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The role of experiments for building agricultural knowledge of new entrants to organic farming in North-East Austria

Master's Thesis

Sabrina Pischtiak

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E-Mail: sabrina.pischtiak@12er.net

Supervisor:

Ao.Univ.Prof. Dr. Christian Vogl

Co-Supervisor:

DI Dr. Susanne Kummer

Department of Sustainable Agricultural Systems
Division of Organic Farming
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Abstract

The aim of this Master's thesis is to show how new entrant farmers in Austria gather information on agricultural practices, how and with whom they share this information and which role farmers' experiments play as a tool in this process. As new entrant farmers are lacking the background knowledge unconsciously gathered by persons growing up on a farm, they have to find alternative ways of obtaining knowledge. As new entrants tend to see tasks from a different point of view according to their former lives, farmers' experiments might be a way for them to gain knowledge.

In 2017 fifteen interviews with a semi-structured interview guideline were done with new entrants who took over their farm within the last ten years in four different provinces located in the North-East of Austria. Further one expert interview with a member of an organization that supports new entrant farmers in Austria was conducted. Interviews were recorded, transcribed and analyzed according to the research questions by counting the given answers and comparing them to literature. Research questions were focused on three main topics – the importance of farmers' experiments within the first ten years of farming, the ways new entrants exchange information amongst each other and the sufficiency and availability of informational sources dedicated to new entrant farmers.

All interviewed new entrant farmers are conducting farmers' experiments on a number of different farming sectors such as animal husbandry, arable farming, marketing and processing of products. They value experiments as important within their everyday farming practice. New entrants are open to experimenting and because of their diverse previous lives the experiments show a great variety of topics such as growing endangered varieties of plants, using effective microorganisms for treatment of animal diseases or trying various management strategies in fields and vineyards.

New entrant farmers say that the amount of available information specifically addressed to new entrant farmers is not sufficient. Nevertheless they are able to gather the information needed through personal contacts, the internet and even farmers' experiments. Farmers' experiments play an important role in the new entrants' farming practice and are appreciated as a tool to gain information as well as a task that brings more joy to the everyday farming routine.

Abstract

Ziel dieser Masterarbeit war es darzustellen welche Informationsquellen „quer eingestiegene“ Landwirte nutzen um sich landwirtschaftliches Wissen anzueignen, welches sie Aufgrund ihrer Lebensgeschichte nicht durch ihre Eltern erhalten haben. Außerdem sollte dargestellt werden welche Rolle bäuerliche Experimente in diesem Prozess spielen. Aufgrund ihrer Vorerfahrungen in anderen Berufen, haben „quer eingestiegene“ Landwirte einen anderen Blickwinkel auf die landwirtschaftliche Praxis. Dies legt die Vermutung nahe, dass sie Experimenten gegenüber aufgeschlossen und diese auch zur Gewinnung von landwirtschaftlichem Wissen nutzen.

Im Rahmen dieser Masterarbeit wurden im Jahr 2017 fünfzehn Interviews mit „quer eingestiegenen“ Landwirten, welche die Bewirtschaftung ihres Betriebes in den letzten zehn Jahren begonnen haben, in vier Bundesländern Nord-Ost Österreichs, sowie ein Experteninterview durchgeführt. Die Interviews basierten auf einem semi-strukturierten Interviewleitfaden und wurden aufgenommen, transkribiert, codiert und später sowohl inhaltlich als auch quantitativ ausgewertet und mit bestehender Literatur verglichen.

„Quer eingestiegene“ Landwirte führen Experimente in den verschiedensten Bereichen ihrer landwirtschaftlichen Tätigkeit aus und beziehen die dafür benötigten Informationen aus den verschiedensten Quellen wie zum Beispiel aus dem Internet, aus Gesprächen mit Nachbarn und Kollegen oder aus Kursen. Es wurden Experimente zu den unterschiedlichsten Themen genannt, wie zum Beispiel der Anbau gefährdeter Pflanzenarten, der Einsatz effektiver Mikroorganismen zur Krankheitsbekämpfung bei Tieren und Pflanzen, sowie verschieden Bearbeitungstechniken für Felder und Weingärten.

Obwohl die Mehrheit der Befragten die Menge der angebotenen Informationen als unzureichend einstuft, gelingt es den „quer eingestiegenen“ Landwirten trotzdem sich die benötigten Informationen zu beschaffen. Sei es über Freunde und Bekannte, das Internet oder durch das selbständige Ausprobieren mittels bäuerlicher Experimente.

Bäuerliche Experimente leisten einen wichtigen Beitrag zum landwirtschaftlichen Wissen „quer eingestiegener“ Landwirte und wurden in 87% der Fälle als wichtig für die tägliche Arbeit eingestuft.

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1. Introduction

Farmers giving up their farms are an actual topic in the media but there is also awareness for people taking over farms these days: Many farmers give up their agricultural business each year, but at the same time many new entrants have a dream of getting their own farm and start their own agricultural business (Hödlmoser – Salzburger Nachrichten, 1.8.2016). These new entrants come from various social and educational backgrounds and therefore there is a wide variety of non-agricultural background knowledge for agricultural work available in this incoming group of people (Groier, 1999, 66-68). In the past few years the number of sources of information about organic agriculture has multiplied. There are organizations, associations as well as universities and other educational institutions providing relevant information (Lehmann, 2005, 22). In this master thesis the author seeks to find out what kind of information about agriculture was already available when new entrants to organic farming started their own agricultural business and where they got their knowledge from.

There is also a generation of knowledge happening on every single farm itself (Lehmann, 2005, 22). Therefore farmers' experiments done by new entrants are another potential source of knowledge. Within the past few years of scientific research on farmers' experiments and local knowledge has been conducted at the IFÖL (Institut für ökologischen Landbau) at BOKU and also outside the university. Literature shows a wide range of research questions on farmers' experiments all over the world: Leitgeb (2013) did his research on farmers' experiments in Cuba and discovered that there are differences in the frequency and complexity of the experiments farmers are carrying out. Kummer (2011) looked at farmers' experiments carried out on Austrian farms by farmers who are farming for an average of 23 years. Especially this paper will be important for this master thesis because parts of the same questionnaire will be used on new entrants who are farming for a maximum of ten years.

Also a lot of research on farmers' experiments was done outside the BOKU University within the last years. An example would be the work of Sumberg & Okali (1997, 111-116) who did research in Africa and found out that the number of experiments varies with age, sex, educational background and region. All previously named authors and many other studies and surveys consider a lot of different age groups, nationalities, ethnics, backgrounds and many more. Until now there is one group of organic farmers missing in the research on farmers' experiments. These are farmers who are new entrants to organic agriculture and therefore have only little or no technical agricultural background. The academic literature mainly focuses on farm succession process rather than on the successors (new entrant farmers) themselves (eip-agri, 2016, 9).

Cavalier et al. (2016, 33) found three main knowledge issues new entrant farmers are facing: technical knowledge, finding networks and knowing where to find information. As they often try to make a change in farming they struggle to find what they need in traditional agricultural advisory

service. The topics of networks and information gathering will be closely looked on in this master thesis.

The aim of this master thesis is to focus on this special group of farmers, to find out how these people gather information about farming, how they transfer their findings and especially what kind of farmers' experiments new entrant farmers are doing in Austria. More precise which role these experiments play for the building of knowledge about organic farming in Austria.

1.1. Personal background

I was always interested in farming, although I have no farming background in my family. That was the reason why I started to study agriculture first and specialized in organic agriculture and agro-ecology later. This topic is of very big interest for me because my goal is to become an organic farmer one day and therefore working with new entrants to organic farming seems to be a big opportunity to see what kind of challenges new entrants have to face and where to get information from.

I first heard the term "farmer's experiments" on an excursion to Sri Lanka which took place in February 2015. To me it is a very interesting topic and I am lucky that I got the opportunity to work on it in my master's thesis.

1.2. Problem statement

There are two opposing movements noticeable within Austria. On the one hand there are people moving from the countryside to the cities as they do not see perspectives for them on the countryside. On the other hand there are people moving from the cities to the countryside and buying or leasing abandoned farms for a number of different reasons (Groier & Hovorka, 2007, 69). Farm succession in Austria mainly takes place within the family but because of low numbers of children per household or divergent career plans of farmers' children, farmers have to look for different ways of farm succession. One way is the non-family farm transfer where the farm is given to an external person (Brückler et al., 2015, 249). Through this system there are also "new entrants" – people not originating from agriculture – coming to the rural sites. This special group brings new input, new ideas and a special motivation into the agricultural business (Groier, 1999, 159). A research mentioned on www.hofgründer.at (N.N.) states that about half of all students of agricultural schools or universities are not born on a farm. Out of those people two third said that they thought about becoming a farmer one day. 42% are actively working for their wish to become a farmer.

This research is looking on how new entrant farmers gather information about agriculture, how they exchange information with other farmers/new entrants and how important farmers'

experiments are for their start into agriculture. As new entrant farmers go through a learning and experimenting phase at the beginning of their farm succession (Groier & Hovorka, 2007, 72; Monllor, 2012, 10) this study focuses on new entrants in their first 10 years of farming.

1.3. Research questions and objectives

The research questions are:

- How important are farmers' experiments for the new entrant farmers in the beginning phase of a farm succession?
- How do new entrant farmers exchange information amongst each other?
 - Are there networks of new entrants available?
 - How important are those networks for exchanging information?
- Which available sources of information are used by new entrant farmers in Austria?
 - How expedient are those sources in the new entrant's opinion?
 - Which source of new entrant-specific information would be helpful in the new entrant's opinion?

1.4. Aims of the study

The aim of this study is to illustrate how new entrants to organic farming in Austria gather information and build the knowledge necessary for starting an agricultural business/an organic farm.

More specifically, the study

- shows the importance of farmers' experiments in the starting phase (first ten years of farming) of a new entrant's agricultural business.
- details the exchange of information between new entrant farmers.
- presents available informational sources for new entrant farmers and their usefulness for this specific group of farmers.

2. State of the Art

The following section is meant to give an overview about the main terms and concepts used in this study such as new entrants, sources of information and experiments.

2.1. New entrant farmers

This master thesis talks about people who are completely new to (organic) agriculture. This means that they were not raised on a farm (eip-agri, 2016, 7), nor studied or lived on a working farm and decided at one point in their lives to start working in agriculture (organic agriculture in this case). This group of people is known and described in literature with different names.

Groier (1999, 63) says that commonly used terms in the English cultural area are “incomers”, “urban incomers” or “rat-race-escapees”. “Incomers” means that this people enter into an existing region/culture/way of live while “rat-race escapees” means a more alternative way of living. People who turn their back onto their old lives as they are sick and tired of the culture they are living in. Other terms mentioned are: dropouts (Aussteiger), inexperienced or first-time user (Einsteiger), career changer (Quereinsteiger), emigrant or resettler (Aussiedler), settler (Siedler), home comer or repatriate (Heimkehrer), sabbatical leaver (Langzeiturlauber), and many more (Groier, 1999, 63). Frieder et al. (2006) who did a comprehensive report about the situation of new entrants in Germany called the new entrant’s farms “start-ups” (Existenzgründungen).

From the not-well-disposed angle there are also terms like social romanticists (Sozialromantiker), sectarian (Sektierer), dream dancer (Traumtänzer), green mad-caps (grüne Spinner), drug addicted or narcotist (Rauschgiftsüchtige), all time washed-ups (ewig Gescheiterte) (Groier, 1999, 63, translated by the author).

For the USDA (United States Department of agriculture - www.fsa.usda.gov) a “beginning farmer” is anyone who has been operating a farm for 10 years or less. By “new farmers” they mean all the people who are considering becoming farmers together with all those “beginning farmers” who have actually been farming for 10 years or less.

In Ireland and the UK the term “land business entrepreneurs” is used to avoid barriers between existing farmers and new entrant farmers as the established ones may fear the incoming ones as potential competitors (Sutherland et al., 2016, 35).

In this master thesis the terms “new entrants” or “new entrant farmers” will be used, as it was used in a recent EU report (eip-agri, 2016). This report was written as a joint report by 20 scientists of different EU-countries. Therefore the term “new entrant farmers” seems to be appropriate for a master’s thesis written on this topic in an EU-member state.

Austria has its own newcomer history. In the 1970’s there were a lot of artists moving to the countryside (mainly the region of Waldviertel). Between the 1970’s and 80’s the biggest wave of

new entrants was moving to the countryside and bought abandoned farms. Their reasons were mainly political or ideological. This phase was dominated by political engagement, high ideologies and a big will to experiment (even with ways of living or education). In the 90's the new entrants turned more pragmatic and realistic. The incoming of new entrant farmers slowed down. This was mainly because the number of available properties decreased (Groier & Hovorka, 2007, 69).

There is no clear evidence of the new entrance farmers in European agriculture (eip-agri, 2016, 9) but there are some assumptions made by scientists: New entrants are a very inhomogeneous group of people and therefore hard to describe. They can be young, in their best years or retirees of different social and educational backgrounds. Artists or young academics (veterinarians...) are found as well as unemployed people or people frustrated with their former employment. There are people coming back home after spending years in the cities or people making their childhood dream come true (Groier, 1999, 65-67). New entrant farmers can be individuals, families or even collaborative groups or businesses (Sutherland et al., 2016, 35). According to Monllor (2012, 11) who compared new entrant farmers in Spain and Canada, the average new entrant farmer is a woman in her late twenties who was born in the city and set up her farm business after finishing a non-agrarian university study. The average newcomer farmer is oriented towards organic farming (81%) and tries to sell directly to the consumer. Kontogeorgos et al. (2014, 337) found that new entrant farmers in Greece are mainly male and do hold a university degree. According to a recent EU-paper (eip-agri, 2016, 9) new entrant farmers are more likely to be female, they are younger and operate smaller farms than other farmers do.

As new entrants are an inhomogeneous group of people also their reasons for starting to work in agriculture are diverse. Groier & Hovorka (2007, 70-71) detected the following: social criticism (realising alternative ways of living), outmigration from cities (wish for a life together with animals, nature and seasons), existential crisis (looking for self-fulfilment), economical reasons (looking for a new work, cheaper living on the countryside) and the wish for meaningful work. Of course there are many more, very individual reasons for those people to give up their old life and move to the countryside but these seem to be the main ones. Even the farming practices differ from those of "born farmers". Newcomers tend to be rather involved in animal production than in cereal production. They are also more likely to do horticulture and are more common to work in organic farming (eip-agri, 2016, 10).

As their backgrounds differ from those of born farmers they are more likely to do non-agricultural related work on their farms such as caring for people with special needs, educational tasks, landscape conservation or direct marketing. Their networks outside the traditional farming system, previous lives in cities and their distance to the production system may facilitate their non-agricultural related tasks (Visser et al., 2016, 30).

As one important agricultural development within the last decades, the organic farming movement was mainly influenced by new entrants and well educated farmers. New entrants are of high importance for the whole farming sector (Fink-Keßler, 2005, 72). Although new entrants are able to bring new ideas, new motivation and a different point of view into the whole business, not everybody in their surrounding is happy to have them in the neighborhood. Other farmers often fear them as competitors for land or in the market sector. Agricultural-management or agricultural-advisory service desks often fear the higher workload because of the new entrants' inexperience (Frieder et al., 2006).

Except for the sometimes negative prevailing mood, new entrants have to overcome other difficulties to start their own agricultural business, such as hard access to land, requirement for large capital investment, low rates of return, access to pensions and housing for retiring farmers as well as education and training for new entrants (Bika, 2007; Mazorra, 2000). There are countries in Europe which have their own schemes or organizations to help the new entrants overcoming those problems. Some examples are mentioned within section 2.2.2.

Totally new establishments of farms are very rare in Austria. Normally they are not necessary as a number of retiring farmers are looking for people who want to take over their agricultural business because they either don't have children or their children are not willing to take over the farm (Quendler et al., 2015, 16). Quendler et al. (2015) call this process a non-family farm takeover ("außerfamiliäre Hofübergabe"). This process can be related to new entrants to farming but not necessarily have to, as also farmers who want to expand their agricultural land or farmers needing a new farm, because of divorce or family issues, sometimes takeover abandoned farms. Kontogeorgos et al. (2014) investigated newcomer farmer schemes in Greece. He thinks that new entrants are important as a lack of young farmers puts the whole sector of agriculture under risk. Those young farmers bring new skills and new energy into the sector. Further they seem to be more likely to invest into their farms than long serving farmers (Kontogeorgos et al., 2014, 333-334). New entrant farmers bring a number of resources – such as skills, networks and financial capital – into the farming sector and they are expected to introduce entrepreneurship, technical innovations, marketing and management practices to the sector (eip-agri, 2016, 7).

The number of handovers and takeovers of farms according to age in Austria is depicted in Figure 1. As one can see the number of takeovers is highest at the age of 30-34 whereas the number of handovers is highest at the age of 60-64. The reason could be that at the age of about 65 many farmers retire and therefore give up the farm. Quendler et al. (2015, 20) explains the reason for the high number of takeovers between 30 and 39 years of age with the agricultural funding system in Austria where there is a farm-founding-bonus for people aged 40 or younger. To participate in the Europe's new entrant support a new entrant farmer is supposed to be younger than 40 years (www.accesstoland.at).

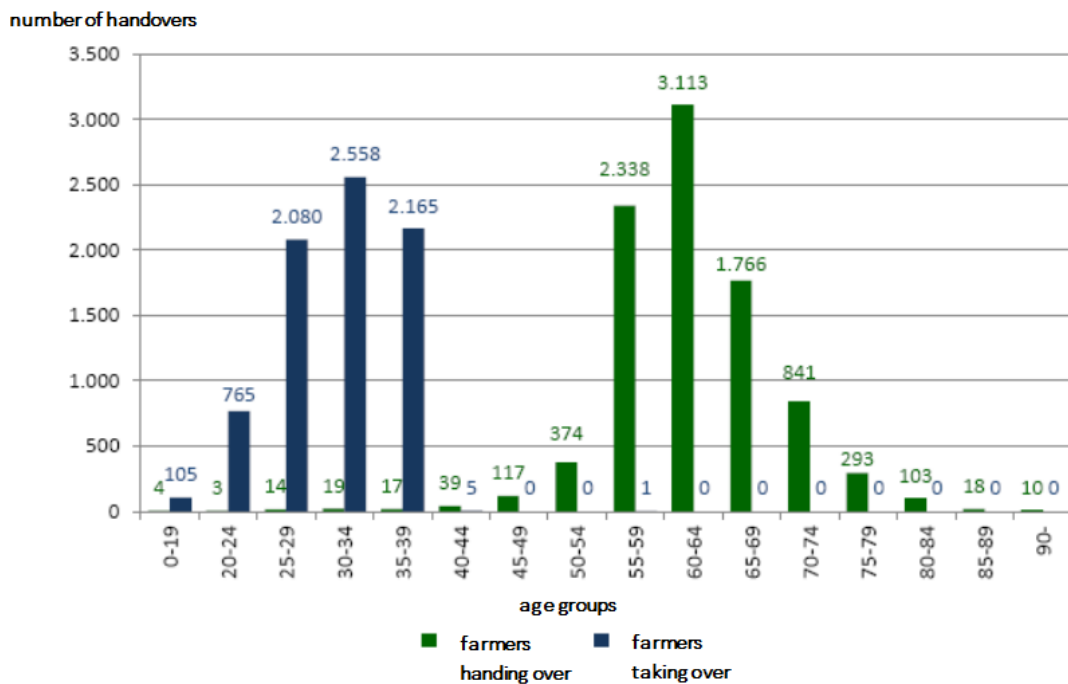
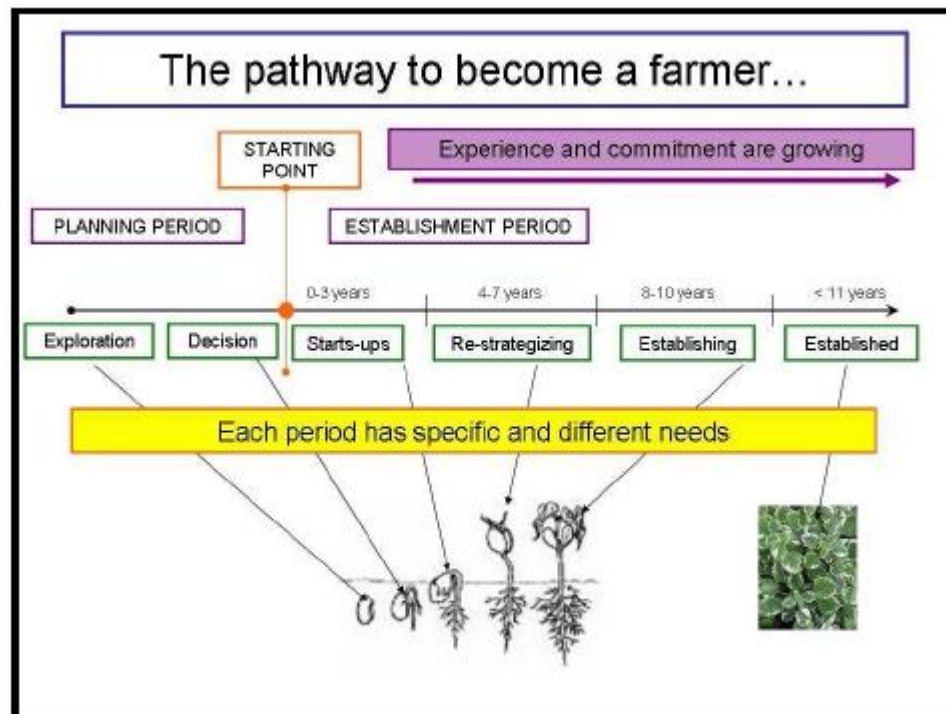


Figure 1 - Number of handovers (green) and takeovers (blue) according to age (Quendler et al. 2015, 19)

Only 2% of all the interviewed farmers considered a non-family farm takeover. 85% of all the farmers wanted their own children to take over the farm. In the study about 12% of the non-family farmers who took over the farm were new entrants to farming (Quendler et al., 2015, 21).

