

German Winegrowers' Motives and Barriers to Convert to Organic Farming

Supplementary 1: Literature analyzed

Day of search 22 January 2016

Search items in Scopus: (TITLE-ABS-KEY (“organic farming” OR “organic production” OR “organic label*” OR “organic certificat*”) AND (TITLE-ABS-KEY (conversion OR converting OR reversion OR withdrawal)) AND (TITLE-ABS-KEY (decision-making OR motives OR objectives OR motivation OR preferences)) AND (DOCTYPE (ar OR re))

Search items in Web of Science: TOPIC: (“organic farming” OR “organic production” OR “organic label*” OR “organic certificat*”) AND TOPIC: (conversion OR converting OR reversion OR withdrawal) AND TOPIC: (decision-making OR motives OR objectives OR motivation OR preferences). Timespan: 2000–2016.

Table S1. Literature Analyzed: 101 publications from the search items and the resulting 18 relevant articles.

Authors	Title	Year	Source	Relevance
Bartulović, A., Kozorog, M.	Taking up organic farming in (pre-)Alpine Slovenia: Contrasting motivations of dairy farmers from less-favoured agricultural areas	2014	Scopus, Web of Science	relevant
Best, Henning	Organic farming as a rational choice: empirical investigations in environmental decision making	2009	Web of Science	relevant
Darnhofer, I., Schneeberger, W., Freyer, B.	Converting or not converting to organic farming in Austria: Farmer types and their rationale	2005	Scopus, Web of Science	relevant
de Lauwere, CC; Drost, H; de Buck, AJ; Smit, AB; Balk-Theuws, LW; Buurma, JS; Prins, H	To change or not to change? Farmers' motives to convert to integrated or organic farming (or not)	2004	Web of Science	relevant
Flaten, O., Lien, G., Ebbesvik, M., Koesling, M., Valle, P.S.	Do the new organic producers differ from the 'old guard'? Empirical results from Norwegian dairy farming	2006	Scopus, Web of Science	relevant
Kallas, Z., Serra, T., Gil, J.M.	Farmers' objectives as determinants of organic farming adoption: The case of Catalanian vineyard production	2010	Scopus, Web of Science	relevant
Kaufmann, P., Zemeckis, R., Skulskis, V., Kairyte, E., Stagl, S.	The diffusion of organic farming in Lithuania	2011	Scopus, Web of Science	relevant
Koesling, M., Flaten, O., Lien, G.	Factors influencing the conversion to organic farming in Norway	2008	Scopus, Web of Science	relevant
Konig, B	Adoption of sustainable production techniques: Structural and social determinants of the individual decision making process	2004	Web of Science	relevant
Kubala, J.; Grodzinska-Jurczak, M.; Cichon, M.; Nieszporek, K.	Motivations for organic farming among farmers from Malopolska Province, Poland	2008	Web of Science	relevant
Laepple, Doris; Kelley, Hugh	Understanding the uptake of organic farming: Accounting for heterogeneities among Irish farmers	2013	Web of Science	relevant
Madelrieux, S., Alavoine-Mornas, F.	Withdrawal from organic farming in France	2013	Scopus, Web of Science	relevant
Mzoughi, Naoufel	Farmers adoption of integrated crop protection and organic farming: Do moral and social concerns matter?	2011	Web of Science	relevant
Rozman, Č., Pažek, K.,	The dynamic simulation of organic farming	2013	Scopus,	relevant

