market economy – could Serbia benefit more from soy export than from its domestic use. On the other hand, would Serbia perhaps also increase animal husbandry in order to export meat?

21. What are the explicit challenges for Romania in order to guarantee genetically unmodified agricultural production and consumption? (e.g. increased surveillance and costs?)
22. In Danube where do you receive with reliably large quantities of soy with reliably?

According to that, could you provide a percentage distribution?

23. What do you think, which country within the Danube region is able to produce most efficiently while meeting quality standards (homogeneity of delivery, freedom from GMOs, level of protein)?

## Markets

24. Which existing barriers hinder/support the European soy production significantly? Where are those barriers barely perceptible or even possible to circumvent?

legal framework conditions

political and lobby barriers (grain club, meat lobby)

Technical (harvest, transport, storage, detection of genetic engineering, separation of goods)

Knowledge transfer (communication/information exchange between agricultural enterprises, processors, retailers, consumers)

Market barriers (transparency of market prices, price competition, lacking structure (processing, transport))

Environmental (climate, biological, agricultural land)

25. What would be the most important change within the various segments of the value chain to support a further and sustainable expansion of soy production in the Donau region/Europe?

What long-term conditions are necessary to sustainably expand soy production in the Donau region?

- Breeding/seeding material
- Cultivation/production
- Registry/storage, which central registry points do you know?
- Quality assessment/upgrading
- Processing
- Trade
- Customer/final consumer

Which segment bears the highest investment costs to guarantee genetically unmodified agricultural production?

26. Do you have further knowledge on plans to expand the European soy market?

e.g. expansion of additional processing sites that compete with non-GMO production?

Further feed manufacturer that may intend to obtain European soy

27. With respect to oil mill locations in Europe:

Where are the processing facilities? Why are they precisely at this location?

Who competes with whom?

Which market do they operate?

28. Which export markets compete with the European oil mills concerning oil and grist?

Where do processed products come from and where do they arrive in Europe?

Where do goods go to from there?

## Feeding

29. What is your position with regard to the statement that soy imports are indispensable to retain meat processing businesses thus value addition and workplaces in Germany?

(Statement by the Grain Club: For the supply of domestic protein demand: Next to quantity the qualitative fodder requirements are to be secured to competitive prices. The delay in the EU-approval procedure for GM-varieties and the subsequent zero-tolerance promotes an unbearable legal uncertainty for stakeholders. The current demands for an extension of freedom from GMOs across the whole meat-processing sector (including poultry production) is unrealistic)

30. Donau Soy (DSA) is a brand for soy beans from the Donau region that are genetically unmodified. What do you think is the most important argument for genetically unmodified products (e.g. political framework conditions, consumer acceptance, environmental impact...)?

Do you think this attitude may change at some point?  
Why, or why not?

31. Do you have certain internal rules regulating genetically unmodified products for ADM?

In which area costs are the highest in order to complete guarantee of the GMO-free status?

32. What is your position on genetically modified crops? Why should Europe not adopt genetic modification for fodder and food crops? What is your opinion based on?

33. Over time it has become increasingly difficult to obtain soy beans free from genetic modification. With genetically unmodified soy beans as a niche product, do you believe that Europa has a chance to become one of the only few



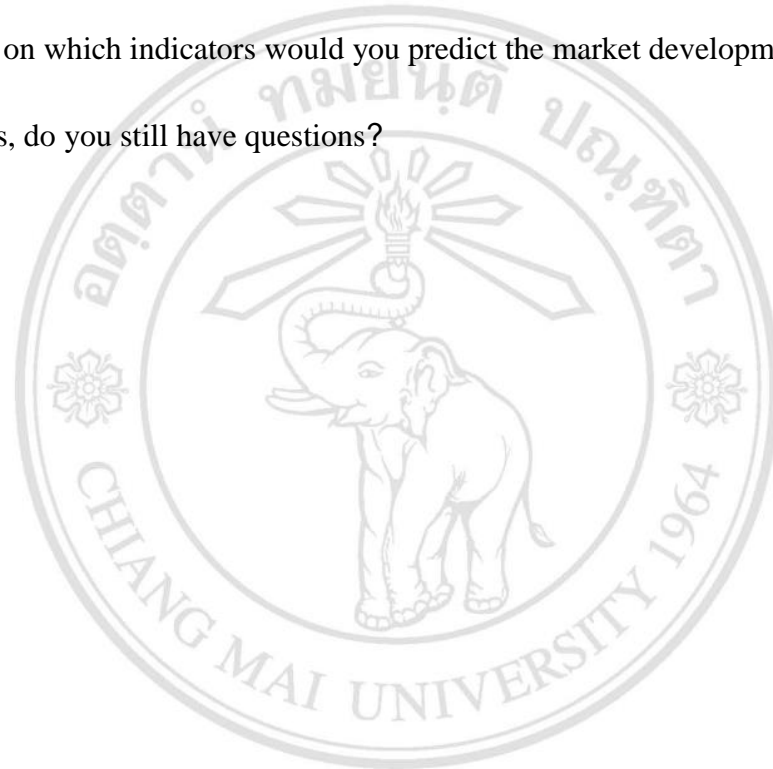
self-sustaining regions worldwide? Probably also use its competitive advantage to be able to offer and export this niche product on the world market?

34. Do you see the current transparency on directives and regulations for genetic engineering threatened through TTIP? What do you believe the impact of TTIP might be regarding European soybean production?

**Overview/ Questions at the end of the interview/ Ad-hoc questions**

35. Based on which indicators would you predict the market development for soy?

In which areas, do you still have questions?



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## Appendix 8: Questionnaire - Danube Soya Association

Besigheim, 29.01.2016

Organisation: Danube Soya Association (NGO)

Interviewee: Mr. Krön

(Translated from German)

### General and introductory questions

1. In your opinion, what was the motivation and the primary reasons for the founding of the Donau Soya Association (DSA) in 2012?
  - Who were the decision makers and promoter or donors?
  - Who were the initial members, the strongest proponents as well as opponents in regard to the NGO's foundation?
2. What are the most prominent advantages for companies that are members of DSA? What arguments do you believe have convinced other companies to join the DSA?
3. Do you have the feeling that particular members are outstanding in enriching the portfolio of the association in regard to their activities or position?  
Do you aim to attract prominent or international corporations as well as certain lobby groups to join the DSA? If yes, could you name some?

### Regionality

4. A very important issue regarding soybean sales from the Donau region is the consumer demands for regionally produced food. According to the DLG 45 % of consumers rate regionality as highly important and 61 % do not believe that this is merely a temporary trend.
  - Why do you believe that this trend is considered to continuing in the long run?
  - What are the most pivotal indicators and drivers for this development?
  - Have there been conducted any other studies apart from the DLG study?  
Where is the belief for trending regionality based on?