When starting an agricultural business there is a time sequence new entrants go through (Figure 2). In each period a newcomer farmer has specific needs regarding information, knowledge, money, resources, support and so on (Monllor, 2012, 10). The required amount of input depends on a variety of factors. For example the new entrant's farming background, present knowledge on certain topics, available technical or management skills, available resources ... (Johnson et al., 2001, 8ff). A new farmer becomes established after approximately eight to ten years, which means to be settled and well positioned in the field. From the very beginning of exploration to this point the young farmer gains experience, self-confidence and security. This could be used to advice other new entrant farmers (Johnson et al., 2001, 24; Monllor, 2012, 11). Within the first seven years of the new entrant's farm succession a lot of restructuring actions takes place. As information is gathered and processes are learned the new entrant overthinks and reorganises his actions. After this period the new entrant gets more and more settled and changes are reduced to small, non-strategic ones. After about ten years the new entrant is well established and self-confident about his actions (Johnson et al., 2001, 8ff; Monllor, 2012, 10). As this first ten years of farming are loaded with restructuring and overthinking it might also be that experimenting is more important within these first ten years of farming. On the other hand there is also the

possibility that experimenting gets more important after these first ten years as new entrant farmers get more confident and secure. The previous described and to gain comparability the time since the beginning of farm succession is set with ten years for this study.



Source: Author's elaboration from the Northeast New Farmer Network (2009).

Figure 2 - The pathway to become a farmer

(The Northeast New Farmer Network, 2009 in Monllor, 2012, 10)

2.2. Sources of agricultural information

Discussing topics of interest with other people might be helpful for (new entrant) farmers. This section is meant to give an overview on how information can be found and which ways of gathering information are available in Austria and other countries.

Sligo and Malley (2007, 174) used the term "advice seeking" in context with farmers. They explained that to be advice seeking a farmer/person has to be aware that there is information (about a specific topic) and is actively trying to get this information. This is an active process but on the other hand the authors note that there can also be a passive process which could be for example to scan the environment in a (semi-) structured way, hoping to catch some information that might be useful at a future point in time. As for this thesis the way of how to get information is important, participants were asked where and how they got information and with whom they shared the findings of experiments they conducted.

There are “local” sources of information such as family, neighbors, technical agents, vets, private suppliers of services and so on. Other sources are referred to as “international” sources such as NGOs (in a study in Africa) or agriculture specialized offices that offer information and support (Sumberg & Okali, 1997, 145). Other sources may be books on certain agricultural topics, webpages of associations and governmental organizations, scientific papers, courses and many more. Examples for those sources in context with the providing countries are to be found in section 2.2.2 and 2.2.3. In a study conducted in Africa the authors found that independently from how isolated farmers were, all of them had access to some kind of informational source (Sumberg & Okali, 1997, 145).

2.2.1. Agricultural knowledge

The most important source of agricultural knowledge for every farmer is growing up on the farm, learning by watching/helping parents and grandparents and to experience farm work on their own. This relevant source is not available for new entrants. Therefore they need other ways of gathering information and adopting agricultural knowledge (Inhetveen, 2002, 40-41). When working on a farm a child unconsciously gathers information which later influences its own work as a farmer (Inhetveen, 2002, 41). As this is not possible for new entrant farmers it might be that some things are harder for them to learn but they also can bring in new ideas uninfluenced by farm-related childhood memories.

The advance of growing up on a farm is relative as agricultural knowledge on organic farming has reached a volume where experience is not sufficient anymore. The amount of topic-related literature is constantly growing (Lehmann, 2005, 23). Nowadays there is a big variety of sources of knowledge on organic agriculture, reaching from ecological growth unions to independent consultants and further to research institutions. As these sources of information stand on the one side, there is a huge number of potential addressees standing on the other side. Still generation of agricultural knowledge is something that is potentially happening on each and every farm itself (Lehmann, 2005, 22).

To know about the generation of agricultural knowledge, one needs to know that knowledge and action go hand in hand. What people do is not always the same as what they consciously know. Knowledge can be articulated in many different ways. This makes it hard to talk to people about their knowledge and descriptions of actions may be incomplete as people are not used to talk about their everyday practice (Scoones & Thompson, 1994, 26).

A mixture of different ways of information gathering seems to be the most efficient way to gather agricultural knowledge. This includes learning on the parent's farm (not for new entrant farmers), education, guidance and talks with other farmers. Complicated topics are best understood when

promoted in a written form which is supposed to be target group oriented (Thomas et al. 1999, 406). To transfer knowledge first there is a need for transferable knowledge. One has to look whether the knowledge is sufficient and of high quality. Experts think that there is a flood of information on the one hand and also a lack of information on the other hand existing (Lehmann, 2005, 176).

2.2.2. Sources of information for new entrant farmers in different countries

In this case the sources of information only refer to the kind of information dedicated to new entrant farmers. This also includes special programs of the state, non-governmental organisations or other institutions. Formal education in Central and Eastern European countries is often too theoretical, and there is limited information available on non-conventional approaches. On the other hand there are countries with well-developed new entrant farmer supports: France, Belgium and Bulgaria, and internship programmes in Finland which enable hands-on learning. In France there is also a network of community supported agriculture organisations which provide training and mentoring and farming organisations which provide bureaucratic support to new entrants. The traditional advisories have limited time available for providing professional advice on production and marketing as they tend to be occupied with providing administrative support (Cavalier et al., 2016, 33).

At least in Western Europe a new entrant farmer is neither necessarily young nor oriented towards a traditional farm business development. They even seem to be more likely to achieving also social and environmental aims than traditional farmers are. New entrant farmers are also more characteristic to new EU member states. The reconstruction in the post-Soviet Union created a “new entrant” farmers generation in the 1990’s (Zagata and Sutherland, 2015, 41).

The benefit of new entrants to farming is to bring well qualified younger people into the agricultural sector that can provide a firmer foundation for the development of a dynamic and competitive sector in the future. The governmental effort to help new entrants gain ground in the farming sector is because the government wants the farming sector to become more competitive and able to go with the market. Therefore they need young, well trained and qualified people (Davis et al., 2013, 91).

Examples of new entrants to farming schemes are mainly found in the UK. On the homepage of the “Scotland’s Rural College” (www.sruc.ac.uk) interested people can find a lot of information about starting a farm, reaching from legal issues up to marketing and business planning, summarized under the concept of the “New Entrants to Farming Programme”. They further offer web-links of helping organizations as well as government organizations. On this webpage also notes of speeches held at the “New Entrants to Farming Gatherings” can be found. Interested

people are also invited to the New Entrants to Farming Conference called “Opportunities for Growth”.

Another program is located in Ireland where the Irish New Entrant Dairy Scheme was established (www.agriculture.gov.ie). There are already studies on this governmental scheme. McDonald et al. (2013, 195) shows that with “The New Entrant Scheme” new dairy farmers were successfully motivated to make a monumental change in their lives and set-up their own dairy enterprises.

As already mentioned Davis et al. (2013, 91) talked about the high educated young people coming to the sector. In Ireland the “180 hour Agricultural Cert” is the minimum prerequisite for Irish dairy farmers to establish land ownership and join the scheme. Therefore all applicants have obtained this minimum of formal agricultural education (McDonald et al., 2013, 191).

The low number of young farmers is assumed as “young farmer problem” within the EU. It causes a loss of the potential young farmers and new entrants are able to bring to the sector. It is seen in relation to a modernist agenda for agriculture, in which greater efficiency and innovation lead to higher levels of production and economic development (Zagata and Sutherland, 2015, 40). The authors have also evidence to suggest that new entrant farmers generate more value for agriculture than their older counterparts, and therefore maybe part of the driving force for rural development which European Commission is targeting for (p. 46).

In the US there is a program called “Beginning Farmer direct and guaranteed loan programs”, it provides capital for new farmers in the first 10 years of operating. On the USDA (United States Department of Agriculture - www.fsa.usda.gov) homepage interested people can find application forms for this program as well as helpful links to farm business planning, farm risk planning, answers to frequently asked questions and an online-library. Some of these links lead to another webpage called www.beginningfarmers.org where people want to help new entrants start their business and provide various links, forms, articles and information of all kind.

For Europe there is a homepage called www.accesstoland.eu. It shows the organizations in European countries which are supporting new entrant farmers. Further there is a short overview on access to land and subsidies within every European country.

In Slovenia and Belgium there is a high financial support for new entrant farmers. In France there is a newcomer-specific counseling in every district office (expert interview 04.05.2017). At the Nyélèni Europe Forum in Romania in 2016 there was even a discussion group named “farmer to be” where new entrant farmers were invited to exchange their experiences (www.nyelenieurope.net).

In Germany there is a brochure written by www.hofgründer.de in cooperation with the University of Kassel. In addition to the brochure the website further offers a trading platform for farm estates

and some basic information. Hofgründer.de also expanded to Austria in 2017 (www.hofgruender.at) but the farms on the trading platform are still mainly located in Germany. Based in this information the following chapter focuses on information providers in Austria.

2.2.3. Sources of information for new entrant farmers in Austria

In Austria, there is a lack of information on access to land, land policies and land markets as land issues have not received adequate attention. Occurring problems such as land concentration are not on the political agenda (www.accesstoland.eu). Still there are some organisations that offer support and even from official sides there is some information provided. First there is some information on the requirements for new entrant farmers:

In Austria there is no education required to start an agricultural business but there is a number of ways to gain a solid agricultural education (www.umweltbildung-noe.at). When it comes to subsidies there are requirements a new entrant farmer has to fulfil (as well as farmers who takeover family farms). When a new entrant farmer wants to profit from the agricultural business start-up support a business concept for the next 5-10 years has to be handed to the responsible authority. Further an agricultural education has to be completed (agricultural school, university or a skilled worker certificate). The cultivated area has to be 3 ha at least (exceptional cases are wine, vegetable or fruit cultivation, bee keeping and hops cultivation). To profit from the young farmer support the new entrant farmer has to be younger than 40 years (chamber of agriculture Austria – www.lkonline.at). Besides the governmental support and the learning opportunities there are organisations that offer information and support to new entrant farmers:

www.hofgruender.at is a platform that offers basic legal issues, some information on the starting phase and some farm estates. They also try to connect farmers who are looking for people who want to take over a farm and potential new entrants who are looking for a farm estate.

In Austria there is the “Netzwerk Existenzgründung in der Landwirtschaft” (existenzgruendunglandwirtschaft.wordpress.com) which was formed in 2013 by a group of BOKU-students with the aim to inform interested people about the opportunities they have and to bring potential new entrants and farmers searching for farm successors together. This is supposed to be a network, not a kind of governmental supporting scheme provided in other countries.

For finding farms and estates in Austria there is the “Hofbörse” of Via Campesina (<http://www.viacampesina.at/cm3/hofboerse.html>).

If new entrants look into libraries for information about becoming a farmer there is a small number of books about this topic. For example: “Landwirtschaft für Quereinsteiger – Basics der

Agrarwirtschaft" by Ziron & Ziron (2015) or „1000 Fragen für den jungen Landwirt“ (Alsinger, 2013).

There are also a number of courses available ranging from agriculture at the evening-school (<http://www.bioschule.at/bioschule-fuer-erwachsene/abendschule-landwirtschaft/>) to an eight hour course about legal issues, financial issues and business management issues especially for new entrants to farming organised by the LFI (ländliches Fortbildungs Institut).

Not really a source of information but kind of popular format is a TV program in Austria where farmers are looking for man/woman (new entrants) who wants to live on their farm with them and maybe get married later on. This specific TV show is not considered in this master thesis, but gets a lot of people in contact with the topic of new entrant farmers.

Last but not least there are the chamber of agriculture and agricultural district exchanges that provide different amounts of informational sheets or face-to-face support depending on the region and the level of knowledge of the employees.

2.2.4. Information gathering done by new entrant farmers

The way of how a farmer or newcomer farmer gathers information depends on a variety of factors: existing background knowledge, previous job experience, age, the person's learning style, the topic of interest, the personal situation and many more. Some people find it easier to touch and experience things whereas others prefer to read and hear about them. Of course this also depends on the topic of interest. Some topics like building a fence or driving a tractor might need a hands-on weekend-course whereas book keeping for example may require a face to face weekly evening seminar. Someone who has family at home might prefer one weekend away per year whereas a young person may find it easier to have weekly meetings (Johnson et al., 2001, 20). The author further found that participants are willing to drive long distances for the right content and that the computer is not the preferred medium to receive information. Especially new entrant farmers want to learn from experienced farmers and other new entrants. They have a high desire to hear about successful farm-start-ups (Johnson et al., 2001, 21). Another study found that the "unpaid conversations with rural professionals" was the third common source of information mentioned by farmers in New Zealand, the most common one were newspapers and magazines (Mackay in Dodunski, 2014, 103). Farmer-to-farmer learning is often the most effective way to gather production knowledge. For knowledge about accessing markets a more formalised training is supposed to be suitable. Amongst new entrant farmers alternative approaches are common and they also learn a lot about consumers' needs through direct marketing (Cavalier et al., 2016, 33).

There is a summary of different graphs of the same style (Figure 3) from the paper of Johnson et al. (2001, 22). The picture is supposed to give an overview of what influences a farmer's current situation and to help service providers understand their customers and their needs. It can be seen that there are a lot of different factors influencing each and every farmer at every different stage of the farm succession.

New entrants starting an agricultural business later in life tend to be innovative and bring resources (education, networks, capital,...) from earlier professional experience. This is another factor that shows how different types of new entrant farmers need different types of support (Sutherland et al., 2016, 36).

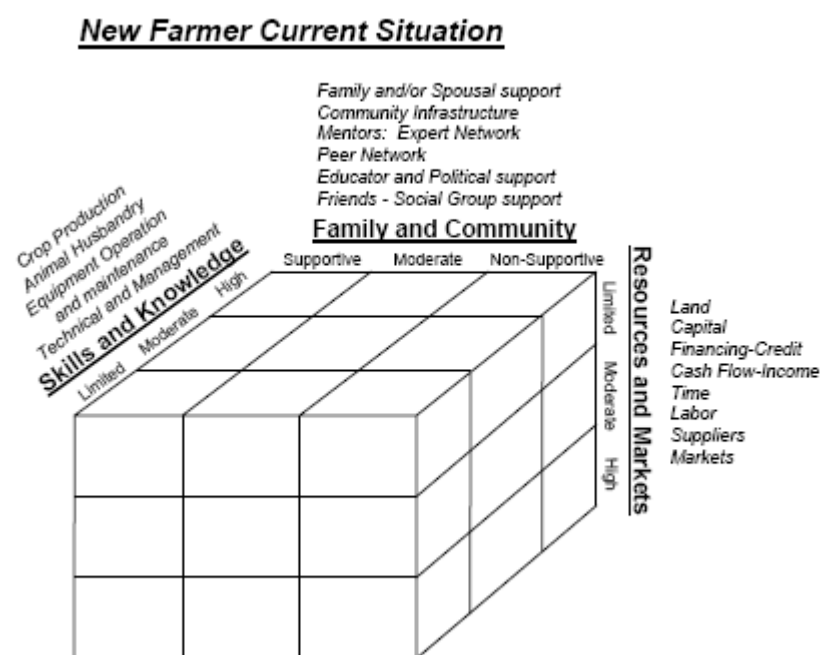


Figure 3 - New farmer current situation (Johnson et al., 2001, 22)

– factors influencing new entrant farmers

According to McGreevy (2012, 406) new entrant farmers are often highly educated and therefore refer to books as sources of knowledge. Learning on their own and by their own mistakes is a very important factor to them. Dodunski (2014, 104) indeed found a contrary fact on the way new entrant farms prefer to learn: “It is widely noted that farmers are hands-on learners, probably learn best in small groups, and that most prefer to see and understand practical examples provided by other successful farmers when making management changes”. This again shows how contrary new entrant farmers are and how contrary they are discerned by others. The message of

Dodunski (2014, 104) leads us to the question what the mentioned “small groups” are (2.3.1) and how the new entrants interact.

2.3. Exchange of agricultural information

The exchange of information was undergoing a phase of change within the last decade. About one hundred years ago knowledge was only handed directly from person to person. Written media was only produced, read and understood by a very small group of people. The use of written and printed texts, especially for educational purposes brought a change in information transfer. Nowadays, with the use of modern technology, the importance of well-educated personal for the gathering of information declines. On the other hand the availability of first-hand information for everybody gets rare as the number of sources and providers increases. People mainly believe what they are told by the source of their confidence (Haefner, 1989, 14, 18-20).

2.3.1. Farmers/ New entrants networks

In 1930 the “Arbeitsgemeinschaft für Erfahrungsaustausch” – Working group for exchange of experience was founded in Austria because enterprise directors found that their workers could solve problems faster and more easily when talking to others, working in the same sector (Boller, 1931, 5-6). This organisation was only for companies but the importance and the system could also be transferred to farmers’ networks. The goal of both groups is to solve nowadays problems through former experience (Boller, 1931, 37) and to provide a discursive space.

Because many farmers run their business from home (literally from the dining table) an interaction and overlapping of their business and private networks can be found in a variety of different ways (Sligo & Massey, 2007, 176).

An important question of this thesis is how and where new entrants get their information from. According to Groier (1999, 246) there is a kind of “incomer scene” in Austria. He described the situation in the “Waldviertel”. Knowledge exchange among farmers is higher if there is a possibility of personal interaction (Spreitzer, 2014, 41). A valuable source of knowledge for new entrant farmers would be neighbors who have local knowledge but because of the possible different views and values concerning agriculture it might be hard for new entrant farmers to get in contact with locals (McGreevy, 2012, 394; Mailfert, 2006, 28-29). The willingness to share knowledge is higher if the new entrants produce for themselves or for a different market than the locals do. In some areas (study on highlands of Japan) farmers are willing to help incomers with giving them local knowledge, although they shared more knowledge on food preparation and handcrafts than on farming practices (McGreevy, 2012, 404-405). The amount of exchanged information is higher if different family members interact with neighbors, as women share different knowledge than men do (McGreevy, 2012, 408).

Participants of a study on the topic noted that for constantly being up to date in a wide spread area conducting industry, farming practice, actual trends, friends and neighbors are highly valuable for them (Sligo & Massey, 2007, 276). The availability of information is likely to be crucial for a farmer and a frequently noted barrier was the difficult access to information (Padel, 2001, 54). Further organic farmers seemed to prefer specialized organic information sources such as other organic farmers, but this may make it difficult for new entrants to enter into such a closed network (Padel, 2001, 54).

In order to close the cycle between farmers networks and the innovation process (innovating through farmers' experiments) a particular study has to be mentioned which suggests that innovation is mostly stimulated at the intersection of horizontal interaction inside farmers' CoPs (*Communities of Practice*, a specific type of peer group) and also its members interaction with other actors (external interactions). It seems as when initiating an innovation project, involving existing learning communities is a promising strategy. Being part of a learning community empowers participating farmers to be agents of change in agricultural practice (Dolinska and d'Aquino, 2016, 128-129). The main difference between the CoPs was the distribution and also the source of the ideas. There have been CoPs that were highly interacting with their environment and therefore actively spreading their findings and gathering new ideas, the authors also found CoPs where the members were mostly interacting with the other members and therefore they were lacking of new ideas as well as motivation to try something new (Dolinska and d'Aquino, 2016, 124-128). Farmers in groups can encourage each other to try something new, to overcome difficulties and by exchanging their findings they help each other solving problems (Hauser et al., 2016, 56). The areas where discussion groups are located highly influence the social networks of a farmer. A weekly discussion in the local pub creates a different network than does a faraway weekend course or a season-long apprenticeship (Johnson et al., 2001, 20).

Farmers are stimulated to talk about their knowledge by demonstrating and discussing their experiences with others. They make their knowledge exchangeable and spread it further than just within their household or family. It is important to bring (experimenting) farmers in contact with each other (Stolzenbach, 1997, 46). Farmers have a certain anxiety to transmit their knowledge and findings to other farmers. There is a certain desire to involve other people into their experiments. Therefore experiments and communication go hand in hand, and the process of exchange might stimulate new ideas and provoke new experiments (Hocdé, 1997, 59). To deepen this topic the next chapter focuses on farmers' experiments.