Kljajić, M., Bavec, M., Turk, J., Bavec, F., Kofjač, D., Škraba, A.	development scenarios—A case study in Slovenia		Web of Science	
Sahm, H., Sanders, J., Nieberg, H., Behrens, G., Kuhnert, H., Strohm, R., Hamm, U.	Reversion from organic to conventional agriculture: A review	2013	Scopus, Web of Science	relevant
Smith, E., Marsden, T.	Exploring the 'limits to growth' in UK organics: Beyond the statistical image	2004	Scopus, Web of Science	relevant
Tranter, R.B., Holt, G.C., Grey, P.T.	Budgetary implications of, and motives for, converting to organic farming: Case study farm business evidence from Great Britain	2007	Scopus, Web of Science	relevant
Tress B.	Converting to organic agriculture—Danish farmers' views and motivations	2001	Scopus	relevant
Acs, S., Berentsen, P., Huirne, R., van Asseldonk, M.	Effect of yield and price risk on conversion from conventional to organic farming	2009	Scopus	not relevant
Acs, S., Berentsen, P.B.M., Huirne, R.B.M.	Conversion to organic arable farming in The Netherlands: A dynamic linear programming analysis	2007	Scopus, Web of Science	not relevant
Aoki, M.	Motivations for organic farming in tourist regions: A case study in Nepal	2014	Scopus, Web of Science	not relevant
Bachmann, F.	Potential and limitations of organic and fair trade cotton for improving livelihoods of smallholders: Evidence from Central Asia	2012	Scopus, Web of Science	not relevant
Baquero, G.; Esteban, B.; Rius, A.; Puig, R.; Riba, J.-R.	Comparative life cycle analysis between traditional and organic farming local rotations to produce straight vegetable oil used as self-supply biofuel in agriculture	2012	Web of Science	not relevant
Bellon, Stephane; Lamine, Claire	Conversion to Organic Farming: A Multidimensional Research Object at the Crossroads of Agricultural and Social Sciences—A Review	2009	Web of Science	not relevant
Berentsen, P.B.M.; Kovacs, K.; van Asseldonk, M.A.P.M.	Comparing risk in conventional and organic dairy farming in the Netherlands: An empirical analysis	2012	Web of Science	not relevant
Cranfield, J., Henson, S., Holliday, J.	The motives, benefits, and problems of conversion to organic production	2010	Scopus, Web of Science	not relevant
Demiryürek, K.	Conversion to organic hazelnut production in the black sea region of Turkey	2001	Scopus, Web of Science	not relevant
Ekelund, L.; Fernqvist, F.	Organic as a diversification into sustainable apple production on the Swedish market	2008	Web of Science	not relevant
Fedele, Andrea; Mazzi, Anna; Niero, Monia; Zuliani, Filippo; Scipioni, Antonio	Can the Life Cycle Assessment methodology be adopted to support a single farm on its environmental impacts forecast evaluation between conventional and organic production? An Italian case study	2014	Web of Science	not relevant
Fisher, M.W.; Small, B.H.; Mackay, A.D.; Kenny, G.J.; Jerebine, B.C.; Parminter, T.G.	Understanding shepherding within lambing, and organic farming systems through acknowledging cultural, community and individual influences	2004	Web of Science	not relevant
Geven, CGM	Economic perspectives of organic vegetable farms in the Netherlands	2000	Web of Science	not relevant
Guesmi, B.; Serra, T.; Kallas, Z.; Gil Roig, J.M.	The productive efficiency of organic farming: the case of grape sector in Catalonia	2012	Web of Science	not relevant
Hermansen, J.E.	Organic livestock production systems and appropriate development in relation to public expectations	2003	Web of Science	not relevant
Huxham, S.K., Sparkes, D.L., Wilson, P.	The effect of conversion strategy on the yield of the first organic crop	2005	Scopus, Web of Science	not relevant
Karlen, D.L., Cambardella, C.A., Bull, C.T., Chase, C.A., Gibson, L.R., Delate, K.	Producer-researcher interactions in on-farm research: A case study on developing a certified organic research site	2007	Scopus, Web of Science	not relevant
Kavargiris, S.E., Mamolos,	Energy resources' utilization in organic and	2009	Scopus	not relevant