- Do consumers see Europe as 'regional'?
  - Do you see the labels 'Organic' and 'GMO Free' as complementary?
  - If Europe were to be able to support itself solely with regional soy production and distribution, do you believe that producers will sooner or later also resort to GMO soy due to difficulties in detectability?
5. Regional soy production in the Rhine-plain was initially introduced in the 1980s' as a EU project. Why did the project, thus the regional soy production, become abandoned?
- What has changed/What is different today?
6. What main advantages and disadvantages can you name that the EU is facing due to soy production in the European Region and particularly in the Donau Region?
- (13) political
  - (14) economical
  - (15) ecological
  - (16) European/regional
7. Can you name examples of GMO pollution in the value chain? What solution approaches do you apply to this problem (e.g. monitoring systems, traceability)?
- At what point in the value chain do you install controlling check-points?
    - Identity from field to shipment – Expense and effort?
  - Who is responsible for the inspections?
8. Who are the main soy market supporters and drivers in the Donau region/Europe? Who is opposing and supporting the soy market in the Donau region? (Grower, breeder, consumer, oil mills, fodder producer, farmers, governmental decision makers, retail...)

(According to the Association against genetic modification (Verband ohne Gentechnik (VLOG)), ABRANGE and the ProTerra Stiftung, the poultry industry in Germany and Europe has decided against GMO fodder due to pressure from the side of the food retail industry, fast food industry and environmental associations)

## Pricing

9. What is the current price for raw soy for European and also Brazilian GMO free soy?
  - Which European quotations of prices for raw soy are presently existing?
  - How high is the current surcharge for raw non-GMO soy from Brazil? Are there any other financial subventions? If yes, which ones and from where?
  - Can European soy prices compete with Brazilian prices? How is the competition between European and Brazilian prices in the long term?
  
10. In Germany most soy production is based on contract cultivation. What are the cultivation circumstances at the DSA? How are the producer prices determined? (in regard to trade within Germany and export into other EU countries) (LEL-Schwäbisch Gmünd criticises lacking binding producer prices)
  
11. How do these surcharges reflect in final products as well as in subsequent animal products (e.g. meat, eggs, milk)? (Price setting concept)
  
12. Which consumer and buyer are generally willing to pay additional surcharge for 'regional' and 'non-GMO' fodder/products? (classification in categories according to company size and type of animal husbandry) Do you believe that in the long run the majority (also major corporations) can be convinced to purchase European soy? If yes, for which price? If no, what are the reasons?
  
13. To which extend do main producing countries (Brazil, Argentina, USA and Canada) influence sales and price setting in Europe and the Donau region?
  - e.g. stockpiling → selling for highest possible prices
  - crop shortfall through droughts (e.g. Brazil)

## Questions on agricultural policies

14. In which associations and organisations is the DSA involved in?

- National Soy Network (Bundesweites Sojanetzwerk)
- VLOG
- Further? Are any further memberships planned? What is the motivation for a membership?

15. Which assistance measures in form of policies do you believe to be the most important? From where do you experience most support and the highest achievements?

- Greening
- Eiweißprämie (Premium for non-GMO products)
- Consumer support (Surveillance)
- Marketing support (Labels)
- Research support
- Associations, Organisation

16. Do you know about any other support measures? Europe-wide or country-specific? Which ones?

- In your opinion, where do you see margin for improvements?
- In the future, how could the GAP-reform further support the European protein-/soy supply
- Are there any further forecasting models on agriculture policies you could name in this regard?

17. What are the paramount political targets of the strategy on proteins in your opinion?

18. Do you think the soy market in the EU can continue its market position beyond the phasing out of subventions in 2018? If yes, why? How do you rate the extend of the subventions?

## Other countries

19. Concerning **Serbia** you mentioned that it is the only country that is self-sufficient in regard to soy-supply and moreover has a fully integrated agriculture system without GMOs. However, through WTO pressure and a potential accession to the EU this would need to change.

- Which developments be expected in the Serbian market economy – could Serbia benefit more from soy export than from its domestic use. On the other hand, would Serbia perhaps also increase animal husbandry in order to export meat?

20. What are the explicit challenges for **Romania** in order to guarantee genetically unmodified agricultural production and consumption? (e.g. increased surveillance and costs?)

21. How would you describe the mentioned ‘big process of change’ in **Ukraine**?  
What is changing?

What is the primary subject to the process of change?

What are the drivers for this?

How do members of DSA try to counteract potential GMO contamination from Ukrainian partners? What are the challenges to produce, load and store non-GMO products in Ukraine?

## Markets

22. Which existing barriers hinder/support the European soy production significantly?

Where are those barriers barely perceptible or even possible to circumvent?

- legal framework conditions
- political and lobby barriers (grain club, meat lobby)
- Technical (harvest, transport, storage, detection of genetic engineering, separation of goods)

- Knowledge transfer (communication/information exchange between agricultural enterprises, processors, retailers, **consumers**)
- Market barriers (transparency of market prices, price competition, **lacking structure** (processing, transport))
- Environmental (climate, biological, agricultural land)

23. What would be the **most important** change within the various segments of the value chain to support a further and sustainable expansion of soy production in the Donau region/Europe?

What long-term conditions are necessary to sustainably expand soy production in the Donau region?

- Breeding/seeding material
  - Cultivation/production
  - Registry/storage → Which central registry points do you know?
  - Quality assessment/upgrading
  - Processing
  - Trade
  - Customer/final consumer
- Which segment bears the highest investment costs to guarantee genetically unmodified agricultural production?

24. Do you have further knowledge on plans to expand the European soy market?

- e.g. expansion of processing facilities (such as oil mill Straubing)
- Further feed manufacturer that may intend to obtain European soy

### **Feeding**

25. What is your position in regard to the statement that soy imports are indispensable in order to retain meat processing businesses – thus value addition and workplaces – in Germany

(Statement by the Grain Club: For the supply of domestic protein demand: Next to quantity the qualitative fodder requirements are to be secured to competitive

prices. The delay in the EU-approval procedure for GM-varieties and the subsequent zero-tolerance promotes an unbearable legal uncertainty for stakeholders. The current demands for an extension of freedom from GMOs across the whole meat-processing sector (including poultry production) is unrealistic)

## GMOs

26. Donau Soy (DSA) is a brand for soy beans from the Donau region that are genetically unmodified. What do you think is the most important argument for genetically unmodified products (e.g. political framework conditions, consumer acceptance, environmental impact...)?