2.4. Farmers' Experiments

2.4.1. Experiments

The word experiment has its origin in the Latin word "experimentum" which means to try or to prove something as well as experience and test (Stowasser, 1998, 192). In the Oxford English Dictionary an experiment is described the following way: "A scientific procedure undertaken to make a discovery, test a hypothesis, or demonstrate a known fact", "a course of action tentatively adopted without being sure of the outcome" or "try out new ideas or methods", "a new activity, idea or method that you try out to see what happens or what effect it has" (ODO, 2016, s.p.).

The Agriculture Dictionary (Herren & Donahue, 1991, 166) describes the term experiment in the following way: "Experiment – (Latin; *experimentum*, proof from experience) Action to discover or demonstrate general or specific truth." Stolzenbach (1997, 45) sees experimenting as a way of learning through practice.

The experiments might result in an innovation. In this context this innovation is not supposed to be something new to the world, nor to science but new to the context where it is used. This innovation can be a tool, a material, a technique, or a new way of doing something (Saad, 2002, 5). "Experimentation is the process by which the innovator generates, tests and evaluates an innovation" (Saad, 2002, 6).

2.4.2. Experiments carried out by farmers

"Experimentation must be considered a continuous
innovative element in the craft of farming"
(Stolzenbach, 1997, 46)

Farmers' experiments can be seen as one option to describe the creative process that might lead to on-farm innovations (Vogl et al., 2015, 141). Hocdé (1997, 57) found that experiments are carried out by all age groups of farmer, all sexes and under every condition. Experiments are carried out with the help of family and partner but even against their will. Farmers also try to do things different from their neighbors to convince them of the need for change.

Farmers have to accept that there are a number of valid solutions for every occurring problem and that through experimenting they are able to find the most suitable solution for their own farming system. Learning (through experimenting) helps to understand the current system, opens up new possibilities and provides the tools for facing future challenges (Darnhofer et al. 2010, 549). Through experimenting farmers try to enhance the adaptability of their farms to a dynamic system

in which farms and farming systems are constantly under reorganization (Darnhofer et al., 2010, 552). Farmer might also experiment with common agricultural practice but as site-specific conditions differ between farms, farmers' experiments are unique to the setting they are implemented (Leitgeb et al., 2014, 61).

Kummer et al. (2017, 111) found that socio-economic factors (such as age, sex, level of education, years of farming experience, farm operation) are not influencing the propensity of experiments significantly ($p < 0.05$). Significant correlations were only found between frequency of experiments and travelling habits as well as the frequency of experiments and the farmer's personality (less frequent experimenters adhere to values of tradition and stability). This is partly contradictory to other literature (Critchley & Mutunga, 2003; Saad, 2002; Sumberg & Okali, 1997) where those socio-economic factors were found to be influencing the propensity of farmers' experiments.

The interest in farmer participation in agricultural research since the 1970s and the associated interest in farmers' experiments has an important consequence for modeling and investing the organization and management of agricultural research and rural development activities (Sumberg & Okali, 1997, 2). A difference between conventional agricultural research and farmers' experiments is that conventional agricultural research uses capital to save labor whereas farmers are more interested in cutting cash expenses (Bentley, 2006, 456). On farms converting to organic farming it was difficult for farmers to experiment with the organic management system on small parts of their farm, although it seemed as if such experiments were very important in the farmer's decision-making process (Padel, 2001, 54).

It is not necessary to teach farmers scientific methods (e.g. control groups, numeric data,...) for them to experiment (Bentley, 2006, 458). There might also be a risk that stressing scientific methods might get farmers to do pseudo-scientific trials which do not need the farmers own knowledge (Saad, 2002, 4). Others think that the process of farmers' experimentation should be strengthened as experimentation enriches the farmers' collective intelligence, promotes their sense of criticism and sharpens their observation (Hocdé, 1997, 51). Scientists should not put higher values on farmers' experiments than on scientific experiments but farmers' experiments should be included in the strategies for innovation in organic farming (Vogl et al., 2015, 145). A number of trials and actions to encourage farmers to experiment are to be found in Van Veldhuizen et al. (1997). Although some researchers are not highly interested in farmers' experiments and make no specific offer to encourage them, it is shown that farmers mix new ideas and techniques into their experiments without a specific training on scientific methods (Bentley, 2006, 458). Dolinska & d' Aquino (2016, 126) who worked together with farmers in Tunisia, found that there were a number of experiments done on farm by the farmers themselves. In the interviews many farmers said that in their opinion "the role of the researchers should be to transfer the experience-based ideas of farmers to the higher levels of authority where they could

be implemented.” A farmer normally experiments to solve a problem out of need in contrast to a researcher who experiments because it is his job to do so. Farmers are more interested in looking for solutions than to see how something works (Hocdé, 1997, 58).

But not every farmer’s experiment is supposed to solve a problem. Sometimes farmers even try something out of interest or a spontaneous idea. In these cases they might sometimes realize in the retrospective that a problem might have been solved. In some cases it can be a problem they have not even been aware of before. It is not always a problem definition that leads to solutions. Sometimes it is just an idea and their implementation (Scheumeier, 1997, 36). Farmers’ experiments are not always a reaction to an occurring problem. A lot of experiments happen because of interest or curiosity (Kummer et al., 2017, 108). An on farm experiment needs an idea and motivation to start it. Further there is a need for the capacity to experiment which is also influenced by prior knowledge and experiences. The farmer’s experiment is therefore a combination of prior/local knowledge and the new information incoming from an additional source (Bentley, 2006, 454). This factor is especially important for new entrant farmers as their background knowledge differs from the one a “born farmer” has and local knowledge hardly exists.

As stated in section 2.2.4. farmers are looking for information. Bentley (2006, 456-458) found that farmers use a mix of old (things they already know) and new (courses, ideas, talks,...) information for their experiments. In the experiments he witnessed farmers were using information about new techniques, or adopting background or bio-ecological information. In his study there was no farmer who was simply copying techniques, seen on other farms, without adapting them to the own system. Farmers do actively test practices. They put selective pressure on their crops and test materials obtained from natural resources or other farms, mostly without participation of formal research (Saad, 2002, 3).

There are also problems that occur in the way farmers are creating knowledge or information: Farmers have a big knowledge and are inventing new things - by doing experiments - but because they are rarely writing down their finding or attach names or patents to their findings this is not noticed by scientists. Even academic disciplines (such as anthropology and economics) have not documented farmers’ contributions to agricultural knowledge. “As a result the history of agriculture is written without reference to the main innovators in the long-term process of technological change” (Chambers et al, 1989, 4).

Although farmers can really benefit from carrying out experiments there are a lot of factors that could hinder experimentation: the fear of jealous group members/other farmers, the lacking back hold of the own family, impatience, disappointment – if results are different from expectations (Hauser et al., 2016, 56-57). As seen already in the new entrant farmer section (2.1.) factors such as jealous neighbors can be especially true for new entrant farmers although there can be the

assumption that the new entrant's motivation is higher as they normally decide actively to start working on a farm.

Whenever an experiment is finally conducted there are three possible outcomes: innovations, inventions or failures (failures do not change something on the farm but provide new knowledge for the farmer). These results are normally communicated to the farmers social network (friends, family, neighbors,...) and are also influencing further experiments (Vogl et al., 2015, 144). The propagation of findings as well as the influencing factors on experiments such as information and origin of ideas are part of this study. According to Kummer et al. (2017, 115) there are two significant changes that farmer's experiments can cause. Firstly they can make a change on the individual farm level, by providing new knowledge and techniques to enhance the adaptability of the farm to a changing environment. Secondly the outcomes of an on-farm experiment can reach out to a regional level and cause local innovations which can be useful for a number of farms in a similar context.

Not everything a farmer does is an experiment. If a new action is completely integrated in the production process, then this action is just considered experience (Stolzenbach, 1997, 46). But an experiment is not one action that stands on its own. Experiments are embedded within time and space. One specific experiment can provide the information or motivation to start another one. They are parts of one another and even part of the whole farming system (Vogl et al., 2015, 143). Sometimes the experimental character of an action might only become visible as the experiment fails. A well-working experiment is often embedded within the daily routine and not noticed as being an experiment (Leitgeb et al., 2014, 61).

Only few scientists already investigated the potential innovations and impulses from new entrants to farming. They show that these innovations are not only technical innovations but new forms of organizing farms and new forms of bringing economy in contact with social, cultural and ecological parts of life (Frieder et al., 2006, 54). More than ten years have passed since Frieder et al. wrote these lines about new entrants to farming. A few more papers were written ever since but it seems as still new entrants are not so much into innovating new technology than into finding their own specific way of living. It might be that experimenting is one activity that could help them to reach their goal of their own specific way of on-farm living.

3. Methods

Sampling institutions were contacted and asked for names of new entrants from their database (e.g. "Netzwerk Existenzgründung in der Landwirtschaft", BioAustria,...). Other interview partners were found through personal contact of friends and the University institute (3.2 for more details).

Interviews were conducted on the basis of a semi structured interview guideline and held as a PAPI-Interview (Paper And Pencil Interview) with printed questionnaires (Micheel, 2010, 90). The positive effect of this kind of structured personal interview is that there is a given sequence of the questions which is the same for every interviewee. Further it is possible for both sides to ask questions. For the interviewer it is a rather simple method to get a lot of data. A negative effect of this way of doing an interview is that the interviewer can unconsciously influence the answers of the interviewee (Micheel, 2010, 90).

The interview guideline combined semi-structured and structured elements, and consisted of open questions and questions with pre-defined answer options. Some questions were closed questions which provided pre-defined answer categories where the interviewer only has to tick the option fitting the answer given by the interviewee (Lamnek & Krell, 2016, 326). To make the interviews easier interviewees were allowed to look onto the questionnaire to see the possible answer options. Some other questions (mainly the ones about their own business and about their own experiments) were open questions (Lamnek & Krell, 2016, 327) to give the interviewees the opportunity to talk freely about what they are doing. The interviews were recorded with a digital voice recorder. Later the qualitative interview parts, in which farmers were asked to list for example the sources of information they use or to talk freely about a topic, were transcribed (using the software "F4 – free test version") to get the whole content of the talk. The gathered data was stored and structured using "Microsoft Access 2010". Later data was evaluated/analyzed using the program "Microsoft Excel 2010". Further data was discussed according to the research questions. The interviews were done in German to give the farmers the chance to talk about themselves in their first language.

Before starting the interview phase two pretest interviews were held. Pretest interviews help to test the understandability of the questionnaire as well as the logical sequence of the questions and help to reduce the risk of getting unusable data in the main study (Gläser & Laudel, 2009, 108). Normally there are at least some mistakes in each questionnaire regarding length, structure, the questions themselves etc. therefore it is important to test the questionnaire before going to the field (Micheel, 2010, 89). Gläser and Laudel (2009, 108) highly recommend doing pretests because there is kind of a rule to get to know as much as possible before starting an empirical study. The only reason not to undertake a pretest is that it is time- and in some cases resource-consuming (Gläser & Laudel, 2009, 108). Micheel (2010, 90) recommends doing a pretest at least two times. Therefore two pretest interviews were done - for this study - with new entrants from my

personal surrounding who could not be taken into account for the study itself because both of them did not fit into the requested profile (e.g. the new entrants bought a farm, but turned it into a riding stable which is considered being a conventional business rather than an agricultural business). After the pretest interview phase, the questionnaire was modified due to the recommendation and remarks of the pre-test interview partners.

Fifteen interviews were conducted with new entrant farmers. The interviews took place on the farm of the interviewees. Two (farmer 1 and farmer 10) were living on the same farm as they are marriage partners. Therefore the quantitative data on farm size, animals, manufacturing sectors etc. is only counted once as otherwise it would distort the results. Interview partners 1 and 10 also got me a lot of further contacts which is one of the reasons why such a high amount of the interviewed farmers are sheep keepers.

Fifteen might be a small sampling size but as someone can learn in section 3.3., finding interview partners turned out to be complicated and time consuming. Additionally, one expert-interview was conducted with a founder member of NEL (Netzwerk Existenzgründung in der Landwirtschaft) who is still working in this organization. The expert interview was conducted at the BOKU-campus in 1180 Vienna. For this interview a semi-structured interview guideline was used. It can be found in appendix 11.2. The expert-interview was also recorded and transcribed.

3.1. Structure of the questionnaire

The questionnaire is structured in four parts structured along the three research questions and a sociodemographic part.

1) Part one is the personal part where the data of the interviewee and his/her farm are recorded. This helps to get a first impression of who the interviewer is talking to (farm size, personal background...). It also helps to get to know each other and to find a common basis to talk to each other. This part starts with simple questions about name, age, farm size and finishes with the farmer's reasons for starting an agricultural business.

2) Part two contains questions about farmers' experiments. This part has the definition of what farmers' experiments are meant to be in this context (taken from the questionnaire of Kummer, 2011) at the beginning to make sure that all participants of the study talk about experiments in the same context. The aim of these questions is to find out how important experiments are for new entrant farmers, why they are important and what kinds of experiments the interviewed new entrant farmers conduct.

3) Part three is about the exchange of information. First of all the interviewees are asked to list the names of the organisations in which they are participating. Then there are some questions about the helpfulness of these organisations for every interviewee. In the middle of this section

the new entrants are asked to list the sources of ideas most important for themselves. At the end of this section there are some questions about new entrant's networks to show whether those networks exist and how important they are for the participants.

The assumption of the power of learning communities (see section 2.1.1) is one of the reasons farmers were asked for their participation in discussion groups and narrative circles in the questionnaire. Further farmers were asked how helpful being part of the discussion groups was for them.

4) Finally part four is about sources of information on agricultural practices available for new entrants. This is the shortest part. Its aim is to find out which sources of information new entrants know about and which of these sources they are using. Further it is supposed to show whether new entrants think that the available sources are sufficient and which other sources they would appreciate to have.

3.2. Sampling criteria for selection of interview partners

3.2.1. Requirements for interview partners

All the interview partners had to fulfill the requirements listed below:

1. As the research question is about the importance of farmer's/new entrant's experiments in the starting phase of the farm succession (starting phase was defined with 10 years) one requirement for the interviewed farmers was to lead a farm/agricultural business for a maximum of ten years.
2. As time and mobility is limited also the location of the farm is a criterion for conducting interviews there. As mentioned in section 3.2.3 only farms in the east of Austria were part of this survey.
3. Also marriage partners of the owner could be interview partners as far as they work on the farm and fulfill the sampling requirements.
4. Interview partners further were supposed to be new entrant farmers which mean that they were not growing up on a farm.
5. The agricultural business of the interviewee is supposed to be a "classical" farm with agriculturally used area for crops and/or animal keeping. This requirement is necessary as a lot of new entrants try to fill niches and therefore have a quite unusual agricultural business which could be dealing with animals or growing crops but in an uncommon way. Examples would be Gugumuck (snail production), Hut und Stiel (mushroom production in a cellar in Vienna), riding stables etc.

3.2.2. Searching for interview partners

As there is no central database about farm takeovers or new entrants available in Austria, different organizations (Netzwerk Existenzgründung in der Landwirtschaft, Bio Austria, Bundesanstalt für Bergbauernfragen, Freilandverband, Landwirtschaftskammer,..) were contacted and asked for names of new entrants. Concrete contact information was only given by NEL, Bio Austria and Arche Austria. The named farmers were then contacted via e-mail or telephone and asked for an interview. A few interview partners also came from personal contacts and the university. Within the interview or primary correspondence interview partners were asked for other farmers they know, which lead to a snowball sampling (Bernard, 2011, 192ff). See Table 1 for detailed information on the gathering process of interview partners.

Table 1 shows the names of the contacted organizations as well as the number of received farmer names. Further there is a column showing the number of farmers which had to be rejected as they did not fit the sampling criteria (not fitting the requested study area or farming for more than ten years). Another two columns show the other reasons for not getting an interview from a given contact. One reason was “no contact possible” which includes everything from farmers not answering phones or emails over to too little information to get in contact with somebody (only a name or even a nickname, a wrong phone number,...). The last reason was that some new entrant farmers were not willing to participate out of time reasons, health reasons or because they were having a lot of students over within the last year. The very last column shows the number of interviews effectively conducted. The last row (further contacts) combines all contact data named by potential interview partner. One star (*) marks the pretest interviews. Contacts of pretest interview partners came from my personal surrounding. These interviews were taken in the same way as all others but also not taken into account for the results section. They were only used to test the quality of the questionnaire and the length of the interviews.

Table 1 – institutions requested for contact information of interview partners (interview partners marked with (*) were interviewees for pretest interviews), NEL = Netzwerk Existenzgründung in der Landwirtschaft (network for new entrant farmers), LFI = Ländliches Fortbildungs Institut (agricultural further education institute – one for every county), bmlfuw = Bundesministerium für Land- und Forstwirtschaft, Umwelt und Wasserwirtschaft (ministry for agriculture, forestry, environment and water economy), Landwirtschaftsk. = chamber of agriculture

source	number of contacts	not taken into account for			conducted interviews
		not fitting sampling criteria	no contact possible	not willing to participate	
BioAustria	8	7	-	-	1
NEL	17	7	2	4	4
LFI Wien	-	-	-	-	-
LFI NÖ	-	-	-	-	-
LFI Bgld	-	-	-	-	-
LFI Stmk	-	-	-	-	-
bmlfuw	-	-	-	-	-
Arche Austria	8	6	-	-	2
Landwirtschaftsk. Wien	-	-	-	-	-
personal contacts	7	1	2	1	1 (+2*)
further contacts	15	2	3	3	7

3.2.3. Study regions

Interview partners were supposed to be located in a specific region of Austria. The geographic east of Austria (Vienna, Lower Austria and Burgenland) and because of personal contacts southeast Austria (Styria).

Austria has a long history of third party certified organic farming under a formal regulatory and policy framework which effects in a high availability of farm inputs and advisory on organic farming. It is an industrialized country with a temperate climate (Vogl et al., 2015, 142). The agricultural sector of Austria is defined by a high share of alpine farming, a high percentage of organic farms and a relatively high share of small farms. It comprises about 2% of the Austrian economy (www.accesstoland.eu). Depicting the difference between farming in mountainous regions and low lands in Austria was not part of this study and therefore alpine regions were excluded in the selection of the study area. Another reason for selecting the study area was the closeness to Vienna and the related driving time.

Following some data on the agricultural situation of the study region is depicted (Table 2). As the climate and agriculture are variable within the counties a general characterization of each county is difficult. An attempt was made to show the average annual temperature and precipitation. Further some numbers on the agricultural sector of each county are shown. Lower Austria is the biggest county and has a lot of different regions. It further has the highest share of organic farms from all county farms. Burgenland is known for its warmer and drier annual climate (ZAMG, 2017). The counties of the study region contain all the important vine production regions of Austria (Statistik Austria, 2017). Because of the landscape structure Styria has the highest share of pastures and grasslands. In all counties except for Vienna the number of part-time farmers is higher than the number of full-time farmers. It varies from a slight difference (in Lower Austria) to more than double the amount (Styria and Burgenland) (Statistik Austria, 2017). Overall it can be said that the landscape of the study region and the rest of Austria are opposed in many aspects. The Alps in the western half of Austria form the landscape and climate and altitude influence the agricultural production. The study area which is located in the eastern half of Austria has a lower altitude, higher temperature and therefore a higher share of arable farming and vine production than the western part of Austria (Statistik Austria, 2017; Grüner Bericht 2010).

Table 2 - description of regions (data originating from ZAMG 2009-2014, Statistik Austria - Agrarstrukturhebung 2003 + 2010, Grüner Bericht 2010). Numbers in parenthesis indicate the average all over Austria in contrast to minimum and maximum

	Lower Austria	Styria	Burgenland	Vienna	AUSTRIA
agricultural area (ha)	1.667.296	1.415.922	291.971	20.159	7.357.197
number of farms	40.117	37.582	9.053	548	166.317
number of organic farms	4.683	3.583	963	48	21.737
percentage of organic farms	11,67	9,53	10,64	8,76	13,07
full-time farmers	18.232	11.877	2.411	292	61.956
part-time farmers	19.613	23.261	5.452	181	91.560
arable farming (ha)	692.121	141.498	156.344	5.456	1.371.428
pastures (ha)	187.008	251.309	17.037	1.137	1.440.582
vineyards (ha)	28.145	4.324	12.249	581	45.439
annual temperature	+2° - +10°	+2° - +10°	+8° - +11°	+8° - +11°	-9° - +11° (6°)
precipitation (mm/a)	500-1000	600-750	750-1000	750-1250	450-3000 (1100)

Following there is a map of Austria where the study area is highlighted in yellow (Figure 4). The yellow part shows the area in which an interview would have been possible. Blue points indicate the location of the interviewee's farms. The red dots indicate the location of the pretest interviews.