A.P., Tsatsarelis, C.A., Nikolaidou, A.E., Kalburtji, K.L.	conventional vineyards: Energy flow, greenhouse gas emissions and biofuel production			
Koorberg, Pille; Lahesoo, Katri; Mikk, Merit	Evaluation of the socio-economic impacts of an agri-environment support scheme upon organic farming in Estonia	2005	Web of Science	not relevant
Kratochvil, R., Kaliski, O., Dorninger, M., Hambrusch, J., Freyer, B.	Farm management and economic effects of organic intensive livestock farming in the region Mostviertel-Eisenwurzen (A) [Betriebs- und volkswirtschaftliche effekte einer großflächigen bewirtschaftung nach den prinzipien des ökologischen landbaus II—Dargestellt am beispiel von veredelungsbetrieben in der region mostviertel-eisenwurzen (NÖ)]	2004	Scopus, Web of Science	not relevant
Kratochvil, R., Kaliski, O., Kirner, L., Freyer, B.	Farm management and economic effects of organic milk production in the region Mostviertel-Eisenwurzen (A) [Betriebs- und volkswirtschaftliche effekte einer großflächigen bewirtschaftung nach den prinzipien des ökologischen landbaus—Dargestellt am beispiel der milchproduktion in der region Mostviertel-Eisenwurzen (NÖ)]	2003	Scopus, Web of Science	not relevant
Lamine, C., Bellon, S.	Conversion to organic farming: A multidimensional research object at the crossroads of agricultural and social sciences. A review	2009	Scopus, Web of Science	not relevant
Lampkin, N	From conversion payments to integrated action plans in the European Union	2003	Web of Science	not relevant
Navntoft, Soren; Esbjerg, Peter; Jensen, Anne-Mette M.; Johnson, Ib; Petersen, Bo Svenning	Flora and fauna changes during conversion from conventional to organic farming.	2003	Web of Science	not relevant
Reidsma, P; Tekelenburg, T; van den Berg, M; Alkemade, R	Impacts of land-use change on biodiversity: An assessment of agricultural biodiversity in the European Union	2006	Web of Science	not relevant
Rozman, Č., Kljajić, M., Škraba, A.	System dynamics model for conversion to organic farming	2015	Scopus	not relevant
Smit, A.A.H., Driessen, P.P.J., Glasbergen, P.	Conversion to organic dairy production in the netherlands: Opportunities and constraints	2009	Scopus, Web of Science	not relevant
Zeiger, M., Fohrer, N.	Impact of organic farming systems on runoff formation processes-A long-term sequential rainfall experiment	2009	Scopus, Web of Science	not relevant
Zinati, GM	Transition from conventional to organic farming systems: I. Challenges, recommendations, and guidelines for pest management	2002	Web of Science	not relevant
Albrecht, Harald; Auerswald, Karl	Seed traits in arable weed seed banks and their relationship to land-use changes	2009	Web of Science	not relevant
Allaire, G., Poméon, T., Maigné, E., Cahuzac, E., Simioni, M., Desjeux, Y.	Territorial analysis of the diffusion of organic farming in France: Between heterogeneity and spatial dependence	2014	Scopus	not relevant
Alroe, HF; Kristensen, ES	Researching alternative, sustainable agricultural systems. a Modeling approach by examples from Denmark	2001	Web of Science	not relevant
Altenbuchner, C., Larcher, M., Vogel, S.	The impact of organic cotton cultivation on the livelihood of smallholder farmers in Meatu district, Tanzania	2014	Scopus	not relevant
Asadollahpour, A., Najafabadi, M.O., Hosseini, S.J.	Modeling behavior pattern of Iranian organic paddy farmers	2016	Scopus	not relevant
Avasthe, R.K., Bhutia, T.T., Pradhan, Y., Das, K.	Mountain production system analysis—A case study from Chalumthang, South Sikkim, India	2005	Scopus, Web of Science	not relevant
Berner, A., Hildermann, I., Fließbach, A., Pfiffner, L., Niggli, U., Mäder, P.	Crop yield and soil fertility response to reduced tillage under organic management	2008	Scopus, Web of Science	not relevant