- Do you think this attitude may change at some point?
- Why, or why not?

Do you have certain internal rules regulating genetically unmodified products for DSA members?

If yes, are those rules varying depending on the varying members within the value chain? If yes, how?

27. Apart from consumer concerns, where do you see the biggest controversies regarding genetically modified crops within the fodder industry/the food sector?

- How and in what way did consumer concerns become noticeable?
- Are there any verified impacts on the animals itself as well as product quality? (Sources?)
- Please elaborate your doubts on the touted benefits of GMOs and treatment with broad-spectrum chemical herbicides.

28. What is your position on genetically modified crops? Why should Europe not adopt genetic modification for fodder and food crops? What is your opinion based on?

29. Over time it has become increasingly difficult to obtain soy beans free from genetic modification. With genetically unmodified soy beans as a niche product,



do you believe that Europa has a chance to become one of the only few self-sustaining regions worldwide? Probably also use its competitive advantage to be able to offer and export this niche product on the world market?

30. Do you see the current transparency on directives and regulations for genetic engineering threatened through TTIP? What do you believe the impact of TTIP might be in regard to European soy production?

**Overview/ Questions at the end of the interview/ Ad-hoc questions**

31. Based on which indicators would you predict the market development for soy?  
32. In which areas do you still have questions?



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## Appendix 9: Questionnaire – Bioland

Esslingen, 11.04.2016

Organization: Bioland (NGO)

Interviewee: Mr. Dr. Eichert

**(Translated from German)**

### General and introductory questions

1. In your opinion, what was the motivation and the primary reasons for the founding of the GM-free agriculture alliance in the province of Baden Württemberg?
  - Who were the decision makers and promoter or donors for the association?
  - How strongly discussed is the topic of the European soy production?
  - How is the association involved to a GM-free cultivation of soy in Europe? (Workshop)
2. What are the most prominent advantages for companies that are members of DSA?

How high do you assess the interest of organic producers in Donau Soy (soy beans from the Donau region) in general?  
(As usually there is an attempt to source animal feed from Germany)
3. In the dairy market the „not genetically engineered“ label has been established very well, i. e. it has attracted attention among consumers and sales increased.

How do you see the market position for a „not genetically engineered“ label on meat products? Or rather the interests of consumers in „not genetically engineered „feeding“

### Regionality

4. A very important issue in regard to soy sales from the Donau region is the consumer demands for regionally produced food. According to the DLG 45 % of consumers rate regionality as highly important and 61 % do not believe that this is merely a temporary trend.

- Why do you believe that this trend is considered to continuing in the long run?
  - What are the most pivotal indicators and drivers for this development?
  - Do consumers see Europe as ‘regional’?
  - Do you see the labels ‘Organic’ and ‘GMO Free’ as complementary?
  - If Europe were to be able to support itself solely with regional soy production and distribution, do you believe that producers will sooner or later also resort to GMO soy due to difficulties in detectability?
5. Regional soy production in the Rhine-plain was initially introduced in the 1980s’ as a EU project. Why did the project, thus the regional soy production, become abandoned?  
What has changed/ What is different today?
6. What main advantages and disadvantages can you name that the EU is facing due to soy production in the European Region and particularly in the Donau Region?  
(1) political  
(2) economical  
(3) ecological  
(4) European/regional
7. Can you name examples of GMO pollution in the value chain? What solution approaches do you apply to this problem (e.g. monitoring systems, traceability)?  
At what point in the value chain do you install controlling check-points?  
Identity from field to shipment – Expense and effort?  
Who is responsible for the inspections?
8. Who are the main soy market supporters and drivers in the Donau region/Europe?  
Who is opposing and supporting the soy market in the Donau region?  
(Grower, breeder, consumer, oil mills, fodder producer, farmers, governmental decision makers, retail...)

(According to the Association against genetic modification (Verband ohne Gentechnik (VLOG)), ABRANGE and the ProTerra Stiftung, the poultry industry in Germany and Europe has decided against GMO fodder due to pressure from the side of the food retail industry, fast food industry and environmental associations)

## Pricing

9. What is the current price for raw soy for European and Brazilian GMO free soy?

How high are the price differences between organic soy and genetically modified-free soy? (Could they ever be in a competition?)

How far can be the distance of a Bioland when obtain animal feed there regionally?

## Questions on agricultural policies

10. Which assistance measures in form of policies do you believe to be the most important? From where do you experience most support and the highest achievements?

- Greening
- Eiweißprämie (Premium for non-GMO products)
- Consumer support (Surveillance)
- Marketing support (Labels)
- Research support
- Associations, Organisation

11. Do you know about any other support measures? Europe-wide or country-specific? Which ones?

- In your opinion, where do you see margin for improvements?
- In the future, how could the GAP-reform further support the European protein- or soy supply?

12. Do you think the soy market in the EU can continue its market position beyond the phasing out of subventions in 2018? If yes, why? How do you rate the extend of the subventions?

## Markets

13. Which existing barriers hinder/support the European soy production significantly?

Where are those barriers barely perceptible or even possible to circumvent?

- legal framework conditions
- political and lobby barriers (grain club, meat lobby)

- Technical (harvest, transport, storage, detection of genetic engineering, separation of goods)
- Knowledge transfer (communication/information exchange between agricultural enterprises, processors, retailers, **consumers**)
- Market barriers (transparency of market prices, price competition, **lacking structure** (processing, transport))
- Environmental (climate, biological, agricultural land)

14. What would be the **most important** change within the various segments of the value chain to support a further and sustainable expansion of soy production in the Donau region/Europe?

What long-term conditions are necessary to sustainably expand soy production in the Donau region?

- Breeding/seeding material
- Cultivation/production
- Registry/storage Which central registry points do you know?
- Quality assessment/upgrading
- Processing
- Trade
- Customer/final consume

Which segment bears the highest investment costs to guarantee genetically unmodified agricultural production?

15. Do you have further knowledge on plans to expand the European soy market?

- e.g. expansion of processing facilities (such as oil mill Straubing)
- Further feed manufacturer that may intend to obtain European soy

### **Feeding**

16. What is your position in regard to the statement that soy imports are indispensable in order to retain meat processing businesses – thus value addition and workplaces – in Germany?