The expert interview was conducted in the north-east of Vienna and its location is not marked on the map.

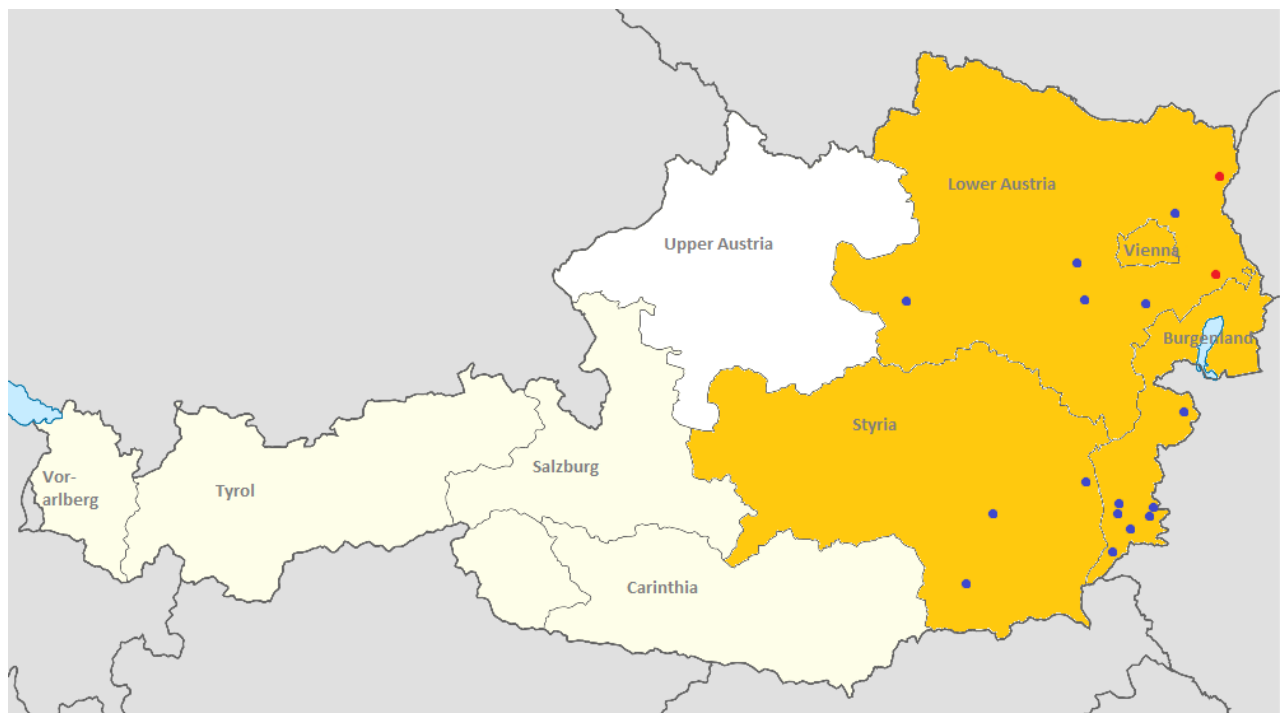


Figure 4 - Map of Austria (www.gifex.com - adapted) Blue dots indicate farms where interviews were conducted; red dots indicate farms where pretest interviews were conducted. Number of farms = 14, Number of interviews = 15 (two interviews were conducted on the same farm).

3.3. Critical reflection of the interviews and the questionnaire

The questionnaire was logically structured and with regards to content easy to follow by the interview partners. The main problem of this questionnaire was that in question 2.8. interview partners were asked to talk about an experiment they are currently working on. In question 2.15. – 2.18. farmers were further asked about their results. As in most cases the experiment was not yet finished and therefore results were not available in most cases, interviewees were not or only partly able to answer these questions. This problem would have been easy to overcome by asking people about their last finished experiment or their most important experiment within the last year but as this problem did not occur within the pretest interviews there has been no awareness to this fact. In question 2.28. the power of customers was underestimated and therefore customers was not in the list of selectable answers but was named by a number of interview partners under the category “other”. Some interviewees seemed to be irritated by the long tables and lists with selectable answers (e.g. questions 3.1., 4.8., 2.10. and 2.13.). One last critical point were two questions (2.25. and 3.4.) which were formulated as a negation (i.e. “I am not aware of such a network”, “there is no new entrants’ network in my district”) which made it

hard for participants to find the right answer. Overall the questionnaire was easy to work with and sufficient for the given task.

Interview partners were open, friendly and willing to answer questions although it seemed that some of them were bemused by the fact that there is something interesting in the things they do, because it is just everyday business to them. Overall it can be said that during interviews farmers were friendly and showed their interesting farms and told a lot of different stories.

There were some limitations in finding interview partners willing to give an interview: Due to the season when interviews took place (spring 2017) a lot of farmers were already starting field work and were stressed or had only limited time resources available. In the area of Vienna and the close surrounding farmers told a couple of times that they had a lot of students over for interviews in 2016 and were tired of giving interviews. Many institutions such as LFI, chamber of agriculture and some others are not allowed to hand over their member's data. Therefore some of them sent out my form letter which was of no success. Finding interview partners was much harder than imagined it would be, which results in the small sample size ($n=15$). The sample is not representative for all new entrant farmers in Austria, but as there was not much variety in many answers the sampling size may be sufficient as an exploratory field study on the related research objective.

3.4. Interview partners – data and overview

Following some data on interview partners is to be found. Interview partners were arranged alphabetically and given a number. Through the whole data section as well as the results section numbers in parentheses are to be found. They match the numbers the interview partners were given and are supposed to highlight farm specific cases.

Out of fifteen farms fourteen were certified organic farms (93%). One farmer (farmer 7) was farming according to organic farming principles but was not yet certified when the interview was conducted. Three farms were collaborative farms (farmers 3, 12, 13), which means that they are managed by a group of people who are not related to one another but live and work together. As it was not specified within point 3.2.1 these farms were also taken into account.

Three fifth of all interviewed farmers were men but because of the sample size this is not representative for the distribution of male and female new entrants in Austria. In one case both marriage partners on one farm were interviewed but separately for increasing the chance of getting different answers in the experiment-part.

In Vienna which was also part of the research area no interviews were conducted, because all four contacted farmers said that they had a lot of schools and university students over last year and are not willing to give interviews in 2017. The high number of farms in Burgenland result on

the one hand from the sampling strategy and also maybe from the fact that “property is cheap in Burgenland” (expert interview 4.5.2017).

Table 3 also shows the regions where interview partners grew up. As only three regions were taken into account for interviews the variety of the new entrants’ origin is interesting. Only five farmers (33%) took their farm in the same county they grew up in.

Further the highest graduation of each farmer is depicted in Table 3. Out of fifteen new entrants only eight were going through any kind of agricultural education. Out of those eight, four did an agriculture related study at BOKU. Two did courses or seminars on this topic which were mainly provided by the LFI. Another two did a vocational school on agriculture or agriculture related topics. It is not taken into account whether the new entrants graduated from this agricultural education.

Table 3 - socio-demographic overview on interview partners (n=15), SL-EX: school leaving examination, V.: Vienna, Lower A.: Lower Austria

farmer code	sex	year of birth	year of farm takeover	farm location (region)	grown up in (region)	mode of farming	highest graduation	agricultural education
farmer 1	male	1978	2007	Burgenland	Styria	part time	University	yes
farmer 2	male	1983	2014	Lower A.	Vienna	full time	University	no
farmer 3	male	1982	2013	Burgenland	Vienna	part time	SL-EX	no
farmer 4	male	1976	2009	Burgenland	South-Tyrol	full time	University	no
farmer 5	male	1977	2009	Burgenland	V., Burgenl.	part time	University	yes
farmer 6	male	1953	2006	Lower A.	Lower A.	part time	University	yes
farmer 7	female	1994	2015	Burgenland	Burgenland	part time	vocational s.	yes
farmer 8	male	1972	2006	Styria	Lower A.	part time	University	yes
farmer 9	male	1985	2010	Lower A.	Lower A.	full time	vocational s.	yes
farmer 10	female	1980	2007	Burgenland	Upper A.	full time	University	no
farmer 11	female	1985	2006	Styria	Styria	full time	vocational s.	no
farmer 12	female	1980	2007	Styria	Styria	part time	University	yes
farmer 13	female	1991	2016	Lower A.	Upper A.	full time	SL-EX	yes
farmer 14	male	1963	2010	Lower A.	Vienna	part time	University	no
farmer 15	female	1978	2010	Burgenland	V., Burgenl.	part time	SL-EX	no

When interviews were taken farmers on average were 39 (mean value, median was 37) years old. The oldest participant was born in 1953 (64 years old) and the youngest interview partner was born in 1994 (23 years old). When taking over their farms the youngest one was 21 when she took over a farm inherited from distantly related family and the oldest one was 53 years old when he bought a piece of land to farm on (mean value=31, median=31). The most recent farm

takeover was in 2016, the oldest in 2006. Interview partners were farming for an average of 7.3 years (median=8 years) when interviews were taken (Table 4).

Table 4 - overview of numeric data of years and ages (n=15)

	year of birth	age at interview	year of takeover	age at takeover	farming for X years at interview
farmer 1	1978	39	2007	29	10
farmer 2	1983	34	2014	31	3
farmer 3	1982	35	2013	31	4
farmer 4	1976	41	2009	33	8
farmer 5	1977	40	2009	32	8
farmer 6	1953	64	2006	53	11
farmer 7	1994	23	2015	21	2
farmer 8	1972	45	2006	34	11
farmer 9	1985	32	2010	25	7
farmer 10	1980	37	2007	27	10
farmer 11	1985	32	2006	21	11
farmer 12	1980	37	2007	27	10
farmer 13	1991	26	2016	25	1
farmer 14	1963	54	2010	47	7
farmer 15	1978	39	2010	32	7
mean value		38.53		31.2	7.3
median		37		31	8

There are different ways in which a new entrant can take over a farm (Figure 5). Six out of fifteen were founded by the interview partners themselves or together with their partner. Two bought existing farms and one inherited the farm (see previous passage). Two leased the farm whereof one leased it from her mother who inherited the farm but was not willing to farm herself. Four interviewed new entrants married a farmer with a working farm.

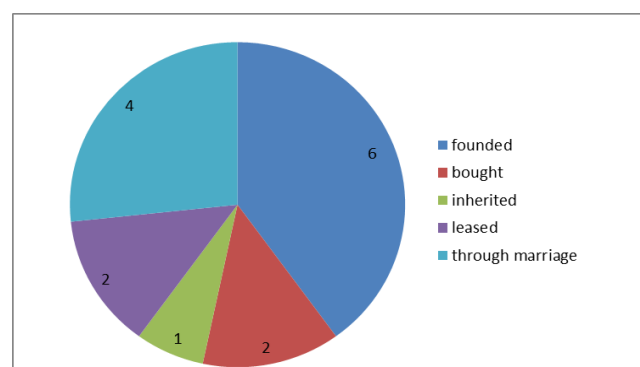


Figure 5 - ways of farm takeovers (n=15), one answer per interview partner possible

The interviewed new entrants own or work on farms of different sizes (Figure 6). The smallest farm was 4 ha in size. The largest farm was 65 ha (arithmetic mean=21ha; median=15ha). The difference between mean value and median is interesting because it shows that there are more small farms than big farms. Grassland had the highest share in the whole farm size followed by cropland and wood. “Others 1 and 2” were mainly yard and buildings (farmers 1, 10, 12, 13) and wine yards (farmers 3, 4, 6). Further farmers mentioned vegetable gardens (farmer 13), orchards (farmer 3) and a pond (farmer 6). The big “other” in case of farmer 14 was horse paddocks with a size of 15 ha.

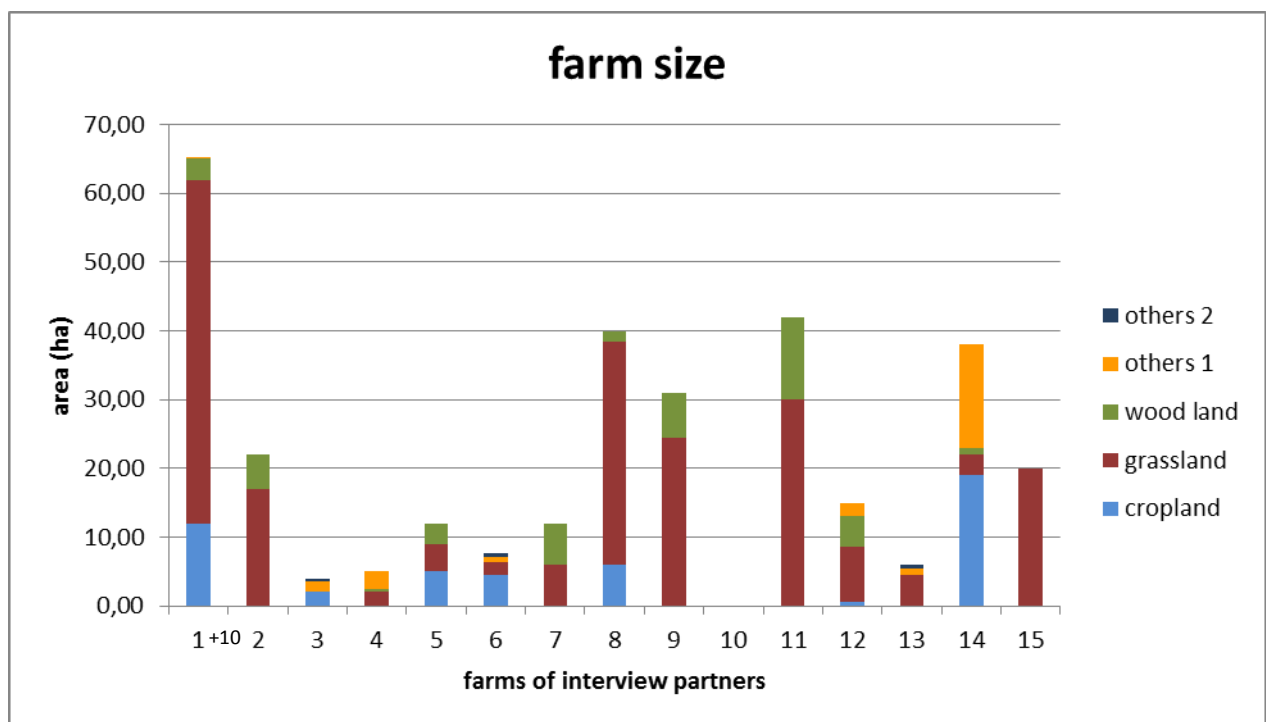


Figure 6 - farm size and types of farm land of interviewees (n=15 on 14 farms). Farmer 1 and farmer 10 are on the same farm – counted only once.

Ways of animal keeping on the visited farms were diverse (Figure 7). One farm had no animals at all (farmer 14). One farm had only bees (farmer 3), one only some chicken (farmer 4). Sheep are the biggest amount of kept animals. This partly relates from the sampling strategy. “Others” were mainly other poultry like turkey (farmers 1, 5, 10) geese (farmers 9, 15), ducks (farmers 2, 9, 12, 13) but also other animals such as fishes (farmer 6), sheepdogs (farmers 7, 11), horses and donkeys. Some of the new entrant farmers are keeping animals which are endangered according to the endangered species list of ArcheAustria (www.arche-austria.at). This is partly because of these people’s beliefs but the amount also relates from the sampling strategy. Farmers 6 and 11 specialised in breeding endangered species such as Huzulen-horses and Pusztertaler Sprinzen (farmer 11) or Kärntner Brillenschaf, Braunes Bergschaf, Alpines Steinschaf, Altsteirer Huhn, Mangaliza (farmer 6). Because of the sampling strategy some had Krainer Steinschaf which is also registered as an endangered species (farmers 1, 7, 8, 10, 11, 12). One also keeps Zackelschaf which is also an endangered species according to the ArcheAustria – list (farmer 9).

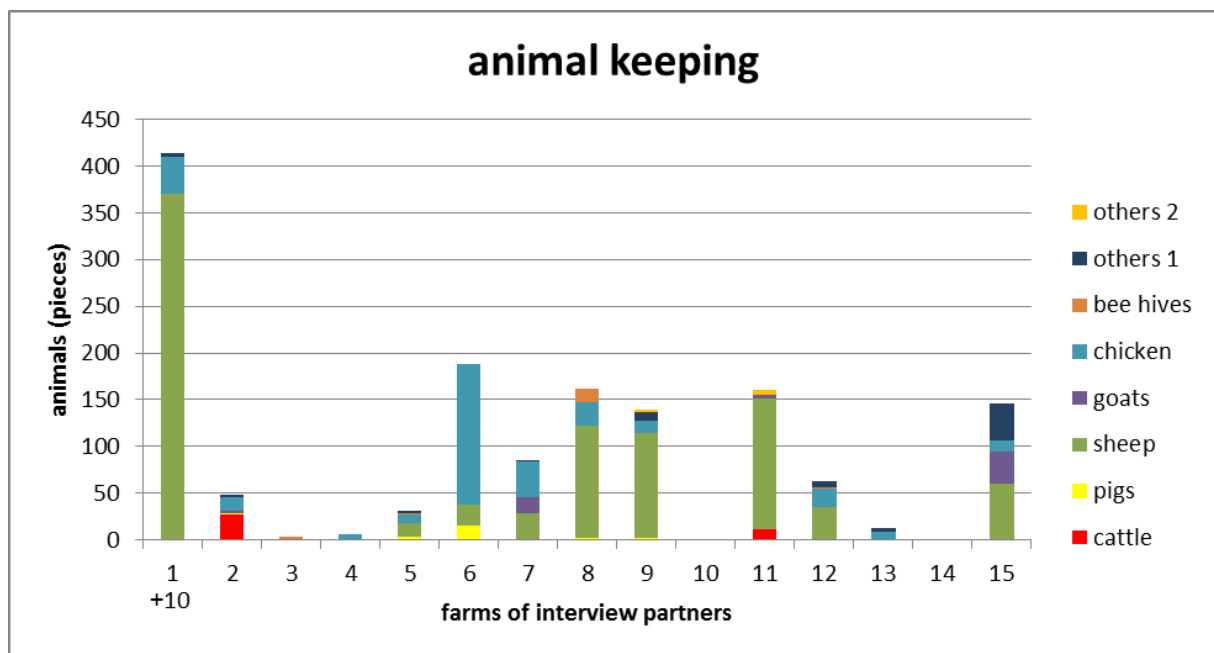


Figure 7 – Kind of animals kept by interview partners (n=15 on 14 farms). Farmer 1 and farmer 10 are on the same farm – counted only once.

The interviewed farmers produced a number of different products for different purposes on their farm (Figure 8). Each category interviewees were asked about is therefore divided into producing for self-supply and for market demand. In the second one (market demand) no differentiation between ways of selling products (direct marketing, selling on markets, and delivery to big companies) was made. It just means that the farmers were producing to sell in contrast to producing for self-supply. In my opinion producing for the market without self-supply is hardly possible because farmers often take a part of whatever they produce for themselves. However in arable farming one farmer (farmer 10) is only producing fodder grains for the market without using them for his own farm as he do not feed grains to his sheep. In the conducted cases forest management and vegetable gardening was in most cases only for self-supply as forests and vegetable gardens were too small to sell the products. Processing reached from producing honey and jam, to juices, wine and schnapps over to process meat for sausages and cheese production.

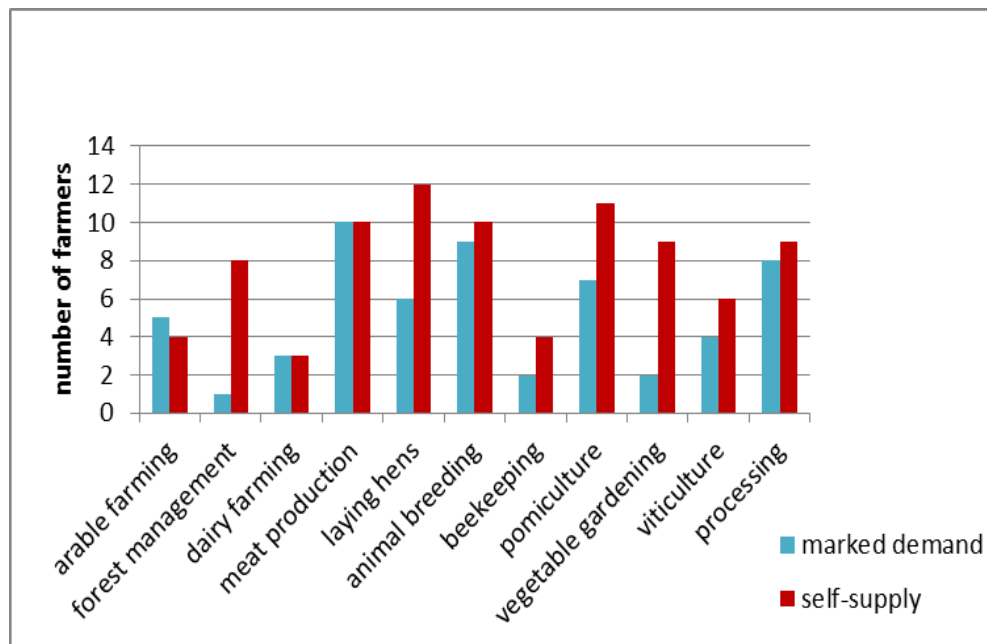


Figure 8 – production branches on the farms (n=15 on 14 farms). Blue indicates production for selling, red indicated production for self-supply.