Boys, Kathryn A.; Willis, David B.; Carpio, Carlos E.	Consumer willingness to pay for organic and locally grown produce on Dominica: insights into the potential for an "Organic Island"	2014	Web of Science	not relevant
Caporali, Fabio	Agroecology as a Transdisciplinary Science for a Sustainable Agriculture	2010	Web of Science	not relevant
Cicia, G., Del Giudice, T., Ramunno, I.	Environmental and health components in consumer perception of organic products: Estimation of willingness to pay	2009	Scopus, Web of Science	not relevant
Coll, P., Le Cadre, E., Blanchart, E., Hinsinger, P., Villenave, C.	Organic viticulture and soil quality: A long-term study in Southern France	2011	Scopus, Web of Science	not relevant
Coll, P., Le Cadre, E., Villenave, C.	How are nematode communities affected during a conversion from conventional to organic farming in southern French vineyards?	2012	Scopus, Web of Science	not relevant
Da Silva, G.F., Santos, D., Da Silva, A.P., De Souza, J.M.	Soil quality indicators under different land use systems in the Agreste region of Paraíba, Brazil [Indicadores de qualidade do solo sob diferentes sistemas de uso na mesorregião do agreste paraibano]	2015	Scopus, Web of Science	not relevant
Dalgaard, T., Kjeldsen, C., Hutchings, N.J., Hansen, J.F.	N-losses and energy use in a scenario for conversion to organic farming.	2001	Scopus, Web of Science	not relevant
De Almeida Theodoro, V.C., Mendes, A.N.G., Guimarães, R.J.	Response of coffee crop (<i>Coffea arabica</i> L.) in agroecologic transition to diferent soil management [Resposta de lavouras cafeiras em transição agroecológica a diferentes manejos de solo]	2009	Scopus	not relevant
De Cock, L.; Lauwers, L.; de Wit, J.	A Critical View on Direct Area Payments to Organic Vegetable Producers	2012	Web of Science	not relevant
de Freitas, Idelfonso C.; dos Santos, Felipe C. V.; Custodio Filho, Ronaldo de O.; Correchel, Vladia; da Silva, Ruy B.	Agroecosystems of family production in the Amazon and its impacts on soil attributes	2013	Web of Science	not relevant
De Souza, J.L., Casali, V.W.D., Santos, R.H.S., Cecon, P.R.	Energetic balance and sustainability analysis in the organic production of vegetable crops [Balanço e análise da sustentabilidade energética na produção orgânica de hortaliças]	2008	Scopus, Web of Science	not relevant
Demattê Filho, L.C., Pereira, D.C.O., Possamai, E.	Dietary supplementation of alternative methionine and choline sources in the organic broiler production in Brazil	2015	Scopus, Web of Science	not relevant
Desjeux, Y., Dupraz, P., Kuhlman, T., Paracchini, M.L., Michels, R., Maigné, E., Reinhard, S.	Evaluating the impact of rural development measures on nature value indicators at different spatial levels: Application to France and the Netherlands	2014	Scopus, Web of Science	not relevant
Di Felice, V., Mancinelli, R., Proulx, R., Campiglia, E.	A multivariate analysis for evaluating the environmental and economical aspects of agroecosystem sustainability in central Italy	2012	Scopus	not relevant
Euclides, K	Supply chain approach to sustainable beef production from a Brazilian perspective	2004	Web of Science	not relevant
Finnan, John; Styles, David	Hemp: A more sustainable annual energy crop for climate and energy policy	2013	Web of Science	not relevant
Freitas, I.C., Santos, F.C.V., Custódio Filho, R.O., Correchel, V., Silva, R.B.	Agroecosystems of family production in the Amazon and its impacts on soil attributes [Agroecossistemas de produção familiar da Amazônia e seus impactos nos atributos do solo]	2013	Scopus	not relevant
Ilbery, B., Holloway, L., Arber, R.	The geography of organic farming in England and Wales in the 1990s	1999	Scopus	not relevant
Jonsson, Asa; Nybom, Hilde; Rumpunen, Kimmo	Fungal Disease and Fruit Quality in an Apple Orchard Converted from Integrated Production to Organic Production	2010	Web of Science	not relevant
Kirchmann, Holger; Bergstrom, Lars; Katterer, Thomas; Andren, Olof; Andersson, Rune	Can Organic Crop Production Feed the World?	2008	Web of Science	not relevant
López, L.I., V. Davier, Z., Deblitz, C.	International competitiveness of organic beef production in Germany	2005	Scopus, Web of Science	not relevant