(Statement by the Grain Club: For the supply of domestic protein demand: Next to quantity the qualitative fodder requirements are to be secured to competitive prices. The delay in the EU-approval procedure for GM-varieties and the subsequent zero-tolerance promotes an unbearable legal uncertainty for

stakeholders. The current demands for an extension of freedom from GMOs across the whole meat-processing sector (including poultry production) is unrealistic)

## **GMO**

17. Do you have certain internal rules regulating genetically unmodified products for Bioland?
18. Apart from consumer concerns, where do you see the biggest controversies regarding genetically modified crops within the fodder industry/the food sector?
  - How and in what way did consumer concerns become noticeable?
  - Are there any verified impacts on the animals itself as well as product quality? (Sources?)
  - Please elaborate your doubts on the touted benefits of GMOs and treatment with broad-spectrum chemical herbicides.
19. What is your position on genetically modified crops? Why should Europe not adopt genetic modification for fodder and food crops? What is your opinion based on?
20. Over time it has become increasingly difficult to obtain soy beans free from genetic modification. With genetically unmodified soy beans as a niche product, do you believe that Europe has a chance to become a self-sustaining region? Probably also use its competitive advantage to be able to offer and export this niche product on the world market?
21. Do you see the current transparency on directives and regulations for genetic engineering threatened through TTIP? What do you believe the impact of TTIP might be in regard to European soy production?

## **Overview/ Questions at the end of the interview/ Ad-hoc questions**

22. Based on which indicators would you predict the market development for soy?
23. In which areas do you still have questions?

## Appendix 10: Implementation of the ‘green-payment’ in Member States

### Policy Department B: Structural and Cohesion Policies

	No	Individual payment	No	N/A	National	No	Not relevant
Croatia						<p>1) land lying fallow;</p> <p>2) landscape features: hedges or wooded strips; isolated trees; trees in line; trees in group; ponds; ditches; traditional stone walls; 3) buffer strips, including buffer strips covered by permanent grassland; 4) strips of eligible hectares along forest edges; 5) areas with short rotation coppice with no use of mineral fertiliser and/or plant protection products; 6) areas with catch crops or green cover; 7) areas with nitrogen-fixing crops</p>	Not relevant
Cyprus	No	Flat payment	N/A	No	National	<p>1) land lying fallow;</p> <p>2) landscape features, yet, entering into force as of 2016, including the following: a. isolated trees; b. field margins; 3) buffer strips; 4) hectares of agro-forestry; 5) afforested areas; 6) areas with nitrogen-fixing crops</p>	Not relevant
Finland	No	Flat payment	Yes	Yes	National	<p>1) land lying fallow;</p> <p>2) other landscape features in accordance with the rules on cross compliance; 3) Areas with short rotation coppice;</p> <p>4) Areas with nitrogen-fixing crops</p>	Yes
France	Yes Equivalent practices exist in the framework of national certification established by the Ministère de l'Agriculture, de l'Agroalimentaire et de la Forêt: green cover replaces the requirement on diversification only for specialized producers of maize	Individual payment (Mainland France) Flat payment (Corsica)	No	No	Regional	<p>1) land lying fallow; 2) terraces; 3) landscape features (except landscape features under GAEC or SMR); 4) buffer strips; 5) hectares of agro-forestry; 6) strips of eligible hectares along forest edges, with or without agricultural production; 7) areas with short rotation coppice; 8) afforested areas; 9) areas with catch crops or green cover; 10) areas with nitrogen-fixing crops</p>	Not relevant

**Table 1.13: Implementation of the 'green payment' in Member States**

	Green payment			Permanent grassland		EFA		Derogation for NMSS with more than 50% of their land covered by forest
	Equivalent practices exist in the framework of the agro-environmental program: Participation in the measure "Environmentally sound and biodiversity-promoting types of management (UBB)" substitutes the requirements regarding Ecological Focus Areas (EFA) and crop diversification (equivalent practice: "Creation of biodiversity protection sites on arable land")	Flat or individual payment	Regional application	Designation of permanent grassland in sensitive areas	Territorial application	Area to be considered EFA	Regional or collective implementation	
Austria	Yes, Equivalent practices exist in the framework of the agro-environmental program: Participation in the measure "Environmentally sound and biodiversity-promoting types of management (UBB)" substitutes the requirements regarding Ecological Focus Areas (EFA) and crop diversification (equivalent practice: "Creation of biodiversity protection sites on arable land")	Individual payment until 2018	No	Yes	National	1) Land lying fallow; 2) Landscape features in accordance with the rules on cross compliance; 3) Areas with short rotation coppice; 4) Areas with catch crops, or green cover established by the planting and germination of seeds; 5) Areas with nitrogen-fixing crops	No	Not relevant
Belgium (Flanders)	No	Individual payment	No	No	Regional	1) land lying fallow; 2) landscape features: hedges or wooded strips; trees in group and field cotes; field margins; ponds; ditches; 3) buffer strips; 4) hectares of agro-forestry; 5) areas with short rotation coppice; 6) areas with catch crops or green cover; 7) areas with nitrogen-fixing crops	Collective implementation	Not relevant
Belgium (Wallonia)	No	Individual payment	No	No	Regional	1) land lying fallow; 2) landscape features: hedges or wooded strips; isolated trees; trees in line; trees in group and field cotes; field margins; ponds; ditches; 3) buffer strips; 4) hectares of agro-forestry; 5) areas with short rotation coppice; 6) areas with catch crops or green cover; 7) areas with nitrogen-fixing crops	No	Not relevant



Implementation of the first pillar of the CAP 2014 - 2020 in the EU Member States

	No	Individual payment	Regional	No	National	1) land lying fallow; 2) landscape features: trees in line; trees in groups and field copses; ditches; 3) buffer strips; 4) areas with nitrogen-fixing crops	No	Not relevant
Greece	No	Individual payment	Regional	No	National	1) Land lying fallow; 2) Terraces; 3) Landscape features (from 2017): Hedges or wooded strips, Trees in line, Field margins, Ditches and other landscape features under GAEC or SMR: Isolated trees, Trees in group and field copses, Ponds, Kurgans, draw wells; 4) Buffer strips; 5) Hectares of agro-forestry; 6) Strips of eligible hectares along forest edges; 7) Areas with short rotation coppice; 8) Afforested areas; 9) Areas with catch crops or green cover; 10) Areas with nitrogen-fixing crops	No	Not relevant
Hungary	No	Flat payment	Not relevant	Yes	National	1) Land lying fallow; 2) Terraces; 3) Landscape features (from 2017): Hedges or wooded strips, Trees in line, Field margins, Ditches and other landscape features under GAEC or SMR: Isolated trees, Trees in group and field copses, Ponds, Kurgans, draw wells; 4) Buffer strips; 5) Hectares of agro-forestry; 6) Strips of eligible hectares along forest edges; 7) Areas with short rotation coppice; 8) Afforested areas; 9) Areas with catch crops or green cover; 10) Areas with nitrogen-fixing crops	No	Not relevant
Italy	Yes, Equivalent practices exist in the framework of the agro-environmental programme: included are those listed in Annex IX, as from 2016	Individual payment	National	Yes	National	All the elements included in the corresponding article (46.2) of the regulation (UE) n. 1307/2013 are to be considered Ecological Focus Area, with the exception of areas with catch crops, or green cover (letter i)	No	Not relevant
Lithuania	No	Flat payment	Not relevant	Yes	National	From 2015 EFA elements will consist only of land laying fallow and nitrogen fixing crops; from 2018 Landscape features will be counted as EFA	No	Not relevant
Luxembourg	No	Flat payment	N/A	Yes	National	1) land lying fallow; 2) landscape features: Hedges or wooded strips; Isolated trees; Trees in line; Trees in group and field copses; Field margins; Ponds; 3) buffer strips; 4) hectares of agro-forestry; 5) strips of eligible hectares along forest edges; 6) areas with short rotation coppice; 7) afforested areas; 8) areas with catch crops or green cover; 9) areas with nitrogen-fixing crops	No	Not relevant