Next to the production branches on the farms interviewees were asked about other sectors of work they offer on their farm (Figure 9). As can be seen direct marketing was a big issue for nearly all visited farmers. Hired labour was “Maschinenring” work in three cases whereas in one case a farmer is in pay of his township to graze dikes with his sheep (farmer 15). Courses and seminars held on their farms was a source of income for six farmers. In the category others farmers mentioned activities such as organising excursions for schools and kindergarten (farmers 1, 6, 10), holiday-camps for children (farmer 12), dog training and boarding kennels (farmer 11), hunting (farmer 14) and selling seedlings (farmer 13).

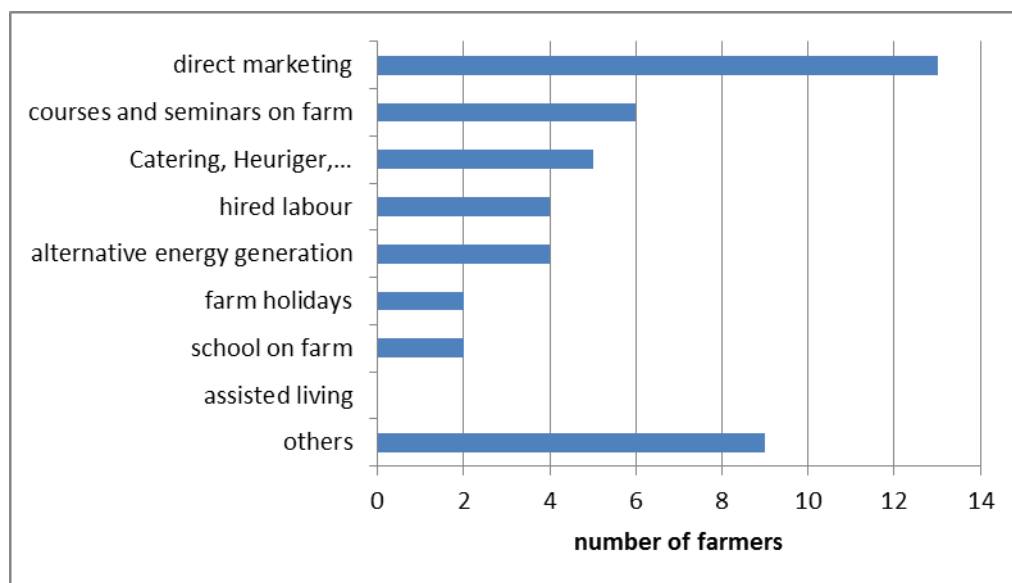


Figure 9 - other working sectors on farms (n=15 on 14 farms) farmer 1 and 10 are on the same farm – counted only once

Next to special animal breeds (Figure 7) and a lot of different sources of income (Figure 9) also interesting plant-related topics could be found on the visited new entrant's farms. Some farmers were growing uncommon plants or breeds of plants such as saffron (farmer 6), organic raspberries and blueberries (farmer 5) or about 300 varieties of herbs and vegetables to sell as young plants (farmer 13).

Only 40% of all interviewed farmers were full-time farmers (Table 3). For a better overview of the new entrants' job situation the questions on the job are broken down to mode of employment, the time before they started farming and nowadays situation (Table 5).

The employment situations are varying in a wide range. Reaching from being a full time farmer up to having fulltime jobs and working on the own farm only during free time. Also the job situation before farming has its varieties. It reaches from a student who started to work on farm right after

finishing university without any other job experience (farmer 8) over a lot of different situations up to a farmer who has been employed in the same company for 36 years before starting to farm (farmer 6).

Table 5 - job situation of new entrant farmers before farming and today (n=15)

farmer number	before farming		today			
	mode of employment	duration of employment	still working in this job	working off-farm	mode of employment	working for hours/week
farmer 1	self-employed	1 year	no	yes	organic inspector	6 hours
farmer 2	public officer	10 years	no	no	-	-
farmer 3	employed	10 years	yes	yes	BioAustria	20 hours
farmer 4	self-employed	10 years	no	no	-	-
farmer 5	employed	6 years	no	yes	bio-control	15 hours
farmer 6	employed	36 years	no	yes	gardener	20-30 hours
farmer 7	employed	1 year	no	yes	nursing staff	20-30 hours
farmer 8	student	0 years	no	yes	journalist	20 hours
farmer 9	worker	7 years	no	no	-	-
farmer 10	employed	3 years	no	no	-	-
farmer 11	employed	5 years	no	no	-	-
farmer 12	worker	5 years	no	yes	sabbatical	8 hours
farmer 13	student	5 years	no	no	-	
farmer 14	self-employed	28 years	yes	yes	entrepreneur	40 hours
farmer 15	employed	10 years	no	yes	vendor	10 hours

Further farmers were asked to tell how important the listed factors were for them to start farming (Table 6). Interestingly eleven out of fifteen said that it was not the desire of their partner to live on a farm. Some even mentioned indirectly that they had to convince their partner. Although some new entrants mentioned that they were frustrated at their old job no interviewee found being overworked as a reason for starting agriculture. Four even told me that they are now far more overworked than in any previous job. As stated above only five of the interviewed farmers are still or again living in the same area they grew up in. Therefore it is no wonder that returning to homeland was not a main reason for starting the agricultural business. Fulfilling a dream and the wish for self-realization were very important reasons for the new entrant farmers, as nearly all the interviewees (except for the ones who married a farmer or inherited the farm) looked actively for a life on a farm. Under the point “others” only one farmer (farmer 5) named a reason: The birth of the first child and the couples restructuring and rethinking of their lives and considering what might be best for their children and family.

Table 6 - new entrant's reasons to start farming, n=15; one answer per person and line possible; reasons were predefined answer categories; answer options on a 5-point Likert scale, numbers are the number of farmers that gave this answer

	very applicable	applicable	neutral	inapplicable	very inapplicable
wish for self-realization	9	4	1	-	1
fulfilling a dream	9	3	2	1	-
connecting job and lifestyle	7	4	1	1	2
frustration at work	3	1	5	-	6
dissatisfaction with old life	2	3	4	2	4
wish for a new job	2	4	3	3	3
cheaper life at the countryside	1	1	4	1	8
feeling over-worked	-	1	2	-	12
it was the desire of family/partner	-	3	1	-	11
return to homeland	-	1	1	2	11

4. Results

Questionnaire parts were linked to research questions. The results of questionnaire part one can be found in section 3.4. It is consisting of sociodemographic data about the new entrants and their farms. Following further results can be found sorted after questionnaire parts.

4.1. Results of farmer interviews

4.1.1 Role of experiments for new entrant farmers

All interviewed new entrants stated that they are doing on farm experiments according to the definition on the questionnaire (page 4). 60% of the respondents are very often doing on farm experiments (very often was defined with frequently throughout the season). One third is experimenting sometimes (sometimes was defined as every season or every year). Only one farmer (8) said that she is rarely experimenting (rarely was defined as not frequently, not every year). When asked for the reasons, farmer 8 stated that it is mainly because of fearing the risk of mistakes and losses on the farm. Another reason was that she had good experiences using and adapting available solutions (Figure 10).

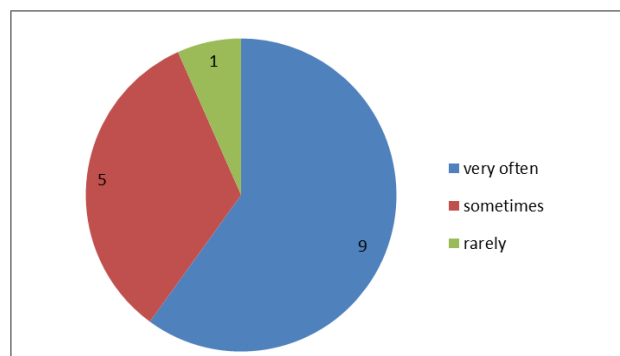


Figure 10 - frequency of experiments done by new entrant farmers, (n=15), three predefined answers possible

When farmers were asked to list freely past experiments they remember, a mean value of 5.5 topics per farmer (median=6) were mentioned. Overall 83 previous experiments were listed (see Table 7). About 31% of those experiments were somehow related to animals (treatment of diseases, feeding strategies, animal husbandry, new breeds,...). About 19% were related to arable farming or pastures, 11% were related to fertilizing and plant protection in all crops, 11% were related to special crops such as vineyards, vegetable gardens or saffron. Other topics were related to processing of products (8%), marketing (6%), buildings and constructions (8%) and others (5%).

As the question was only on previously conducted experiments, the actual experiments named in Table 8 are not included in Table 7.

Table 7 - topics of experiments named by the interviewed farmers (n=15), free listing, later clustered into categories, numbers are the counted numbers of named topics

Farmer number	listed topics	number of topics related to							
		animals	arable farming + pastures	fertilizer + plant protection	special crops	processing	marketing	buildings + constructions	others
farmer 1	7	3	2	-	1	-	1	-	-
farmer 2	7	5	-	-	-	-	-	1	1
farmer 3	6	-	4	1	-	-	-	-	1
farmer 4	6	-	-	1	5	-	-	-	-
farmer 5	5	1	3	-	1	-	-	-	-
farmer 6	4	2	-	-	1	1	-	-	-
farmer 7	4	1	-	-	-	2	-	1	-
farmer 8	7	4	3	-	-	-	-	-	-
farmer 9	6	1	-	4	-	-	-	1	-
farmer 10	4	1	-	-	1	2	-	-	-
farmer 11	4	2	-	-	-	-	-	1	1
farmer 12	6	2	-	-	-	2	-	2	-
farmer 13	3	-	-	-	-	-	2	-	1
farmer 14	10	-	4	3	-	-	2	1	-
farmer 15	4	4	-	-	-	-	-	-	-
total	83	26	16	9	9	7	5	7	4
percentage	-	31.3	19.3	10.8	10.8	8.4	6.0	8.4	4.8

4.1.1.1 Talking about one particular experiment per farmer

In continuation, every interviewee was asked to select one current experiment to discuss more in detail. Thirteen out of fifteen farmers had a current experiment to talk about. The remaining two farmers talked about an experiment they conducted within the last three years. Table 8 shows a short description of each farmers experiment. The described experiments were clustered into categories for a better overview.

Table 8 - short description of new entrants' experiments discussed in detail in the interviews (n=15), free talking, clustering in categories, F: fields, A: animals, V: vineyards, G: grassland

farmer number	short description of the described experiment	code
farmer 1	spelt growing within an evergreen system - kind of intercropping	F
farmer 2	integrating an extra enclosure to brood within the chicken stable	A
farmer 3	leasing an existing vineyard - diverse experiments on cutting branches, tillage, plant protection,...	V
farmer 4	growing new vine varieties from shoots	V
farmer 5	growing blueberries on alternative substrates like sawdust, woodchips - reducing use of peat	F
farmer 6	planting new vineyard for "gemischter Satz", trying a new composition of varieties within regulations	V
farmer 7	built a cheese dairy, producing and selling cheese from own goat and sheep milk	A
farmer 8	trying different treatments to remove <i>Agropyron repens</i> from a leased grassland	G
farmer 9	ventilation for hay bales - for better quality and less space requirements	G
farmer 10	EMO (effective microorganisms) for animal treatment, prophylactic through drinking water, selective on diarrhoea & wounds	A
farmer 11	bought a second farm, grassland in the mountains, building different fences, mowing,...	G
farmer 12	new fences, cutting blackberry radically, to safe fences and reduce workload	A
farmer 13	new way of self-harvesting fields - collective acre with "Ackerhelden" from Germany	F
farmer 14	homeopathic treatment of plant diseases, mainly snow damage in garlic	F
farmer 15	keeping goats on a bush-meadow, hope for natural vermicular treatment	A

New entrants were asked how important a number of pre-defined reasons were for them to start their described experiment (Table 9). As the described experiments showed a great diversity, reasons for starting are also very diverse. The most important reason for starting the discussed experiments were personal reasons such as interest and curiosity. 100% of all interviewed new entrants think that this was very important or important for them to start the discussed experiment. Sustainability, increasing yield and solving a particular problem were other reasons that farmers called important. Thirteen out of fifteen think that coincidence was not a reason for them to start the named experiment. Other unimportant reasons were saving time, serving market demands and developing another source of income. "Others" were for example animal welfare (farmer 15), need for space (farmer 9), reputation (farmer 8), increase experience (farmer 3), increase diversity (farmer 5), economic necessity (farmer 8) and many more.

Table 9 - reasons for starting the described experiment (n=15), one answer per farmer and line possible, five-point Likert scale, numbers are the number of farmers that gave this answer

	very important	important	neutral	unimportant	very unimportant
personal reasons (interest, curiosity,...)	8	7	-	-	-
solving a particular problem	7	4	1	2	1
increasing production/yield	6	4	-	4	1
increasing quality	5	3	3	2	2
increasing self-supply	4	3	1	2	5
saving time	3	1	-	5	6
facilitating work	2	1	3	5	4
sustainability/conservation	2	9	2	-	2
increasing security	2	5	1	2	5
saving money	1	3	4	2	5
serving market demand	1	3	1	4	6
example set by others	1	4	3	2	5
developing another source of income	1	2	-	4	8
increasing income	-	5	1	5	4
coincidence	-	2	-	1	12
others_____	10	-	-	-	-

Following there were two questions on the sources of ideas and information for the previously described experiments. The question on sources of ideas was an open question to give the interviewees the chance to list their answers freely.

When asked for sources of ideas five new entrants (33%) answered that it was their own idea without any influence from outside (Figure 11). Six farmers got the idea from discussions with other farmers (40%), other people (neighbours, friends) were mentioned as the source of the idea by 20%. Two new entrants had to gather information because of an acute problem that occurred and named no particular source of ideas. One got the idea on an agricultural fair in Germany and one answered that it was kind of a coincidence that he started this experiment. Another named an agricultural helpdesk as the source of his idea. Those three were combined under the name “others”. For the farmers who named themselves as the source of the idea, it was the only source. All others named at least two people or organisations each.

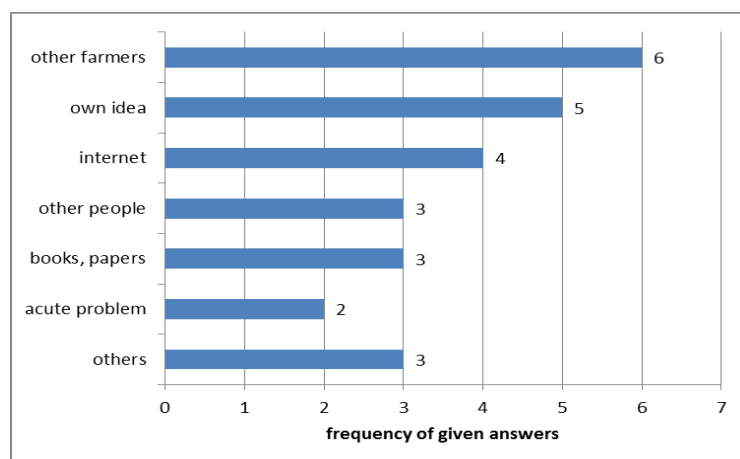


Figure 11 - sources of ideas for one particular experiment (n=15, free listing, multiple answers possible)

The results on the question on sources of information show that internet and other farmers were important sources of information in the discussed experiments. Whereas TV/radio, newspaper, vets, trade fairs and the chamber of agriculture were less important as sources of information (Table 10). Even customers were mainly called unimportant whereas in a graph down below they were named as important partner for talking about experiments (see Figure 13). "Others" were providers (farmer 5) and professional online articles (farmer 15). As this question was only related to the discussed experiments the results are only valid for these specific cases.

Table 10 - sources of information used for the current experiment by the new entrant farmers, (n=15) one answer per farmer and line possible, five-point Likert scale, numbers are the number of farmers that gave this answer

	very important	important	neutral	unimportant	very unimportant
internet	6	3	-	1	5
other (organic) farmers	4	5	1	-	5
reference book	4	5	-	1	5
other new entrants	3	1	2	1	8
professional journal	2	5	2	-	6
courses on agricultural topics	2	2	-	4	7
friends	1	5	1	3	5
customers	-	-	5	1	9
family	-	2	6	-	7
organic farming association	-	2	1	4	8
chamber of agriculture	-	2	2	1	10
agricultural information centre	-	2	1	3	9
trade fair	-	2	1	1	11
TV and radio	-	-	-	2	13
newspaper	-	-	-	2	13
veterinarian	-	-	-	2	13
others:	2	-	-	-	-

One interviewee (farmer 12) answered all questions on sources of information with “very unimportant” as she thought that it was unnecessary for her to ask anybody for information (Table 10). Her farm is sitting lonely on a mountain therefore the answer seems to be plausible.

Eight farmers were not documenting their experiment. Five documented it digital by taking pictures, one documented it on the computer (electronic) and three documented it handwritten. Only six farmers indicated that they shared their findings of this concrete experiment. Seven said that there is no shareable result by now. This was caused by the formulation of the question. Details are to be found in 3.3. Farmer 13 stated that he was not asked for his results by now and therefore was not sharing them. Seven farmers mentioned that they were able to solve a precise problem with their experiment. On the other hand seven farmers mentioned that they are not able to answer this question as their experiment is not finished when interviews were taken. 27% of all interviewees thought that the result of their experiment meet their expectations. The other 73% were not able to answer this question because of the unfinished experiments.

4.1.2.2 Talking generally about experiments

The questionnaire part (2.1 – 2.19) about one specific experiment was followed by a general part (2.20 – 2.29) on all previous experiments the new entrants conducted.

53% of the interviewed new entrants already asked for help at an information centre while conducting an experiment. Their questions reached from getting subsidies for their experiment to concrete technical issues such as field preparation or weed reduction.

Two third of the interviewed farmers thought that their life before farming had a big influence on the number, kind and implementation of their experiments. Four thought that this influence was small but existing and only one farmer thought that there was no influence at all. As in many questions before, the answers showed a huge range of mentioned topics. Four (farmers 4, 10, 12, 14) thought that they learned different methods to face a problem and look for information at university. Two farmers (farmer 3 & 7) thought that their agricultural internships influenced their way of acting on their own farm. Two new entrants (farmer 9 & 15) thought that they are influenced by everything in their surrounding and that there is a chance to learn in every situation. One interviewee (farmer 2) thought that without agricultural background people are easier taking a risk in what they are doing and that because of his work he is less sceptical towards experiments. Only two new entrants (farmer 5 & 12) stated that they learned technical issues in their previous jobs which now help them to build stuff and solve technical problems.

Out of fifteen new entrant farmers thirteen (87%) said that experimenting plays an important role within their everyday farming practice. As new entrants were asked why experimenting is important to them, their freely listed answers showed a huge variability. Farmer 6 said that without experiments it remains static (everybody, himself and agriculture as a whole). Three farmers said

that their whole life or their whole farm life is an experiment (farmer 1, 5, 8). Some said that experimenting is fun (farmer 1, 2, 13) or that farming and experiments are inseparable connected or at least belong together (farmers 8, 10, 11, 12, 14). Farmer 10 who has raspberry and blueberry fields said that he relies on experiments because there are no all-round solutions that would fit for every farm, because every farm is different.

Table 11 shows the positive tenor new entrants have on experiments. Twelve out of fifteen farmers thought that all experiments – even the ones with negative results are important or at least somehow important for them. 100% agreed that they also learned from failed experiments. No interviewee refused to retry an experiment that went wrong. When it comes to breaking up an experiment that seems to go wrong, opinions differed. This might also result from people's personality and their way of thinking. Nearly the same was it with the question on how easily people get discouraged. Also here answers showed variability. Within the last statement again a clear trend was visible as 100% of all interviewees thought that unexpected results are not necessarily bad.

Table 11 - interviewee's opinion on given statements (n=15), one answer per line and farmer possible, five-point Likert scale, numbers are the number of farmers that gave this answer

	I agree totally	I agree	neutral	I hardly agree	I do not agree
only experiments with positive results are important to me	1	2	-	3	9
I even learned a lot from failure	13	2	-	-	-
whenever something gets wrong I try it again	5	8	2	-	-
whenever it seems as if the result would not fit my expectations I would stop the experiment	2	3	2	6	2
a bad result discourages me	4	2	2	2	5
an unexpected result is not always bad	11	4	-	-	-

When asked about the future of their experiments ten farmers said that they want to conduct the same amount of experiments as they are doing now. This was mainly because they are limited in time and contented how their time resources are used at the moment. Four farmers wanted to do more experiments in the future. Only one farmer wanted to reduce the amount of experiments in the future because he wants to reduce stress (Table 12).