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Lozano-Garcia, B.; Parras-Alcantara, L.	Land use and management effects on carbon and nitrogen in Mediterranean Cambisols	2013	Web of Science	not relevant	
Maxwell, A., McKeegan, D., Ellis, K.A.	Extended suckling systems for dairy calves: Is this possible for organic dairy farmers?	2006	Scopus	not relevant	
Möller, K., Stinner, W.	Effects of organic wastes digestion for biogas production on mineral nutrient availability of biogas effluents	2010	Scopus, Web of Science	not relevant	
Moumouni, I., Baco, M.N., Tovignan, S., Gbèdo, F., Nouatin, G.S., Vodouhè, S.D., Liebe, U.	What happens between technico-institutional support and adoption of organic farming? A case study from Benin	2013	Scopus	not relevant	
Nahed-Toral, J., Sanchez-Munoz, B., Mena, Y., Ruiz-Rojas, J., Aguilar-Jimenez, R., Castel, J.M., de Asis Ruiz, F., Orantes-Zebadua, M., Manzur-Cruz, A., Cruz-Lopez, J., Delgadillo-Puga, C.	Potential for conversion of agrosilvopastoral systems of dairy cattle to the organic production model in south eastern mexico	2012	Scopus, Web of Science	not relevant	
Nahed-Toral, J., Sanchez-Muñoz, B., Mena, Y., Ruiz-Rojas, J., Aguilar-Jimenez, R., Castel, J.M., De Asis Ruiz, F., Orantes-Zebadua, M., Manzur-Cruz, A., Cruz-Lopez, J., Delgadillo-Puga, C.	Feasibility of converting agrosilvopastoral systems of dairy cattle to the organic production model in southeastern Mexico	2013	Scopus, Web of Science	not relevant	
Nauta, W.J.; Baars, T.; Saatkamp, H.; Weenink, D.; Roep, D.	Farming strategies in organic dairy farming: Effects on breeding goal and choice of breed. An explorative study	2009	Web of Science	not relevant	
Peigné, J., Messmer, M., Aveline, A., Berner, A., Mäder, P., Carcea, M., Narducci, V., Samson, M.-F., Thomsen, I.K., Celette, F., David, C.	Wheat yield and quality as influenced by reduced tillage in organic farming	2014	Scopus, Web of Science	not relevant	
Ramesh, P., Singh, M., Subba Rao, A.	Organic farming: Its relevance to the Indian context	2005	Scopus, Web of Science	not relevant	
Rezvanfar, A., Eraktan, G., Olhan, E.	Determine of factors associated with the adoption of organic agriculture among small farmers in Iran	2011	Scopus, Web of Science	not relevant	
Riemens, Marleen M.; Groeneveld, Roel M. W.; Kropff, Martin J. J.; Lotz, Lambertus A. P.; Renes, Reint Jan; Sukkel, Wijnand; van der Weide, Rommie Y.	Linking Farmer Weed Management Behavior with Weed Pressure: More than Just Technology	2010	Web of Science	not relevant	
Rigby, D; Young, T; Burton, M	The development of and prospects for organic farming in the UK	2001	Web of Science	not relevant	
Roth, F.X., Böhmer, B.M.	Feeding strategies for laying hens in housing systems with open-air runs according to organic farming principles	2008	Scopus, Web of Science	not relevant	
Saini, S.K., Pandey, S.T.	Organic farming: Development and strategies in Indian perspective	2009	Scopus, Web of Science	not relevant	
Stamou, G.P., Argyropoulou, M.D., Tsiafouli, M.A., Monokrousos, N., Sgardelis, S.P., Papatheodorou, E.M.	The study of secondary successional patterns in soil using network analysis: The case of conversion from conventional to organic farming	2011	Scopus, Web of Science	not relevant	
Stern, S., Heyer, A., Andersson, H.K., Rydhmer,	Production Results and Technological Meat Quality for Pigs in Indoor and Outdoor Rearing Systems	2003	Scopus, Web of	not relevant	