Policy Department B: Structural and Cohesion Policies

Slovakia	No	Flat payment	No	Yes	National	1) Land lying fallow; 2) Terraces; 3) Landscape features: Detached tree; Strips of eligible hectares along forest edges; Group of trees / thickets field; Margins; Ponds; Ditches; Traditional stone walls; 4) Buffer strips; 5) Areas with catch crops, or green cover; 6) Areas with nitrogen-fixing crops	No	Not relevant
Slovenia	No	Individual payment	No	Yes	National; holdings level if located in the areas of Natura 2000	1) Land lying fallow; 2) Areas with nitrogen-fixing crops; 3) Areas with catch crops, or green cover	No	No
Spain	No	Individual payment	No	Yes	National	1) Fallow land; 2) agro-forestry; 3) Afforested areas; 4) Nitro-fixed crops	No	Not relevant
Netherlands	Yes, 3 national certification schemes	Individual payment (until 2018)	No	No	National	1) landscape features: field margins; 2) areas with short rotation coppice; 3) areas with catch crops or green cover; 4) areas with nitrogen-fixing crops	Regional and collective implementation	Not relevant
United Kingdom (England)	No	Flat payment	No	No	National	1) Land lying fallow (buffer strips); 2) catch and cover crops used to manage soil fertility and quality; 3) Nitrogen Fixing Crops and hedgerows	No	Not relevant
United Kingdom (Northern Ireland)	No	Over time the value of the greening payment per hectare will move towards a flat rate payment at the same pace as the movement of the Basic Payment.	No	Yes	Regional	1) Land lying fallow; 2) Landscape features required to be retained under cross compliance (will include hedges, ditches and stone walls); 3) Areas of agro-forestry; 4) Areas with short rotation coppice with no use of mineral fertiliser and/or plant protection products; 5) Afforested areas which were used to claim SFP in 2008; 6) Areas with nitrogen fixing crops	No	Not relevant
United Kingdom (Scotland)	No, Possible review in 2016 to introduce equivalent practices for crop diversification.	Flat payment	Yes	Yes	National	1) Fallow land; 2) Buffer strips; 3) Field margins; 4) Catch crops and green cover; 5) Nitrogen fixing crops	No	Not relevant

Implementation of the first pillar of the CAP 2014 – 2020 in the EU Member States

United Kingdom (Wales)	No	Individual payment (until 2018)	No	Yes	National	1) Land lying fallow; 2) Hedges and traditional stone walls; 3) Short rotation coppice; 4) Afforested areas used to claim SFP in 2008; 5) Nitrogen fixing crops	No	Not relevant
Ireland	Yes, equivalent measure under an agri-environment scheme	Individual payment	National	No	National	1) Land lying fallow; 2) Hedges/wooded strips; 3) Trees in a group and field copses; 4) Ditches; 5) SPS eligible forestry which were afforested under afforestation aid scheme since 2009; 6) areas with short rotation coppice; 7) areas with N-fixing crop; 8) areas under catch crops / green cover	No	Not relevant
Latvia	No	Flat payment	National	Yes	National	1) Land lying fallow; 2) Landscape features: protected large trees, tree avenues and large stones; trees growing in a group, and clusters of trees and bushes; edges of the field; ponds; 3) Buffer strips; 4) Areas with catch crops, or green cover; 5) Areas with nitrogen-fixing crops. In 2016, additional inclusion of strips along forest edges, and ditches is planned	No	Yes
Estonia	No	Flat payment	National	Yes	National	1) Landscape features; 2) Land lying fallow; 3) Areas with short rotation coppice; 4) Areas with nitrogen-fixing crops	No	Yes
Romania	No	Flat payment	No	N/A	N/A	1) terraces; 2) landscape features; 3) buffer strips; 4) areas with short rotation coppice; 5) afforested areas; 6) areas with green cover; 7) areas with nitrogen-fixing crops	No	Not relevant
Sweden	No	Individual payment (until 2019)	No	No	National	1) Land lying fallow ; 2) Landscape features; 3) field margins ; 4) Area with short rotation coppice; 5) Area with catch crops or green cover; 6) Area with NFC	No	Yes

Policy Department B: Structural and Cohesion Policies

Denmark	No	Individual payment (until 2018)	No	Yes	National	<p>1) Land lying fallow;</p> <p>2) Landscape features: Ponds and other landscape feature under GAEC or SMR; 3) Buffer strips; 4) Areas with short rotation coppice; 5) Areas with catch crops or green cover</p>	No	Not relevant
Bulgaria	No	Flat payment	No	No	National	<p>1) land lying fallow; 2) terraces; 3) landscape features: hedges or wooded strips, isolated trees, trees in line, trees in groups and field copses, field margins, ponds, ditches; 4) buffer strips; 5) strips of eligible hectares along forest edges; 6) Strips without production; 7) areas with short rotation coppice; 8) Areas with catch crops or green cover; 9) Areas with nitrogen-fixing crops</p>	No	Not relevant
Germany	No	Flat payment	No	Yes	Regional	<p>1) Land lying fallow;</p> <p>2) Terraces; 3) Landscape features; 4) Buffer strips; 6) Hectares of agro-forestry that receive, or have received, support under Pillar II; 7) Strips of eligible hectares along forest edges; 8) Areas with short rotation coppice; 9) Afforested areas;</p> <p>10) Areas with catch crops, or green cover established by the planting and germination of seeds</p>	No	Not relevant
Czech Republic	Yes, Equivalent practices exist in the framework of the agro-environmental programme (from 2016)	Flat payment		Yes	National	<p>1) Land lying fallow;</p> <p>2) Landscape features;</p> <p>3) Buffer strips; 4) Short rotation coppice; 5) Afforested areas; 6) Catch crops; 7) Nitrogen-fixing crops</p>	No	Not relevant
Malta	No	Flat payment	National	No	National	<p>1) land lying fallow;</p> <p>2) landscape features: isolated trees; trees in line; 3) trees in group and field copses; Field margins; Other landscape features under GAEC or SMR; 4) Areas with nitrogen-fixing crops</p>	No	Not relevant