Table 12 - how new entrants plan to experiment in the future (n=15), amount: 3 point Likert scale, reasons: free answer

farmer	amount	reasons
farmer 1	equivalent	develop but not overdoing it
farmer 2	equivalent	fits, not overdoing it, respect for older generation
farmer 3	more	try more when more knowledge available
farmer 4	equivalent	actual amount fits own personality
farmer 5	equivalent	as problems and interest demand it
farmer 6	equivalent	amount suits the way it is
farmer 7	equivalent	as time allows
farmer 8	equivalent	depends on the situation
farmer 9	more	when security is given it is possible to risk and invest more
farmer 10	more	so much to discover, a lot of inspiring pioneers
farmer 11	less	too much action at the moment, need for more rest
farmer 12	equivalent	is part of the work, not possible without experiments
farmer 13	more	is fun
farmer 14	equivalent	amount suits the way it is
farmer 15	equivalent	hopefully someday everything fits, but there is always something new to try

New entrants were asked how their experimenting behaviour changed since their beginning of farming until this day (Figure 12). This question was separated into three parts. The first question was about how the importance of the experiments changed. Two third think that experimenting is now as important to them as it was right at the beginning. The other third think that experimenting is now more important to them. Two said that this is because they now have more knowledge about the topics they want to experiment with and one said that he dares to risk more now that the farm as a whole is running well. The second question was about the change in frequency of experiments. More than half of all new entrants reported that they are now doing more experiments than at the very beginning. Some argued this with being better informed now, higher readiness to assume a risk or higher curiosity for particular things. The third question of this section was about the quality of the experimental process. Nine interviewees stated that their experiments are now equally (well) organised, though four out of those nine said that their experiments are now equally bad organised than in the beginning although this was not a possible answer. Five said that the quality of their experiments is now better than in the beginning because they learned from their mistakes.

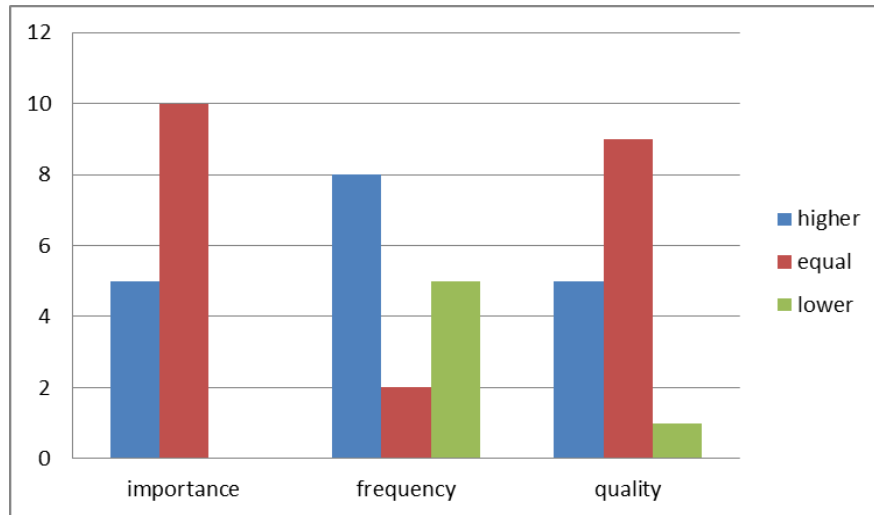


Figure 12 - change of experiments during starting phase of farm succession (n=15), three questions, one predefined answer per question possible

Further farmers were asked to whom they talk about their experiments (Figure 13). New entrants prefer face to face communication about their experiments or at least personal contacts. Digital media (social media, online forums) are only used by six interviewees. “Others” were customers in seven cases, press in one case and on-farm living people in the case of one collaborative farm.

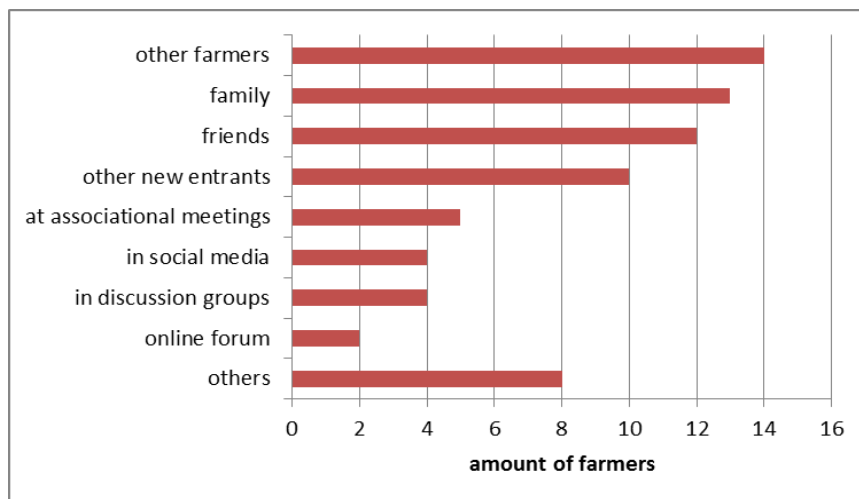


Figure 13 - where and with whom new entrants talk about their experiments (n=15, multiple answers possible, categories predefined)

Eleven new entrants knew a person who tried something that worked well on their own farm whereas only six new entrants reported about a person who tried something that did not work on

their own farm. All interviewed farmers share their results independent whether the experiment fulfilled their expectations or failed.

4.1.2 Information exchange of new entrant farmers

New entrants named 3 to 10 different associations they are participating in (mean: 5.0; median: 5.8). Many of the named associations were related to the farmers main farming interest such as Krainer Steinschaf Zuchtverband, Pusztertaler Sprinzen Verband, Weidegansverein and others. Some were farming related such as BioAustria, Arche Austria, AMA,... Some were not farming related such as scouts, firefighters, parish council,... Some of the named associations were very specific ones such as Uhudlerverein or Austrian Sheepdog Society.

Only one third of the interviewees stated that they are active members in three associations or more. Here active was defined as participating in events, working/helping in the association. More than half (8 out of 15) of all interviewees are organizing meetings of (organic) farmers or other interested people (e.g. farmers with CSA farms are organizing meetings).

Nine new entrants stated that they are members of the associations they named but are not participating actively in association's activities. *"Honestly, I only pay the fees"* (farmer 5).

In Figure 14 one can see the regularity the interviewed new entrants participate in regular meetings of organic farmers. It further shows the participating frequency of the interviewees in regular new entrant's meetings.

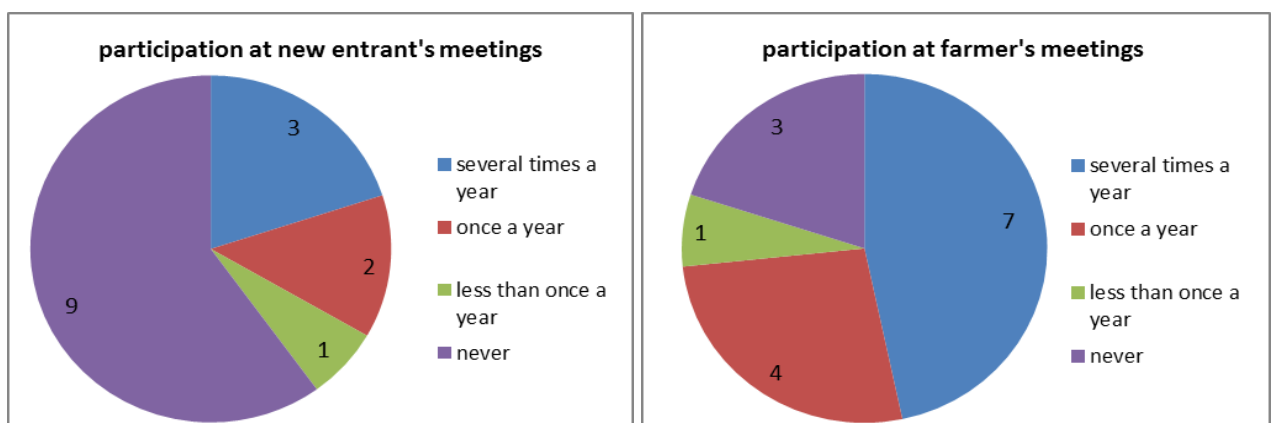


Figure 14 – new entrant farmer's participation in farmer's and new entrant's meetings (n=15), predefined answer categories, one answer per farmer and question possible

Only three new entrants stated that they participate in a discussion group (farmer 4, 11, 12). The mentioned discussion groups are totally different ones. A viticulture discussion group (farmer 4), a "Whatsapp group" about homeopathy (farmer 11) and a farm internal discussion group on a

collective farm (farmer 12). All three farmers think that their membership in this group is of high value for their farming practice.

Next interviewees were asked which group or association they experience as being the most helpful one for their agricultural work. In 11 cases an association was named as the most helpful factor. In one case it was the veterinarian (farmer 15), in two cases it were the other members of a collective farm (farmer 12 & 14) and in one case the farmer had no helpful association at all (farmer 13). Then there was a question on the person, group or association which influences the new entrant's farming practice the most. Here only six people named an association, two named again the other farm members, five named family members, friends or partners. In two cases new entrants thought to be influenced by nobody.

Interviewees were further asked what they think about the distribution of new entrant's networks (Table 13). The high number of "don't know" is noticeable – most of the new entrant farmers were not thinking about the existence of such a network before. *"I know a few other new entrants, but we only meet at meetings of the sheep breeders association"* (farmer 9).

Table 13 - New entrant's opinion about the distribution of newcomer networks (n=15), predefined answers, one answer per line possible, numbers are the number of farmers that gave this answer

Is there a new entrant network			
	yes	no	don't know
in your community	1	3	11
in Austria	4	6	5
in Europe	2	4	9
worldwide	2	3	10

Only two interviewees were part of a new entrant network (farmers 14, 12) and both of them stated that being part is helpful for them. Two thirds of the new entrants think that there is no good newcomer network available (Table 14). When asked whether they talk to other new entrants on a regularly basis answers showed a high diversity. Then again the interviewed new entrants talk to other farmers about experiences on a regularly basis. They further stated that many of their friends are no farmers and that they know competent persons they can talk to.

Table 14 - new entrant's opinion on statements about communication and connection (n=15), one answer per line possible, predefined answers on a five-point Likert scale; numbers are the number of farmers that gave this answer

	very applicable	applicable	neutral	inapplicable	very inapplicable
I talk to other farmers about experiences on a regularly basis	7	5	2	-	1
Many of my friends and acquaintances aren't farmers	9	3	1	2	-
I know competent people I can ask about agricultural topics I am interested in	9	4	1	1	-
I meet other new entrants on a regular basis	5	2	3	2	3
There is a good new entrants' network to exchange experiences	1	2	2	2	8

4.1.3 Sources of information for new entrant farmers

In the fourth part of the interview, farmers were asked whether they think that the provided information on agriculture is sufficient. The first question is about the sources of informations the new entrants used at the very beginning (not defined during the interview, the first few years of farming and even before) of their farming practice. Other farmers and the internet were used as a source of information by all interviewed new entrants (Figure 15). This was followed by books which were used by 87% of them. The agricultural information centre, the chamber of agriculture and even other new entrants were used as a source of information by 53-60% of the interviewees. "Others" were lecture notes (farmer 1), family (grandparents, uncle) (farmer 8) and parents in law (farmer 9).

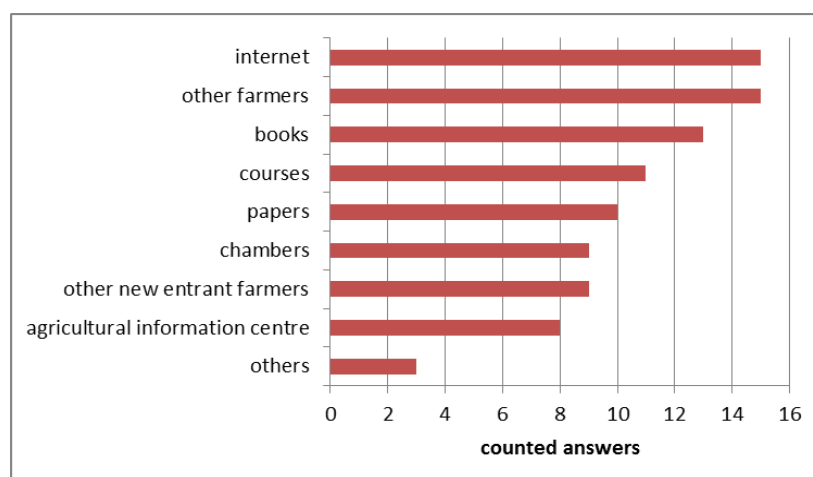


Figure 15 - sources of information new entrants used at the beginning phase (first few years) of the farm succession (n=15, multiple answers possible)

Further new entrants were asked whether they still use the same sources of information than at the beginning of their farming practice. Seven out of fifteen new entrant farmers stated that they still use all the sources they named in the first question. All others mentioned that something has changed. This change showed a large spectrum reaching from no other farmers anymore (farmer 4) to more other farmers (farmers 1, 12), from less agricultural chambers (farmers 5, 10) to more courses (farmer 3). Some farmers said that they do not have time for reading anymore therefore books (farmers 1, 10, 12) and newspapers (farmer 2) are less important now. One farmer (farmer 6) said that books are too expensive and therefore he only uses the internet. The vet (farmer 9) and neighbours (farmer 3) also gained importance. A newcomer who said that he is now using more other farmers and even other new entrants as an information source said:

"Over time, talking gets more important than reading." (farmer 12)

Five farmers stated that they knew about informational offers especially for new entrant farmers (farmers 1, 2, 3, 9, 13) whereas only two already made use of these offers (farmers 2, 13). Named offers were courses and seminars provided by the chamber of agriculture, BioAustria and the sheep breeding association. Further new entrants named information provided by NEL and other networks. Farmer 2 did a course by the LFI named "accidentally dairy farmer" whereas farmer 13 did the BioAustria newcomer-course and had the opportunity to exchange information in a farmers network. One farmer (farmer 5) even mentioned that she would have appreciated a seminar that depicts the possibilities of organizing a farm (animals, crops, combinations, direct marketing,...).

Only five farmers already heard about "Netzwerk Existenzgründung in der Landwirtschaft". This is little wonder as during the interview the expert told that NEL is BOKU related and not actively advertising. Out of those five, three mentioned actively that they were studying at BOKU (farmers 1, 5, 12). As it was no question in first part, it might be that all five of them were BOKU students.

Question 4.6. was about the support new entrants get from community, authority and state. Only four of the interviewees thought that new entrants are supported sufficiently. Farmer 6 thinks that the group of new entrants is so small that the authority does not recognize it. One said that he did not need any support as he was marrying to an existing farm (farmer 2). Farmer 15 stated that the chamber of agriculture does a lot for new entrants as they give support with application forms.

This question was followed by one about the sufficiency of new entrant dedicated information. Seven interviewees thought that the newcomer related information is sufficient. Farmers 6, 9, 10 and 11 stated that the amount is sufficient but that it takes some motivation and afford to get this information. One newcomer (farmer 14) thought that the amount is sufficient except for their specific topic (selling of seedlings).

The very last question was about the types of support or sources of information the new entrants would appreciate (Figure 16). The most frequently named possibility was a homepage specialised

on new entrants where they could find all information on application forms, meetings, maybe a chat forum and so on. Another important help would be (more) organised network meetings. Some new entrants were not even aware of the existence of such meetings (Table 13). Books (more or other) were no important factor as they are losing importance which has been already mentioned above. Within “others” a huge variety can be found reaching from political, financial and legal support (farmers 3, 14) over to the support by experienced farmers (farmers 9, 11). One asked for training-farms (farmer 6) another for a folder new entrants could get at the chamber of agriculture which is supposed to contain all important forms you need to fill in at the beginning of your farming practice (farmer 9). Farmer 8 stated that there is no need for courses as there are so many things that can only be learned during practice. Contrary to this opinion 47% of the interviewees think that more courses would be helpful for them.

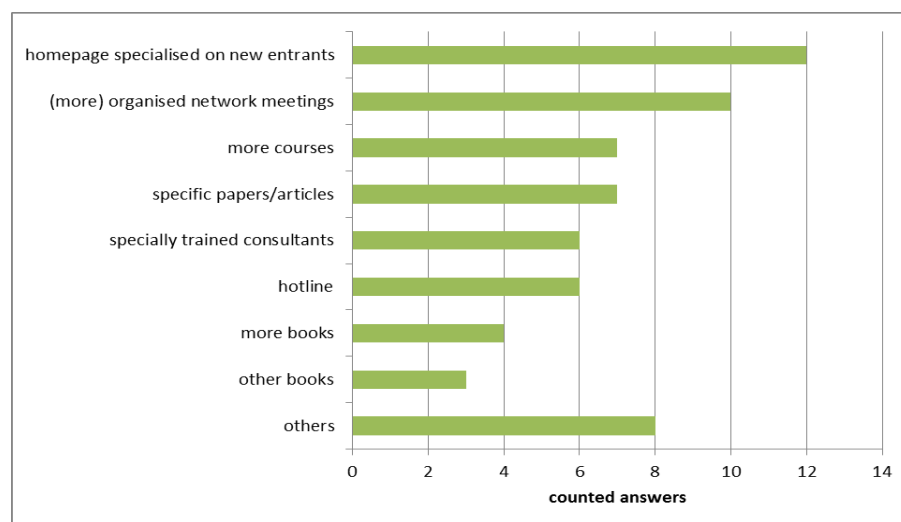


Figure 16 – sources of information and support the interviewed new entrants would appreciate to have (n=15, predefined answers, multiple answers possible)

4.2. Results of the expert interview on new entrant farmers

Following the result of the expert interview is to be found. The results are following the interview guideline which can be found in 11.2. The expert was a founder member of NEL (Netzwerk Existenzgründung in der Landwirtschaft) which originated from BOKU in 2013.

4.2.1 Tasks of NEL

The expert thinks that the tasks of NEL are to support interested people and potential new entrant farmers especially from BOKU, getting the topic to the public and do marketing for the potential new entrants. They further provide a platform (Hofbörse) where potential new entrants and farmers who are looking for a successor are connected and they are answering upcoming

questions via email but are not advertising in any way. The target group are potential new entrants and they only keep a loose connection to the already successful new entrants.

At the moment the members of NEL are actively operating only at BOKU as they are in need of time and financial resources to become more public. They are not advertising active but are open to talk to all interested people. He thinks that the fact why so little interview partners have heard about NEL is caused by the fact that the interviewed people started there agricultural businesses before NEL was founded in 2013.

4.2.2 New entrants networks

The expert thinks that there is an informal, regional new entrant's network but that new entrants are not connected all over Austria. He further stated that among the associations such as BioAustria, ÖBV etc. new entrants may be informally connected as they get to know each other at the organised meetings (BioAustria Bauerntage).

4.2.3 Sources of information for new entrants

As informational sources for (potential) new entrant farmers he named district chambers for agriculture ("Bezirksbauernkammer") and most important informal networks. He thinks that finding/talking to successful new entrants is the most valuable source of information. Further there are brochures and courses (new entrants law course, how to write an operational concept,...). There is no course on background facts that shows opportunities, possibilities and provides people with the facts they need to decide whether they really want to become a farmer or not. People need to care for basic information themselves by doing internships and talking to farmers. This basic information is not provided in Austria officially. NEL is contacted as a source of information only infrequently. As they are not advertising, requests get more frequent after film evenings and events when people hear about the association. If questions arise members are not able to answer from their personal knowledge they forward people to the chamber of agriculture in their district or tell them who else to ask.

When asked for the information still needed to be provided, a good brochure that contains all facts and forms was named as the most important one. This brochure has to be provided for every county in Austria as the agricultural law differs between counties. Such a brochure is already available in Germany. This one was edited by hofgründer.de and the University of Kassel. Further advertisement for modern agriculture would be a possibility to inform public about who is producing their food today, who are the farmers and how is farm succession happening these days. To inform society would be of a great benefit for all farmers, not only the (potential) new entrants. Another benefit would be a hotline supervised by well-informed people where every new

entrant in need can call and ask for help (one helpline is already provided by the farmer's chamber). Another important thing would be an interactive map where all new entrant farmers of Austria are listed. This could help them connecting to other new entrant farmers for sharing experiences and would have also been of great benefit for this thesis.

If time resources were available it would be possible for the members of NEL to organise meetings for new entrants which was definitely remarked as a wish by some of the interview partners. As a lot of NEL's members are located in Vienna they are regionally restricted. The interview partner calls it new entrant's regulars' table ("Stammtisch"). There are associational meetings where mainly the members of NEL are participating. In the past there had been film evenings and symposia as kind of an organised meeting for interested people. There was a "farmer to be" meeting at the Nyeleni forum in Romania in 2016 (www.nyelenieurope.net) where some members participated.