L., Lundström, K.			Science	
Sundrum, A., Aragon, A., Schulze-Langenhorst, C., Bütfering, L., Henning, M., Stalljohann, G.	Effects of feeding strategies, genotypes, sex, and birth weight on carcass and meat quality traits under organic pig production conditions	2011	Scopus, Web of Science	not relevant
Teshfam, M., Vahdatpour, T., Nazeradl, K., Ahmadiasl, N.	Effects of feed additives on growth-related hormones and performance of Japanese quail (<i>Coturnix japonica</i>)	2011	Scopus	not relevant
Thamaga-Chitja, J., Hendriks, S.	Emerging issues in smallholder organic production and marketing in South Africa	2008	Scopus, Web of Science	not relevant
Vaarst, M; Thamsborg, SM; Bennedsgaard, TW; Houe, H; Enevoldsen, C; Aarestrup, FM; de Snoo, A	Organic dairy farmers' decision making in the first 2 years after conversion in relation to mastitis treatments	2003	Web of Science	not relevant
Vesely, M., Šarapatka, B.	Effects of conversion to organic farming on carabid beetles (Carabidae) in experimental fields in the Czech Republic	2008	Scopus, Web of Science	not relevant
Wedryk, S., Cardina, J.	Evaluation of tef as a smother crop during transition to organic management	2012	Scopus, Web of Science	not relevant
Wedryk, S., Felix, J., Doohan, D., Cardina, J.	Strategies for weed suppression and improving soil fertility during transition to organic vegetable production	2012	Scopus, Web of Science	not relevant
Werner, M.R.	Soil quality characteristics during conversion to organic orchard management	1997	Scopus	not relevant
Mzoughi, Naoufel	Do organic farmers feel happier than conventional ones? An exploratory analysis	2014	Web of Science	not relevant
Delmotte, Sylvestre, Jean-Marc, B., Jean-Claude, M., Christophe, L.P., Jacques, W., Phillipe, C., Alain, S., Santiago, L.-R.	Participatory integrated assessment of scenarios for organic farming at different scales in Camargue, France	2016	Scopus	not relevant

Supplementary 2: Questionnaire to Farmers

Table S2. Questionnaire to Farmers: Questionnaire which was sent out on February 9th, 2016 via e-mail to the farmers before conducting the interviews.

Nr.	Question	Answer
1	How many hectares of vineyards does your estate manage?	
2	Which grapes do you grow on how many hectares?	
3	How many bottles do you produce each year?	
4	How many people are employed at your estate?	
5	What do you do with your grapes?	<input type="checkbox"/> Estate processed <input type="checkbox"/> Sold <input type="checkbox"/> Cooperation <input type="checkbox"/> other (please name): _____
6	Does your estate have any certifications which you can label your products with? Please indicate.	<input type="checkbox"/> Yes <input type="checkbox"/> No
6.1	If yes, which and since when?	<input type="checkbox"/> VdP, since ____ <input type="checkbox"/> DLG, since ____ <input type="checkbox"/> Organic label (EG-Öko), since ____ <input type="checkbox"/> Ecovin, since ____ <input type="checkbox"/> Fair Choice, since ____ <input type="checkbox"/> Fair'n Green, since ____ <input type="checkbox"/> Demeter, since ____ <input type="checkbox"/> Vegan-label, since ____ <input type="checkbox"/> Other (please name): _____, since ____