Implementation of the first pillar of the CAP 2014 – 2020 in the EU Member States

Poland	Yes, Equivalent practices exist in the framework of the agro-environmental scheme: crop diversification	Flat payment	No	National	1) Fallow land; 2) Landscape features (all, excl. stone walls and other landscape features under GAEC or SMR); 3) Buffer strips; 5) Strips of eligible ha along forest edges 6) Short rotation coppice; 7) Afforested areas; 8) Catch crops/green cover; 9) Nitrogen-fixing crops	Collective implementation	Not relevant
Portugal	No	Individual payment	No	National	1) land lying fallow; 2) landscape features: Other landscape features under GAEC or SMR; 3) Hectares of agro-forestry; 4) Afforested areas; 5) Areas with nitrogen-fixing crops; 6) Areas with nitrogen-fixing crop	No	Not relevant

Source: Own elaborations based on information collected by Member States, European Commission 2015a, COPA-COGECA 2015.



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Chiang Mai University  
ts reserved

## Appendix 11: Price notations from H.-J. Scheffler GmbH

### H.- J. Scheffler GmbH

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Reigersbachstraße 11

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Zentrale@SchefflerGmbH.de

Datum: 11. Juli 2016      Kauber Pegel: 2,63 m      1 EUR = 1,1047 \$      (1,1071 \$)  
KWZ Mz      per t € 0,00      1 USD = 0,9052 €      (0,9033 €)

Unsere heutigen freibleibenden Euro Notierungen per t, lose, frei Fuhre, Basis 25 t, Normalwasser

LP Sojaschrot 44/7							
	Soya Mainz/Wiesb.	ADM Hamburg	Umschlag Rbg/Kelheim	Umschlag Heilbronn	Umschlag Straub./DEG	Umschlag Bülstringen	46 % Prot. Pell. Heilbronn
Termine	11.07.2016	11.07.2016	11.07.2016	a.A.	11.07.2016	11.07.2016	loko
07/16	380,00	373,00	390,00	389,00	396,00	379,00	418,00
08/16	380,00	373,00	390,00	388,00	395,00	381,00	420,00
09/16	386,00	377,00	399,00	396,00	399,00	386,00	424,00
10/16	385,00	377,00	400,00	397,00	400,00	386,00	424,00
11-04/17	380,00	375,00	394,00	391,00	394,00	384,00	419,00
05-10/17	359,00	354,00	374,00	371,00	374,00	363,00	388,00

HP Sojaschrot 49 %							
	Soya Mainz/Wiesb.	ADM Hamburg	Umschlag Rbg/Kelheim	Umschlag Heilbronn	Umschlag Straubing	HP Bülstringen	48 % PROFAT/P. Bülstringen
Termine	11.07.2016	11.07.2016	11.07.2016	a.A.	11.07.2016	11.07.2016	11.07.2016
07/16	413,00	404,00	423,00	423,00	429,00	412,00	408,00
08/16	413,00	404,00	423,00	422,00	428,00	414,00	409,00
09/16	419,00	409,00	433,00	430,00	432,00	418,00	415,00
10/16	419,00	409,00	433,00	431,00	433,00	418,00	415,00
11-04/17	413,00	407,00	427,00	425,00	427,00	416,00	412,00
05-10/17	394,00	386,00	408,00	405,00	407,00	395,00	383,00

Rapsschrot Basis 12,5 % Feuchte							
	Bunge Mannheim	Cargill Mainz/Schier.	Thyw/Sels Neuss/Spyck	ADM Straubing	Dreyfus Wittenberg	Ölwerk Magdeb./Riesa	Bunge Bruck/Leitha
Termine	11.07.2016	11.07.2016	a.A.	a.A.	a.A.	a.A.	ppt.
07/16	208,00	206,00	206,00	202,00	202,00	2H07 202,00	200,00
08-10/16	209,00	a.A.	207,00	208,00	203,00	203,00	202,00
11-01/17	220,00	a.A.	217,00	219,00	214,00	214,00	215,00
02-04/17	222,00	a.A.	219,00	224,00	216,00	216,00	217,00
05-07/17	224,00	a.A.	219,00	226,00	218,00	217,00	a.A.

fr. Luzernegrünmehlpellets		EU-Sojaschrot NON-GMO		Sonnenschrot 28 % Prot.		Sonnenschrot 35,5 % ProFat	
Termin	ab Werk 16 %	Termin	Straubing	Termin	Neuss/Riesa	Termin	Bruck/Leitha
07-10/16	172,00	07/16	422,00	07/16	a.A.	08/16	a.A.
11-04/17	a.A.	07-10/16	422,00	10-12/16	180,00	10-12/16	209,00

Leinschrot		Leinexpeller		Protigrain		Roquette Beinheim	
Termin	Thywissen	Termin	Thywissen	Termin	Zeit	Milurex BE	Corex 200
07/16	300,00	07/16	305,00	07/16	a.A.	08-09/16 a.A.	08-09/16 a.A.
				09-10/16	182,00	10-12/16 a.A.	10-12/16 a.A.

Melasseschnitzelpellets							
	Rain u. Ochs.	Plattling	Offstein	Offenau	Warburg PS	Kl.Wanzleben	Niedersachsen
07/15	a.A.	a.A.	a.A.	a.A.	a.A.	a.A.	a.A.
Kamp. 2016	n.n.	n.n.	n.n.	n.n.	n.n.	140,00	135,00

## Appendix 12: Total area planted (2014, 2015, 2016) – Europe (+UA, RU)

Country	FR	DE	CZ	SK	HU
Area planted <b>2014</b> in 1000 ha	75,8	10	7,2	33,2	42,3
Area planted <b>2015</b> in 1000 ha	101,1	11	12,3	43,7	72,6
Percentage difference (%)	33,4%	10,0%	70,8%	31,6%	71,6%
Area planted <b>2015</b> in 1000 ha	101,1	17	12,3	43,7	72,6
Area Planted <b>2016</b> in 1000 ha	141	15,2	10,61	35,15	66,46
Percentage difference (%)	39,5%	-10,6%	-13,7%	-19,6%	-8,5%