4.2.4 Support for new entrants

After the interview guideline was finished the last three questions of the questionnaire (4.6-4.8) for the new entrant farmers were posed to the expert. The answers are to be found below.

He thinks that the political support for new entrants in Austria is not sufficient and compared it to Belgium and Slovenia where they have a pretty high financial support. In France there is newcomer support in the agricultural chamber of every county. These countries are way ahead of the support offered in Austria. It seems that in France there is a big farm succession problem. In Austria there is also kind of a farm succession problem which is more a lack of motivation than a quantitative one. People keep the family farms as a property asset. All the previously mentioned information on the new entrants' situation in Europe was handed to NEL at an EU conference and is therefore not supported by literature sources. Then again there are motivated people who cannot afford property and old people who keep on farming as they are lacking for successor. It seems to be important to inform the customers who are producing their food today (there are young people who are motivated to farm) and who produced it for the last decades (there are old farmers who are longing for somebody to take over their farms). "Farming takes a lot of effort and will of all involved parties"

The expert answered the need for all pre-defined information sources with "yes" except for "more books" as he thinks that the importance of books decreases and the actual amount is sufficient.

During an informal talk at the end of the interview the following facts were mentioned: The counties in Austria with a high amount of new entrants are Burgenland as land is cheap there, Lower Austria, Styria and Upper Austria. There are also some in Vienna but with specialised small scale farming such as snail, vine or mushroom production. In the western counties there are less new entrant farmers as far as he knows.

5. Discussion

5.1. Discussion of sociodemographic data

Kontogeorgos et al. (2014, 337) did a research in Greece on new entrant farmers. Of their 254 interviewees 61% were male (here 66%). In their study only 15% of the participants graduated from university. In this master thesis it was about 60% which seems to be related to the sampling strategy, which included a university related organization (NEL) as informant for new entrant contact information. 87% of the new entrants in the study of Kontogeorgos et al. were fulltime farmers whereas in this study it was only 40%. As can be seen in the description of the study area (3.2.3) the total amount of part-time farmers in Austria is higher than the amount of full-time farmers. On the other hand Monllor (2012, 12) in a study in Spain and Canada found that the average newcomer farmer is female and that 63% of the newcomers had finished a university study.

Three of the interviewed new entrants were living on a collaborative farm, seven kept endangered species and one was breeding old/endangered plant varieties. New entrants tend to create ways of alternative agriculture such as museum-farms, social farms, natural-conservation farms and so on, which can also be seen as a way of experimenting (Groier, 1999, 158). Breeding sheep or goats, growing old plant varieties and especially organic farming is typical for new entrant farmers because being independent from the market empowers them to try (experiment with) growing, processing and marketing strategies (Groier, 1999, 233; Monllor, 2012, 13). New entrants often do not see their farm as an agricultural production system but as a central point for their activities. This is the perfect basis for low-risk experiments with old varieties, different breeds and new production methods as they are mainly independent from market pressure (Groier & Hovorka, 2007, 71).

New entrant farmers are doing experiments on many different topics, even in social aspects such as collaborative farm which could also be seen in this study, as also in economic aspects such as marketing strategies which was also found in this study (Groier & Hovorka, 2007, 69).

Although the sample size was rather small nearly all of the different types of new entrant farmers mentioned by Groier & Hovorka (2007, 72) could be found. They mentioned extreme small farms of about 2000m² (not in this case), over to typical subsistence agriculture of about 4 ha (farmer 3, 4, 13 in this case), over to larger farms with sheep and goat cheese production and direct marketing (farmer 7 and 15 in this case) up to wealthy farmers with big grasslands for horses (farmer 14 in this case). Groier & Hovorka (2007, 72) also found a lot of processing (9 out of 15 in this case) and direct marketing (13 out of 15 in this case) which was also essential for most of the interviewed farmers in this study.

One interesting fact was that some of the interviewed new entrant farmers do not think that there is any difference between them and other farmers. Farmer 8 said: “I am working in agriculture for so long (remark: 10 years), I see myself as a farmer that is like all other farmers”. Farmer 11 said: “I have witnessed so many different situations that I do not need to ask anybody for advice. I know how it works”.

5.2. Importance of experiments for new entrants at the beginning of farm succession

All sampled new entrants are doing on farm experiments. In Mayer (2012, 55) only 73% of the farmers reported an experimenting activity. In Kummer et al. (2017, 107) who used this questionnaire on organic farmers in Austria it was 89.5% of the interviewed farmers. In their research only 18.4% of the interviewed farmers stated that they are trying things “very often”. In Mayer (2012, 55) it was 44% of the farmers who tried things very often. Although the sample size is much smaller in this case, 60% of the interviewed new entrants are experimenting “very often” on their farm. On the other hand 36.9% of the farmers in Kummer et al. (2017, 107) were experimenting “rarely” whereas only 6% of new entrants in this case stated that they are experimenting “rarely”. In Mayer (2012, 55) it was 11%. As the sample size is very small in this case no general statement is to be made. At least in the cases considered for this study it shows that new entrants are experimenting much more frequent than the “born farmers” in Kummer et al. (2017) and Mayer (2012) do. This again fits the findings of Groier & Hovorka (20017, 69-71) who stated that new entrant farmers are experimenting more frequent because of the lower market pressure and the different background when it comes to facing a problem.

For 86.6% of the interviewed new entrants experimenting is of high relevance for them on their farms. In Mayer (2012, 56) 91% of the interviewed farmers stated that experimenting is of high importance to them. In Mayer (2012) interviewees were not asked why it is important for them. New entrants in this case stated that experimenting is part of their life or their farming practice and that even their whole farm is an experiment that is still unfinished. Another reason for experiments being important to the interviewed new entrants in this case was that they enjoy trying new things as they are lacking partiality on agricultural topics.

In this study the new entrants were experimenting mainly because of interest, sustainability, solving a problem or increasing yield. In farmers’ experiments carried out by farmers in Costa Rica scientists found that the main reasons for experimenting named by the farmers were to solve a problem or to gain new technology (Hocdé, 1997, 53). In Cuba (Leitgeb et al., 2014, 56) the main reasons for experimenting were increasing yield, independence from external sources, improving farm management and satisfying curiosity. The reasons found in this study differ a lot from the research done by Hocdé (1997) but match the findings of Vogl et al. (2015, 142) where

the interviewed farmers in Austria and Cuba named personal reasons such as curiosity and overcoming challenges and problems as the main reasons for experimenting. One explanation for the different reasons could be the diverse backgrounds of new entrants and farmer families who were farming for generations. Another more important reason might be the different social and financial background of the investigated countries. Schmitz et al. (1997, 188) investigated farmers' experiments in Amazonia and found the following reasons for experimenting: try something new, reduce work, increase yield, use the same area more than once, to be modern, expand the cultivated area. Although the area and even the farmers in Amazonia have totally different backgrounds than the Austrian farmers, the first three mentioned reasons perfectly fit the results found in this study. Even the first reason: to experiment for the reason of try something new, was as important to the farmers as it was found in this case. In the research done by Kummer (2010, 68) solving problems was the main reason for experimenting of farmers, followed by curiosity, the will to learn and the interest in a specific topic. In Kummer et al. (2017, 108) the reasons were defined somehow different as personal reasons (curiosity) were followed by confronting challenges and problem solving. As can be seen in those two studies such as in this study here, personal reasons played an important role for the farmers to start experimenting. It shows that farmers are not only reacting to occurring problems and external changes but also actively starting experiments to satisfy their own curiosity and follow their interest.

One third of the interviewees (33%) claimed that the described experiment was based on their own idea. In Leitgeb et al. (2014, 55) 58% of the interviewed farmers in Cuba stated that their experiment was based on their own idea (previous experiments may also work as a trigger for new ones). One reason could be that new entrant farmers are lacking of background knowledge and therefore often get ideas when talking to other people (neighbors, other farmers, family members, friends,...). Other farmers were the source of the idea for 40% of the interviewed new entrants. Farmers in Cuba and Austria named other farmers, literature and advisory as sources of information needed for experimentation as well as sources of ideas (Vogl et al., 2015, 142). Meeting other farmers was a trigger for new ideas about potential experiments for 26% of the interviewed farmers (Leitgeb et al., 2014, 55). This kind of knowledge transfer was characterized by the trust in agricultural experience (Leitgeb et al., 2014, 55). Trusting in the agricultural experience of other farmer can be a very important factor for new entrant farmers to seek their advice and maybe to take that advice as a trigger for their own experiment.

When asked to freely list topics of already conducted experiments, in this study an arithmetic mean of 5.5 topics was mentioned. In Kummer (2017, 107) the arithmetic mean was 3.1, in Mayer (2012, 72) it was 3.3 experiments mentioned per farmer and 4.0 in Vogl et al. (2015, 142). In comparison with studies on "born farmers", new entrant farmers seem to do more experiments. Out of the 83 mentioned experiments 27.6% were not concerning agronomic topic (i.e. processing, marketing, constructing, communication,...) Sumberg & Okali (1997) found that out of

155 examples of farmers' experiments only 5% were about non agronomic topics. The high difference may result from the background knowledge of new entrants is more diverse which may lead to a higher number of non-agronomic experiments. Further the difference may result from the way the question was asked as the way of asking might encourage people to talk freely about all their topics or to talk only about farm related topics.

Eight new entrants did not take notes on their experiment, four documented their experiments in a written form and five took pictures whereof two did both things. In Kummer et al. (2017, 109) 42.6% of the interviewed farmers were not documenting their experiments, 16% were taking pictures (here 33%), 34% took notes (here 27%). This does not really meet the view that farmer's experiments are not very systematic from a scientific viewpoint (Stolzenbach, 1997, 46) although new entrants in this case were not asked about having a concept on the structure of the experiment. It seems as if new entrants are interested in the results of their experiment but that they are not clearly planning every step in the first place. As a high number of the interviewees had an university related background the assumption may be that the experiments are more systematic than they finally are. This may result from a lack of time for a written documentation as well as from the fact that most of the interviewees are open to a number of possible outcomes and are in many cases financially independent from the result. This again meets the assumption that the experiments are conducted to gain information and for the joy in experimenting rather than to receive a particular result.

Two-third of the interviewed new entrants thought that their lives before farming have a big influence on their experimenting practice. Four more thought that there is at least some influence. Groier & Hovorka (2007, 72) found that new entrants can profit from their "old lives" as they are often higher educated, can use former contacts/resources and react often more open or unconventional (also mentioned by farmer 2) when it comes to problems. Childhood experiences can influence the ideas which finally lead to an experiment (Leitgeb et al., 2014, 55). This fits the assumption that new entrant farmers have a different approach to experiments than "born farmers" have. As the method of how an experiment is conducted is not part of this study a comparison between new entrant farmers' and "born farmers'" experiments is difficult, though it seems – in comparison to literature – that new entrant farmers are experimenting more frequently and from experience during interviews new entrants seem to be unconcerned when it comes to experimenting. This may result from a lack of agricultural knowledge as well as from the different background which may facilitate on farm experiments. Although farmers' experiments differ from scientific experiments university education also seems to enhance experimentation among new entrant farmers as it reduces the fear of trying something, breaks mental barriers and gives background information on how to start an experiment. Further it can be said that new entrant farmers rely to a high proportion on other farmers as source of information and ideas as they are

lacking the unconscious knowledge gained from childhood experiences and trust in the agricultural experience of other farmers.

Of the farmers investigated in this study eleven know a farmer who tried something that worked well on their own farm and even six knew somebody who retried something that did not work out on the interviewee's farm. Wettasinha (1997, 113) found that by talking to each other farmers can convince others to follow their example even if the results show the possibility of failure. This leads us to the section on information exchange between new entrant farmers.

5.3. Information exchange among new entrant farmers

Sharing of ideas is a good way to create motivation. It gives access to other ways of thinking and helps people locating themselves within this topic. This is an opportunity but even a risk. Therefore experimenters should be careful of the quality of information they spread (Hocdé, 1997, 60). It is important to bring experimenting farmers in contact with each other (Stolzenbach, 1997, 46), and most experimenters have a certain desire to involve other people into their experiments (Hocdé, 1997, 59). Farmers prefer to see examples of other successful farmers when concerning management changes on their farm (Dodunski, 2014, 104). New entrant farmers of this study used other farmers and the internet as the main sources of information at the beginning of their farming practice. Other farmers and the internet were also ranked high as sources of information for the current experiment, and other farmers were important for the new entrants to talk about their results of experiments.

Kontogeorgos et al. (2014, 336-337) found that the new entrants interviewed for their study mainly named friends/other farmers and the internet as sources of information. Technical journals were important to only 33% of their interview partners whereas technical journals were important to 66% of the farmers interviewed for this study. Agricultural Chambers were important to 60% of the interview partners of this study whereas Kontogeorgos et al. (2014, 337) found that they were important sources of information to 23% of their interviewed new entrants. Those differences may result from country-specific differences or is just coincidence as in here the sample size is small. It may also be that new entrants in Austria are more willing to ask chambers for help as they are present on the countryside and interviewees gave them a good reputation in most cases. The higher amount of technical journals used may result from the number of new entrants with academic background in this study. In Kummer et al. (2017, 113) literature, other farmers and advisors were the most important sources of information on experiments for the interviewed farmers. Scientists were ranked least important. The authors concluded that the interviewed farmers in Austria are not well connected to academic agricultural research or that the scientists fail to provide research results in a way farmers want to use them (Kummer et al.; 2017, 113).

Sewell et al. (2014, 69) stated that academic papers are generally complex and theoretical and therefore not suitable as an informational source for practical farming problems.

Johnson et al. (2001, 20) found that in 2001 the computer was not the preferred medium for farmers to receive information. This might have changed until now as the computer gets more and more important within everyday farming and was rated important by a high share of interviewed farmers (Kontogeorgos et al., 2014, 336-337 and in this study). Back then Johnson et al. (2001, 20) already stated that especially new entrants want to learn from experienced farmers and other new entrants which was also visible within this study. Farmers in groups can encourage each other to try something new and by exchanging their findings they can help each other solving problems (Hauser et al., 2016, 56).

Asked for the existence of specific networks of new entrants, most interviewed new entrants stated that they were not aware of the existence of a new entrant's network in their community, in Europe or worldwide. Only two thought that new entrant farmers are connected to one another over Europe although nearly every farming organization has newcomer members. This was fortified by the EU commission (eip-agri, 2017, 25) who found that there is no organization which lobbies the interests of new entrants internationally. The expert from NEL stated that there are only small, informal and regional restricted newcomer networks existing which can also be seen in this study as only a small share of interviewees stated that there is a new entrants' network in their district or county although a high share of new entrants are members of a number of associations. Groier (1999, 246) stated that there is a kind of newcomer scene in Waldviertel existing which was not part of this study. The new entrant farmers in Austria are obviously not linked country-wide. They mainly meet each other at associational meetings where sometimes small groups of new entrants start networking. According to the interviewed expert, these are all informal networks, consisting of few new entrants who get to know each other at official occasions. Groier & Hovorka (2007, 69-70) recognized that the quality of interaction among new entrants decreased since the 90's in Austria. Seven out of fifteen interviewed new entrants meet other new entrants on a regularly basis. Further interviewees stated that they are communicating with other farmers or new entrants via modern technology which may also be a reason for the decrease of the quality of interaction or be a reason for them not to discern their connections as a network.

It seems as if no specific newcomer network is available in Austria. Some new entrant farmers are informally linked to one another. Even organizations that are supposed to support new entrants are not organizing a new entrant's network. Not even in their main operating area. Within the next paragraph it is pointed out that the interviewed new entrants would appreciate if somebody would organize such a network as it could be of great help for them in their everyday farming practice.

5.4. Availability of information sources for new entrant farmers

In this study interviewees were asked which available sources of information they know in Austria and which of them they use. All interviewed new entrants used other farmers and the internet as a source of information. Also books and courses were of high value at the beginning phase of the farm succession. All other suggested sources of information were used by at least fifty percent of the interviewed new entrant farmers. This shows that none of those sources is unnecessary. It can be seen that over time (from the very beginning until now) the importance of books decreases and that official sources get less important as the new entrants start lacking time and gaining routine. On the other hand courses and even personal contact (neighbors, other farmers,...) gain importance over time.

Farmers thought that there is no need for more books as there already are a lot and time is limited to read them. One newcomer farmer even stated that books are expensive and there are new books regularly. Lehmann (2005, 201) found that farmers think that there is an intractable amount of papers and books available and that they often do not have the topic related background to understand them. In Lehmann's study farmers also mentioned the time factor as a reason for taking little books into account for their work. McGreevy (2012, 406) found that new entrants refer to books as a source of knowledge. The author correlates that with the higher educational background new entrants have in comparison to born farmers. Additionally learning from their own mistakes is also very important for new entrant farmers (McGreevy, 2012, 406).

Only five of the interviewed new entrants are aware of newcomer-specific offers of information and only two of them already used one of these sources. There are brochures for new entrants in Austria but not for every county. This would be necessary as the agricultural law in Austria is different for every county (even according the requirements to become a farmer) (www.bmlfuw.gv.at). Further there is a seminar for new entrant farmers from the chamber of agriculture concerning legal issues and writing an operational concept. It could be a good strategy to make these offers more popular to the new entrant farmers for example at university or at the official sites each farmer has to visit. In the view of the interviewed expert, there is no source depicting the possibilities a newcomer farmer has, nothing about social aspects and the consequences of becoming a farmer. In Austria there is an organization called NEL (Netzwerk Existenzgründung in der Landwirtschaft) which supports potential newcomers by answering questions and offering a platform where farmers looking for a successor and potential newcomers can connect with one another. As their radius of influence is mainly limited to Vienna hardly any interviewees had heard about the support they offer. The homepage www.accesstoland.eu offers an overview of organizations supporting new entrant farmers in Europe and according to that page NEL is the only Austrian organization.

Four of the interviewed new entrants thought that the amount of information specifically addressed to new entrant farmers is sufficient but that it takes time and effort to find this information. Padel (2001, 54) stated that the access to information is difficult for all farmers. Therefore this is a problem that is not only present for new entrant farmers although their need for information and support is supposed to be higher than the one of “born farmers”. Lehmann (2005, 200) found that it would be helpful to prepare the given information aim-oriented. This is a process that needs personal and financial resources but would be of great help to all the farmers who can profit from the condensed, topic-related data. This process could ease the transfer of knowledge from authority to the farmers.

Interviewees were asked which newcomer-specific information would be helpful in their opinion. Ten out of fifteen new entrants thought that organized network meetings for new entrants would be helpful. Organized meetings give the opportunity to get in contact with other (newcomer) farmers (Lehmann, 2005, 155). In Lehmann’s study 66% of the interviewed farmers thought that the organized group meetings were helpful for them at least at one point of their farming practice. When realizing how much energy and help they can gain from regular meetings farmers started to initiate their own regular meetings with others who were experimenting on the same topic (Ishag et al. 1997, 107). This could also be a possibility in this case but therefore it needs (new entrant) farmers who are willing to invest time and effort to organize such meetings and to motivate the others to participate. Eight of the interviewed new entrants stated that they are organizing meeting of organic farmers or other interested people. This mainly includes other interested people such as collaborative farm members, people interested in the products, members of the self-harvesting fields and so on. This shows that the new entrants are willing and also able to organize meetings. A reason for not organizing new entrants meetings, although there is a need for those, might be that the new entrants interviewed in this case are not well organized among each other, and two third of the interviewed new entrants confirmed that the new entrants are not well connected to one another. The expert from NEL thought that it would be possible for their association to organize such meetings but because of their personal resources they are limited in time and area.

Here in this study 80% of the interviewed new entrants thought that a new entrant specialized homepage would be helpful for them. Zerger (1999, 47) found that back in 1999 consultants already claimed for a central point where all relevant information is supposed to be gathered, edited and then shared with farmers. They recommended the internet as a modern tool of communication for this process.

Although the internet is available as a modern tool the expert from NEL recommended a telephone hotline as in some cases farmers prefer to talk to people rather than to write or search on their own. This kind of hotline was mentioned to be important by six out of fifteen interview partners. He further thinks that a map of the location of the new entrant’s farms would be helpful

for them to network. Such a map would have been of priceless value for this study. It would have made the contacting of possible interview partners a lot easier. Even the EU commission (eip-agri, 2016, 25) mentioned that an open-source mapping of new entrants, social media platforms and a targeted European association would enhance the presence and connectivity of new entrant farmers in Europe.

There is also a lack of political will to support new entrant farmers (four interviewees, anonymous). There is a need for political effort, to provide more money, more support and to inform the people who is producing their food. This topic was also depicted on an EU-webpage (www.accesstoland.eu) where they state that in Austria land issues have not received adequate attention and land problems are not on the political agenda. On the other hand local authorities were found particularly important when it comes to supporting new entrant farmers (eip-agri, 2016, 18). This was affirmed by the expert.