7	What are the 3 most important business objectives of your estate (<i>1 most important, 3 least important</i>)?	(1) (2) (3)
8	What are the 3 most important objectives in the vineyard management of your estate (<i>1 most important, 3 least important</i>)?	(1) (2) (3)
9	Which are the 3 most important sources of information in relation to farming decisions for your estate (<i>1 most important, 3 least important</i>)?	(1) (2) (3)
10	Which are the top 3 challenges in the wine sector in Pfalz/Rheinessen you think will occur in the next 20 years (<i>1 most important, 3 least important</i>)?	(1) (2) (3)
11	Since when are you working for your estate?	
12	What's your current role at your estate?	
13	What are the best 3 aspects of your job (<i>1 most important, 3 least important</i>)?	(1) (2) (3)
14	In which year are you born?	
15	What is your gender?	<input type="checkbox"/> Male <input type="checkbox"/> Female <input type="checkbox"/> No answer
16	What is your highest level of education completed? ¹ Please indicate.	<input type="checkbox"/> Secondary general school-leaving certificate <input type="checkbox"/> Intermediate school-leaving certificate <input type="checkbox"/> Fachhochschule or University entrance qualification <input type="checkbox"/> Apprenticeship (Dual system) qualification <input type="checkbox"/> Qualification from trade and technical schools <input type="checkbox"/> Bachelor <input type="checkbox"/> Master <input type="checkbox"/> Diploma <input type="checkbox"/> Others (<i>please name</i>): _____

¹ Answers taken from the statistical authority in Germany (German and English version): <https://www.destatis.de/EN/FactsFigures/SocietyState/EducationResearchCulture/EducationalLevel/Tables/EducationalAttainmentPopulationGermany.html>, 16 February 2016.

Supplementary 3: Interview Questions

Date and Time:

Region:

Estate:

Setting:

Participant:

(A) Challenges of the wine sector

Thank you again for taking the time to fill in the questionnaire I sent out.

One of the questions was which challenges farmers expect to occur in the next 20 years in the wine-sector in Pfalz and Rheinessen. From the answers of all participants I identified three main challenges. I will ask you about these now.

1. Which measures can farmers, in your opinion, choose to meet these challenges?
 - a. Climate change (increasing temperatures, extreme weather events like hail & frost)
 - b. Sustainability (CO₂ balance, being able to persist in the future)
 - c. Marketing (international competition, standing on the market, sharpening of the product profiles of the regions)
 2. How do you think organic farming practices would meet these challenges?
 - a. Climate change (increasing temperatures, extreme weather events like hail & frost)
 - b. Sustainability (and CO₂ balance, being able to persist in the future)
 - c. Marketing (international competition, standing on the market, sharpening of the product profiles of the regions)
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(B) Organic farming

Now I want to ask you some questions about organic wine production.

If interviewing a conventional estate:

3. Has your estate ever considered adopting organic certification?
 - a. *If yes*, which challenges did you consider?
 - b. *If yes*, which benefits did you consider?
 - c. *If yes*, why did you decide against adopting organic certification or are you in the process of converting?
 - d. *If not*, which motivations do you have to use conventional farming practices?
 - e. *If not*, in which circumstances would you consider producing organic wine?

If interviewing an organic estate:

4. Which motivations did you have to convert to organic farming practices?
 5. Which were the challenges you had when converting to organic farming practices?
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(C) Financial capital

If interviewing a conventional estate:

6. Are you aware of any subsidies to grow organic grapes?
 - a. *If yes*, from where and how much for what?
7. How would you expect your profit to change if producing certified organic wine? Why?

If interviewing an organic estate:

8. Did or do you receive any subsidies from the EU, Germany or any other institution?
 - a. *If yes*, from whom and what?
 - b. *If no*, why not?
 9. How did your profit change since you are producing certified organic wine? Why?
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(D) Human and social capital

10. How would you describe a typical customer (use "Abnehmer" in German) of yours?

- a. Where does a typical customer of yours buy his or her wine?
 11. How do you expect your wine-selling will develop in the next 5 years? (amount, price, share of customers)
-

(E) Natural capital

If interviewing a conventional estate:

12. What are the 3 most important objectives for managing your vineyards for the next 20 years?
13. Which challenges could organic farming practices have for you in the vineyard?
14. What benefits could organic farming practices have for you in the vineyard?

If interviewing an organic estate:

15. What are the 3 most important objectives for managing your vineyards for the next 20 years?
 16. Which challenges do organic farming practices have for you in the vineyard?
 17. What benefits do organic farming practices have for you in the vineyard?
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18. Do you want to add anything?