Country	RS	AT	IT	HR
Area planted <b>2014</b> in 1000 ha	154,3	43,8	232,9	47,1
Area planted <b>2015</b> in 1000 ha	240	56,9	265,7	81
Percentage difference (%)	55,5%	29,9%	14,1%	72,0%
Area planted <b>2015</b> in 1000 ha	240	56,9	265,7	81
Area Planted <b>2016</b> in 1000 ha	186	49,78	299,09	75,3
Percentage difference (%)	-22,5%	-12,5%	12,6%	-7,0%

Country	RO	BG	UA	RU
Area planted <b>2014</b> in 1000 ha	79,3	0,3	1792	1691
Area planted <b>2015</b> in 1000 ha	122,2	37	2145	1880
Percentage difference (%)	54,1%	12233,3%	19,7%	11,2%
Area planted <b>2015</b> in 1000 ha	122,2	37	2145	1880
Area Planted <b>2016</b> in 1000 ha	130,33	14	1846	2020
Percentage difference (%)	6,7%	-62,2%	-13,9%	7,4%

Source: Own tables adapted from Eurostat, APK-Inform, Gossort, Sorte 2014-2016.

<b>AT</b>	<b>Austria</b>	<b>HU</b>	<b>Hungary</b>
<b>BG</b>	<b>Bulgaria</b>	<b>IT</b>	<b>Italy</b>
<b>CZ</b>	<b>Czech Republic</b>	<b>RO</b>	<b>Romania</b>
<b>DE</b>	<b>Germany</b>	<b>RS</b>	<b>Serbia</b>
<b>FR</b>	<b>France</b>	<b>RU</b>	<b>Russia</b>
<b>HR</b>	<b>Croatia</b>		

Source: laendercode.net 2015.

## Appendix 13: Soybean Maturity Group Classification systems (Part 1)

Maturity Groups after:	Maturity Groups in the USA	Comparison in days vs. 00 maturity group	Comparison vs. FAO of corn usage	Temp. Sum Basis 6°C	Crop Heat Units (CHU)	US Relative Mat. Days (RM)	Latitude	Comparable to North American Region	Comparable to European Region
09.09.2016 <b>Extremely early</b> Standard:	000.0	12 days earlier	FAO 210 - 230		2075 CHU				
<b>Very early</b> Standard:	000.5	8 days earlier	FAO 240 - 250	1.450°	2200 CHU				Russia (Moscow) 55.8 Ukraine (Kiev) 50.6
<b>Very early to early</b> Standard:	00.0	4 days earlier	GALLEC		2325 CHU	105 Days	Greater than 50 latitude	North of Winnipeg, Manitoba	
<b>Early</b> Standard:	00.5	0 days to full maturity	FAO 260 - 300	1.600°	2425 CHU	110 Days	from 50 to 49 latitude	South of Winnipeg, Manitoba	Slovakia (Bratislava) 48.1 Austria (Vienna) 48.2
<b>Early to medium</b> Standard:	0.0	4 days later	MAPLE ARROW		2550 CHU	115 Days	from 49 to 48 latitude	Northern North Dakota and Minnesota, Canadian Border	
<b>Medium</b> Standard:	0.5	7 days later	FAO > 300	1.800°	2675 CHU	120 Days	from 48 to 47 latitude	Central North Dakota, North Central Minnesota	Hungary (Pecs) 46. Russia (Krasnodar) 45.5
<b>Medium to late</b> Standard:	1.0	10 days later			2800 CHU	125 Days	from 47 to 46 latitude	Southern North Dakota, South Central Minnesota, Northern South Dakota	
<b>Late</b> Standard:	1.5	18 days later	FAO > 350		2925 CHU	130 Days	from 46 to 45 latitude	Central South Dakota, Southern Minnesota	Russia (Krasnodar) 45. Serbia (Belgrade) 44.8
<b>Late to very late</b> Standard:	2.0				3050 CHU	135 Days	from 45 to 44 latitude	Iowa, North Illinois, South Michigan	
<b>Very late</b> Standard:	2.5				3175 CHU	140 Days	from = 44. up to = 42. latitude	Central Iowa, Central Illinois	



## Soybean Maturity classification- Federal plant varieties offices (Part 2)

Maturity Groups after:	C.T.P.S	Bundessortenamt	AGES	UKZÜZ	UKSUP	Nébih
Country:	FR	DE	AT	CZ	SK	HU
<b>Extremely early</b>			0000-1			
Check Varieties:						
<b>Very early</b>	000	1 sehr früh (very early)	000-2 000-3 000-4	1		
Check Varieties:	AWOLO1 (-2d)* MERLIN (-2d) RGT SHOUNA SIRELIA SULTANA ES COMANDOR (can.)		SULTANA (000-3) TOURMALINE (000-4) [ABELINA (000-2)] [ALEXA (000-2)] [SULTANA (000-3)] [REGINA (000-3)]	BOHEMIANS		
<b>Very early to early</b>		2 sehr früh bis früh (very early to early)		2		
Check Varieties:						
<b>Early</b>	00	3 früh (early)	00-5 00-6 00-7	3	00	I
Check Varieties:	ES MENTOR SOLENA SOPRANA RGT SVELA (can.)	TIGUAN		BRUNENSIS LAURENTINA	ES MENTOR CARDIFF	BRÓKA LONDON
<b>Early to medium</b>		4 früh bis mittel (early to medium)		4		
Check Varieties:		AMAROK, [MERLIN]				
<b>Medium</b>	0	5 mittel (medium)	00-(8) 0-(9)	5		II
Check Varieties:	ES GLADIATOR RGT SPEEDA	[SULTANA] [PRIMUS]		NAYA		BROSTYÁN ALÍZ BÓLY 44
<b>Medium to late</b>		6 mittel bis spät (medium to late)		6		
Check Varieties:						
<b>Late</b>	I	7 spät (late)	00-(8)	7		III
Check Varieties:	ISIDOR SHERPA STEARA ES PALLADOR (can.)					IKA BÓBITA PANNÓNIA KINCSE
<b>Late to very late</b>		8 spät bis sehr spät (late to very late)	0-(8)	8		
Check Varieties:						
<b>Very late</b>	II	9 sehr spät (very late)	0-9	9		IV
Check Varieties:	ECUDOR SANTANA					

\* (-2d) = two days earlier than other 000 varieties  
(can.) = Candidate for the next years VCU

## Soybean Maturity classification- Federal plant varieties offices (Part 3)

Maturity Groups after:	SORTE	ISTIS	MACAC	COBORU	SORITEST	UIESR – УНЭСР	GOSCOMSORT – ГОСКОМСОРТ	GOSSORT
Country:	RS	RO	BG	PL	BY	UA	KZ	RU
<b>Extremely early</b>	< 100 days							1
Check Varieties:						ANNUSHKA (fm) very early	BARA very early	
<b>Very early</b>	< 100 days very early (000)		000 < 90 days					2
Check Varieties:	GRACIA							AMAROK GALLEC
<b>Very early to early</b>								3
Check Varieties:						CHEREMOSH (fm) HOROL early	ARLETTA early	LANCEOLATE
<b>Early</b>	101 - 115 days very early (00)		00 90-100 days	126 days to be ready for harvesting				4
Check Varieties:	MERKUR			AUGUSTA				BELGOROTSKAYA 48 CAMEP 2 ALBA DON 9 SIBIRER
<b>Early to medium</b>				127 days to be ready for harvesting				5
Check Varieties:				ALDANA	SWAPO			ANNUSHKA SELECTA 201 DREAM GRAMPUS SIIN NIIK 315
<b>Medium</b>	116 - 125 days early (0)		0 100-110 days	132 days to be ready for harvesting				6
Check Varieties:	GALINA			ABELINA	PRIPYAT		GANSAYA medium	
<b>Medium to late</b>				136 days to be ready for harvesting				7
Check Varieties:				MAVKA				
<b>Late</b>	126 - 135 days medium early (1)		I 110-120 days	137 days to be ready for harvesting				8
Check Varieties:	SAVA		ISIDOR, AVIGEYA	MADLEN	YASELDA		DANAYA late	
<b>Late to very late</b>	136 - 145 days medium late (2)			138 days to be ready for harvesting				9
Check Varieties:	SAVA (136 days)			ALIGARTOR				
<b>Very late</b>	over 145 days very late (3)		II 120 - 130					10
Check Varieties:	Senka (145 days)							

## Appendix 14: USDA: Oilseed Prices

**Table 29: Oilseed Prices**  
U.S. Dollars per Metric Ton

Year Beg Oct 1	Soybean					Peanut		Sunseed		Rapeseed	Copra
	U.S. 1/	U.S. 2/	Brz 3/	Arg 4/	Rott 5/	U.S. 6/	Rott 7/	U.S. 8/	Rott 9/	Hamb 10/	Rott 11/
<b>Oct - Sep Average</b>											
04/05-13/14	377	387	411	409	452	502	1396	450	487	473	676
2004/05	217	214	232	228	277	402	915	316	313	262	431
2005/06	205	202	228	227	261	383	857	261	291	292	387
2006/07	254	264	279	279	335	394	1,128	343	401	375	537
2007/08	414	452	472	469	550	458	1,688	532	745	644	867
2008/09	368	365	403	392	421	517	1,204	461	364	393	487
2009/10	354	357	390	395	429	467	1,209	342	452	419	613
2010/11	454	482	508	511	549	508	1,792	591	661	647	1188
2011/12	488	505	549	533	562	729	2,480	632	593	616	829
2012/13	530	537	538	543	592	635	1,391	546	580	579	570
2013/14	482	487	514	517	542	524	1,300	480	466	505	854
<b>2014/15</b>											
Oct	366	343	403	424	425	463	1,342	503	419	412	769
Nov	375	373	417	457	449	472	1,370	437	443	418	795
Dec	378	377	414	459	443	463	1,360	432	464	428	813
Jan	378	365	397	447	423	496	1,350	425	438	415	764
Feb	364	361	385	442	407	492	1,350	454	438	405	794
Mar	362	356	377	402	403	496	1,300	489	433	399	721
Apr	356	353	376	368	395	487	1,300	511	426	404	714
May	353	350	374	362	389	496	1,290	582	406	427	748
Jun	352	353	373	364	397	481	1,280	564	420	451	748
Jul	366	371	394	376	405	507	1,280	582	432	419	735
Aug	357	348	378	362	381	483	1,150	531	430	411	689
Sep	333	317	371	353	368	443	1,150	556	431	413	699
<b>Average</b>	362	356	388	401	407	482	1,294	506	432	417	749
<b>2015/16</b>											
Oct	324	320	364	358	376	412	1,150	410	464	426	736
Nov	319	316	331	349	368	392	1,175	406	478	406	716
Dec	322	321	330	350	372	392	1,200	428	473	413	759
Jan	320	320	333	340	367	425	1,175	441	465	397	763
Feb	313	317	332	327	369	434	1,150	452	464	395	813
Mar	315	322	342	332	375	423	1,150	472	436	394	990
* Apr	N/A	345	375	360	393	N/A	1,163	N/A	427	421	1045
May											
Jun											
Jul											
Aug											
Sep											
<b>Average</b>	319	323	344	345	374	413	1,166	435	458	407	832

1/ U.S. Farm Price; USDA. 2/ U.S. NO.1 Yellow Cash Central Illinois; AMS.  
3/ Brazil Paranagua, FOB; IGC 4/ Argentina Up River, FOB; IGC  
5/ Rotterdam CIF; US origin; Oil World. 6/ US Farm Price, Inshell, USDA.  
7/ Rotterdam CIF; US Runners 40/50%, Shelled Basis, Oilworld. 8/ US Farm Price; USDA  
9/ Rotterdam/Amsterdam CIF; EU; Oil World 10/Hamburg CIF; Europe "00"; Oil World.  
11/ Phil/Indo CIF NW Europe; Oil World  
\* Preliminary **Sept/Oct/Nov Shipment**

5/10/2016 11:35:28 AM

## **Appendix 15: Statutory declaration**

I, Berschneider, Jana

Born on 05 December 1989

Matriculation Number 488567

hereby declare on my honour that the attached Master Thesis has been independently prepared, solely with the support of the listed literature references, and that no information has been presented that has not been officially acknowledged.

Supervisors Prof. Dr. Harald Grethe  
Prof. Dr. Manoj Potaphon

Thesis topic Chances and Limitations of European Soybean Production:  
Market Potential Analysis

Semester Winter semester 2016

Study programme Sustainable Agriculture and Integrated Watershed Management

I declare, here within, that I have transferred the final digital text document (in the format doc, docx, odt, pdf, or rtf) to my mentoring supervisor and that the content and wording is entirely my own work. I am aware that the digital version of my document can/or will be checked for plagiarism with the help of an analyses software programme.

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City, Date, Signature

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**Date of Birth** 5 December 1989

### **Educational Background**

2014 Bachelor of Sciences in Agriculture at University of Hohenheim

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2000-2006 Oscar-Paret-Schule (secondary school) in Freiberg Realschule



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