The flow of information from authority (government, scientists,...) to the farmers is challenging as many different stakeholders with diverse backgrounds are involved. Therefore many farmers have to rely on their own experiences and findings and on the ones from their colleagues. It is often determined by chance which alternative sources of information they use (Lehmann, 2005, 207).

6. Conclusion

Based on the results from this explorative study on new entrant farmers in north-east Austria it can be concluded that experimenting plays an important role in the new entrant's starting phase of the farm succession. New entrants are doing different experiments on a variety of topics. It was also found that the frequency of experiments is higher in the interviewed farmers than it is in "born farmers" interviewed by Kummer (2017) and Kontogeorgos et al. (2014). Experimenting is important to new entrant farmers as it is part of their everyday lives. On the one hand it can be seen as a disadvantage that new entrant farmers are lacking of unconscious background knowledge which "born farmers" get from their parents during childhood. On the other hand this fact can also be seen as an advantage as new entrant farmers have a different view on many agricultural topics which might be influenced by their previous lives. Two third of the interviewees thought that their previous lives are even influencing the amount and the kind of their experiments. Experiences at university or previous jobs can help overcoming new entrant farmers' inhibitions towards experiments. Further new entrant farmers seem to be in favor of experimenting as a source of knowledge. Literature shows that farmers are experimenting on their farms for different reasons and in changing quantity. This master's thesis shows that the interviewed new entrant farmers are frequently experimenting on different topics and that they notice experiments being an important part of their everyday farming practice.

Another part of this thesis was the new entrants' networks. In this explorative study no evidence of a specific new entrant's network could be found. Most new entrants are not aware of such a network and also the interviewed expert stated that there is no official/organized network available. Newcomer networks may exist in a small scale and on an informal basis. 66% of the interviewed new entrants think that organized newcomer meetings/networks would be helpful for them. It takes somebody to organize such meetings and to encourage new entrants to participate as it would be beneficial for them.

New entrants use a number of different sources of information throughout the starting phase of the farm succession. It shows that books lose importance over time as reading time gets limited when the farm starts working. Most new entrants rely on other farmers and the internet when they need information. Other farmers are also important counterparts for the new entrants to talk about their experiments. New entrants think that the amount of information dedicated to this sort of farmers is incomplete and that it would take more effort from official sites to establish an adequate support for them in their starting phase.

Research might be important in the way experiments are carried out. To see whether there is a difference in the way new entrants are experimenting in comparison to the way "born" farmers are experimenting. From the experience gained within this study it can be said that each and every farm/farmer is different and that new entrant farmers seem to face their everyday challenges with

a more different strategy than other farmers would do. This is even reflecting in the way they are conducting experiments. It would also be interesting to see how much the parents are influencing a successor's farm and the differences of the influence whether the parents are farmers themselves or not. Another interesting topic would be how the organizations - which aim to support the new entrant farmers - are working in different countries.

Finally there is to be concluded that new entrant farmers are inventive when they need to overcome challenges. They effectively use on farm experiments to counterbalance the lack of knowledge they have and mainly contact other farmers and the internet to gain information. Farmers' experiments conducted by new entrant farmers are a valuable tool in the everyday farming practice of a farm successor. Experiments are conducted in many different agricultural and non-agricultural related topics and are also influenced by the farmer's former life.

As there is a chance that the number of new entrant farmers will increase in the near future it would be beneficial for all successive generations of new entrants to increase the amount of concentrated, topic-related, high-quality information and to make efforts to connect new entrants all over Austria and maybe even the EU, as peer-group networks are of high value to all participants.

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11. Appendix

11.1. Questionnaire for field interviews

Interview Code:

Datum:

Beginn: Ende:

Teil 1 - Persönliche Daten:

Vorname: _____

Nachname: _____

Adresse: _____

Tel: _____

E-Mail: _____

Webpage: _____

Geburtsjahr: _____

Aufgewachsen in: _____

1.1. Landwirtschaftliche Flächen

Gesamtfläche mit Wald (inkl. Pachtflächen)	ha
Ackerland	ha
Grünland	ha
Wald	ha
Sonstige (bitte anführen)	ha
Sonstige (bitte anführen)	ha

1.2. Tierhaltung

Rinder	_____ Stück
Schweine	_____ Stück
Schafe	_____ Stück
Ziegen	_____ Stück
Hühner	_____ Stück
Bienen	_____
Sonstige Nutztiere:	_____ Stück
Sonstige Nutztiere:	_____ Stück

1.3. Betriebszweige am Betrieb:

Produktion für Markt	Selbstversorgung	
		Ackerbau
		Waldwirtschaft
		Milchwirtschaft
		Fleischerzeugung
		Legehennen
		Tierzucht
		Imkerei
		Obstbau
		Gemüsebau
		Weinbau, Weinwirtschaft
		Verarbeitung

1.4. Sonstige Tätigkeiten am Betrieb

<input type="checkbox"/>	Direktvermarktung
<input type="checkbox"/>	Lw. Lohnarbeit (z.B. auf Maschinenringbasis)
<input type="checkbox"/>	Urlaub am Bauernhof
<input type="checkbox"/>	Catering, Buschenschank/Heurigen oder ähnliches
<input type="checkbox"/>	Schule am Bauernhof
<input type="checkbox"/>	Betreutes Wohnen (für Menschen mit besonderen Bedürfnissen, alte Menschen,...)
<input type="checkbox"/>	Alternative Energiegewinnung (Biogas, Photovoltaik,...)
<input type="checkbox"/>	Kurse und Seminare am Bauernhof
<input type="checkbox"/>	Sonstige (bitte benennen): _____

1.5. Betriebsart

- ☐ Vollerwerb
- ☐ Nebenerwerb

Andere Beschäftigung für ____ Stunden pro Woche als _____

1.6. Bitte geben Sie Ihren höchsten Ausbildungsabschluss an:

- ☐ Pflichtschulabschluss
- ☐ Lehrabschlussprüfung
- ☐ Fachschulabschluss
- ☐ Meisterprüfung
- ☐ Matura
- ☐ Akademie (Diplom)
- ☐ Universitätsabschluss

1.7. Haben Sie eine landwirtschaftliche Ausbildung gemacht?

- ☐ Ja welche? _____
- ☐ Nein

1.8. In welchem Jahr haben Sie den Betrieb übernommen: _____

1.9. In welcher Form haben Sie den Betrieb übernommen?

- ☐ gepachtet
- ☐ gekauft
- ☐ geerbt
- ☐ neu gegründet
- ☐ angeheiratet
- ☐ andere _____

1.10. Ihr Betrieb ist:

- ☐ zertifiziert biologisch
- ☐ nicht zertifiziert, aber biologisch bewirtschaftet
- ☐ zertifiziert biodynamisch bewirtschaftet
- ☐ nicht zertifiziert, aber biodynamisch bewirtschaftet
- ☐ konventionell

1.11. Welchem Beruf sind Sie vor Ihrer landwirtschaftlichen Tätigkeit nachgegangen?

- ☐ Angestellte/r
- ☐ Arbeiter/in
- ☐ Beamter/in
- ☐ Selbstständige/r
- ☐ Arbeitslose/r
- ☐ Sonstige:_____

1.12. Wie lange haben Sie diese Tätigkeit ausgeführt?_____

Führen Sie diese Tätigkeit immer noch aus?

- ☐ Ja
- ☐ Nein

1.13. Bitte zählen Sie mir Ihre wichtigsten Gründe auf, die Sie bewegt haben in die Landwirtschaft zu gehen:

1.14. Wie wichtig waren die folgenden Gründe für Ihre Entscheidung in die Landwirtschaft zu gehen?

	Trifft sehr zu	Trifft zu	Neutral	Trifft wenig zu	Trifft nicht zu
Unzufriedenheit mit dem alten Leben					
Frustration im Job					
Überarbeitung					
Wunsch nach Selbstverwirklichung					
Erfüllung eines Traumes					
es war der Wunsch von Familie/ Lebenspartner					
Rückkehr in die alte Heimat					
Wunsch nach einem neuen Beruf					
günstigeres Leben am Land					
Anpassung des Jobs an den Lebensstil					
sonstiges:					

Teil 2 – Versuche: Fragebogen über Versuche und Experimente von Biobauern

2.1. Was ist für Sie ein Experiment?

Definition

Wenn wir hier die Begriffe ausprobieren, versuchen oder experimentieren verwenden, meinen wir damit, wie SIE überprüfen und testen, ob und wie etwas funktioniert, und ob dies für Sie und Ihren Betrieb passend ist. Gemeint ist also nicht ein wissenschaftlicher Versuch, sondern wie Versuche in der Praxis von Biobauern auf ihren Betrieben durchgeführt werden.

Was Sie versuchen oder ausprobieren, kann eine eigene Idee sein, oder etwas, das Sie gesehen oder von dem Sie gehört haben, eine Veränderung, die Sie auf Ihrem Betrieb durchführen, und vieles mehr.

2.2. Probieren Sie auf Ihrem Betrieb verschiedene Dinge aus, oder haben Sie das früher gemacht?

zum Beispiel:

- Ackerbau
 - Bodenbearbeitung
 - Düngung
 - Unkraut- oder Schädlingskontrolle
 - Geräte und Maschinen
 - Tierhaltung
 - Verarbeitung
 - Vermarktung
 - Weitere (z.B.: Arbeitseinteilung, Homöopathie, EM, Präparate, Arbeiten nach Mondphasen)
- Ja, ich probiere Dinge auf meinem Betrieb aus/ich habe Dinge ausprobiert.
 - Nein, ich habe auf meinem Betrieb keine Dinge ausprobiert
(entsprechend der gegebenen Definition).

2.3. Würden Sie dieses „ausprobieren“ auf Ihrem Betrieb als Experiment bezeichnen oder gibt es einen anderen Begriff der Ihnen lieber ist oder Ihrer Meinung nach besser passt?

2.4. Wenn Sie etwas ausprobieren/ausprobiert haben, sagen Sie mir bitte, was Sie probiert haben. Welche Themen fallen Ihnen ein, wo Sie etwas ausprobiert haben? (Bitte nur die Themen anführen):

Thema 1: _____
Thema 2: _____
Thema 3: _____
Thema 4: _____

Thema 5: _____
 Thema 6: _____
 Thema 7: _____
 Thema 8: _____
 Thema 9: _____
 Thema 10: _____

2.5. Auf Ihrem Betrieb probieren Sie Dinge

- ☐ Sehr oft (regelmäßig während der gesamten Saison)
- ☐ Manchmal (jede Saison/jedes Jahr)
- ☐ Selten (nicht regelmäßig, nicht jedes Jahr)
- ☐ Nie

2.6. Falls Sie selten oder nie etwas auf Ihrem Betrieb ausprobieren/ Experimente machen, wie wichtig sind die folgenden Gründe?

	Stimme voll zu	Stimme eher zu	Neutral	Stimme wenig zu	Stimme nicht zu
Ich kann/möchte auf meinem Hof keine Fehler oder Verluste riskieren.					
Ich habe gute Erfahrungen damit gemacht, Standard-Empfehlungen oder Lösungen zu übernehmen, die mir empfohlen werden.					
Es ist nicht die Aufgabe eines Bauern, etwas auszuprobieren/Versuche zu machen. Das wird von anderen durchgeführt.					
Ich muss nichts probieren, da alles gut läuft, so wie es jetzt ist.					
Mir fehlten bisher die richtige Idee oder konkrete Informationen um etwas Neues zu					
Sonstige:					

2.7. Läuft aktuell ein Experiment?

- ☐ Ja (bitte weiter bei 2.8.)
- ☐ Nein (bitte weiter bei 2.9.)

2.8. Wenn ja, bitte beschreiben Sie worum es geht:

2.9. Wenn Sie aktuell kein Experiment durchführen, beschreiben Sie bitte kurz ein Experiment, dass Sie in den letzten 1-3 Jahren durchgeführt haben:

Bitte beziehen Sie sich bei den folgenden Fragen nur auf das eine zuvor genannte Experiment!

2.10. Wie wichtig waren die folgenden Gründe für Sie, um dieses Experiment zu BEGINNEN?

	Sehr wichtig	Wichtig	Neutral	Weniger wichtig	Nicht wichtig/
Einkommen erhöhen					
Zeit sparen					
Geld sparen					
Arbeit leichter machen					
Konkretes Problem lösen					
Marktnachfrage bedienen					
Persönliche Gründe (Interesse, Neugier,...)					
Produktion/Ertrag erhöhen					
Qualität verbessern					
Selbstversorgung erhöhen					
Umweltschutz,					
Vorbildwirkung von anderen					
Zufall					
Mehrere Standbeine					
Sicherheit erhöhen					
Sonstige					
Sonstige					
Sonstige_____					

2.11. Welche waren für Sie die wichtigsten Ideenquellen um DIESES landwirtschaftliche Experiment zu beginnen

2.12. Bitte ordnen Sie die oben genannten Ideenquellen nach ihrer Wichtigkeit

- 1.
- 2.
- 3.
- 4.
- 5.

2.13. Wie wichtig sind/waren die folgenden Informationsquellen für die Durchführung DIESES landwirtschaftlichen Experiments? (Bitte in jeder Zeile Zutreffendes ankreuzen):

	Sehr wichtig	Wichtig	Neutral	Wenig wichtig	Nicht wichtig
andere Bauern/Biobauern					
andere Quereinsteiger/innen					
Kunden					
Freunde, Bekannte					
Familie					
Bioverband					
Landwirtschaftskammer					
Internet					
Fachbücher					
Fachzeitschriften					
landwirtschaftliche					
Kurse zu landwirtschaftl.					
Messen					
TV und Radio					
Zeitung					
Tierarzt					
Andere:					

2.14. Haben Sie DIESES Experiments in irgendeiner Form dokumentiert?

- ☐ Ja, handschriftlich
- ☐ Ja, elektronisch
- ☐ Ja, digital (Fotos, Videos, etc.)
- ☐ Ja, _____
- ☐ Nein

2.15. Haben Sie die Ergebnisse DIESES Experiments mit jemandem geteilt/an jemanden weitergegeben?

- ☐ Ja an wen? _____
- ☐ Nein warum nicht? _____

2.16. Was haben Sie durch DIESES Experiment dazugelernt?

2.17. Konnten Sie durch DIESES Experiment ein konkretes Problem lösen?

- ☐ Ja welches? _____
- ☐ Nein warum nicht? _____

2.18. Entsprach das Ergebnis DIESES Experiments Ihren Erwartungen? Haben Sie Ihr Ziel erreicht?

- ☐ Ja was war das Ziel/die Erwartung?

- ☐ Nein warum nicht? _____

2.19. War DIESES konkrete Experiment für Sie

- ☐ Sehr wichtig
- ☐ Wichtig
- ☐ Neutral
- ☐ weniger wichtig
- ☐ nicht wichtig

Warum? _____

Bei den folgenden Fragen geht es allgemein um alle Ihre bisherigen Experimente

2.20. Haben Sie sich für die Durchführung eines Experiments schon einmal Informationen bei einer Beratungsstelle für Landwirte geholt:

- ☐ Ja (weiter bei 2.21.)
- ☐ Nein (weiter bei 2.22)

2.21. Wenn ja, welche Informationen waren das?

2.22. Glauben Sie, dass Ihr „altes Leben“ bzw. Ihre Vorerfahrungen die Zahl, Art oder Umsetzung Ihrer Experimente beeinflusst haben?

- ☐ Ja, sehr
- ☐ Ja, etwas
- ☐ Wenn, dann nur wenig
- ☐ Nein, gar nicht

2.23. Wenn ja, beschreiben Sie diesen Einfluss bitte:

2.24. Hat das Experimentieren für Sie einen besonderen Stellenwert in Ihrer landwirtschaftlichen Tätigkeit?

- ☐ Ja
- ☐ Nein

Warum? _____

2.25. Bitte kreuzen Sie die zutreffende Aussage in jeder Zeile an.

	Stimme voll zu	Stimme eher zu	Neutral	Stimme wenig zu	Stimme nicht zu
nur Experimente mit für mich positivem Ergebnis sind für mich von Bedeutung					
auch aus Fehlschlägen habe ich viel gelernt					
wenn etwas schiefgeht probiere ich es einfach noch einmal					
wenn es scheint als würde das Ergebnis nicht meinen Erwartungen entsprechen, breche ich das Experiment ab					
ein schlechtes Ergebnis wirkt auf mich demotivierend					
ein unerwartetes Ergebnis ist nicht immer schlecht					

2.26. Was wollen Sie in Zukunft tun?

- ☐ mehr Experimente machen
- ☐ weniger Experimente machen
- ☐ ca. gleichviel Experimente machen

Warum? _____

2.27. Wie haben sich die Experimente seit dem Beginn Ihrer landwirtschaftlichen Tätigkeit verändert? (bitte ein zutreffendes pro Absatz ankreuzen)

- ☐ sie sind wichtiger geworden
- ☐ sie sind weniger wichtig geworden
- ☐ sie sind gleich wichtig geblieben
- ☐ sie sind gleich unwichtig geblieben

- ☐ es sind mehr geworden
- ☐ es sind weniger geworden
- ☐ es sind gleichviel geblieben

- ☐ sie sind besser organisiert/strukturiert/durchdacht
- ☐ sie sind weniger gut organisiert/strukturiert/durchdacht
- ☐ sie sind gleich gut organisiert/strukturiert/durchdacht

2.28. Mit wem sprechen Sie über Ihre Experimente? (Mehrfachnennungen möglich):

- | Ja | Nein | |
|-----------------------|-----------------------|-----------------------------|
| <input type="radio"/> | <input type="radio"/> | mit niemandem |
| <input type="radio"/> | <input type="radio"/> | mit anderen Landwirten |
| <input type="radio"/> | <input type="radio"/> | mit Freunden |
| <input type="radio"/> | <input type="radio"/> | mit Familienmitgliedern |
| <input type="radio"/> | <input type="radio"/> | mit anderen Quereinsteigern |
| <input type="radio"/> | <input type="radio"/> | in sozialen Medien |
| <input type="radio"/> | <input type="radio"/> | in Diskussionsgruppen |
| <input type="radio"/> | <input type="radio"/> | bei Verbandstreffen |
| <input type="radio"/> | <input type="radio"/> | in online Foren |
| <input type="radio"/> | <input type="radio"/> | sonstigen: _____ |

2.29. Bitte kreuzen Sie die folgenden Aussagen an, wenn diese zutreffend sind (Mehrfachnennungen möglich):

- | Ja | Nein | |
|-----------------------|-----------------------|---|
| <input type="radio"/> | <input type="radio"/> | Ich weiß von anderen, dass sie schon einmal etwas nachgemacht haben, das bei mir gut funktioniert hat |
| <input type="radio"/> | <input type="radio"/> | Ich weiß von anderen, dass sie schon einmal etwas ausprobiert haben, das bei mir nicht funktioniert hat |
| <input type="radio"/> | <input type="radio"/> | Ich gebe meine Informationen nur weiter wenn das Experiment funktioniert hat/ich mit dem Ergebnis zufrieden war |
| <input type="radio"/> | <input type="radio"/> | Ich gebe meine Informationen nur weiter wenn das Experiment NICHT funktioniert hat |

Teil 3 –Austausch

Die folgenden Fragen beziehen sich darauf, wie und mit wem Sie Erfahrungen und Informationen zu landwirtschaftlichen Themen austauschen:

3.1. In welchen Verbänden und Vereinen sind Sie Mitglied?

Bioverband

Ja	Nein	
		Bio Austria
		Demeter
		Erde&Saat
		Freiland Verband
		Sonstiger

Offizielle lw. Verbände/Vereine

Ja	Nein	
		Bauernbund
		Maschinenring
		Sonstiger:

Sonstige Vereinigungen mit Bezug zur LW

Ja	Nein	
		Arche Noah
		„A faire Milch“
		Via Campesina
		Food Coop
		Sonstiger

Vereine ohne Bezug zur Landwirtschaft

Ja	Nein	
		Feuerwehr
		Schützen
		Musikkapelle
		Jäger
		Kulturpflege
		Tourismusverband
		Sonstige: _____

3.2. Bitte kreuzen Sie an, ob diese Aussagen auf Sie zutreffen:

Ja Nein

- ☐ ☐ Ich bin aktives Mitglied in mehr als drei Verbänden und Gruppen (aktiv: Teilnahme an Veranstaltungen, Mitarbeit im Verein etc)
- ☐ ☐ Ich organisiere selbst Treffen von (Bio-) Bauern oder anderen interessierten Personen
- ☐ ☐ Ich bin zwar Mitglied, beteilige mich aber nicht aktiv am Vereinsgeschehen.

3.3. Wie oft nehmen Sie an regelmäßigen Treffen von Bauern und/oder Biobauern teil?

- ☐ Mehrmals im Monat
- ☐ Mehrmals im Jahr
- ☐ Einmal pro Jahr
- ☐ Seltener als einmal pro Jahr
- ☐ Gar nicht

3.4. Wie oft nehmen Sie an regelmäßigen Treffen von Quereinsteigern teil?

- ☐ Mehrmals im Monat
- ☐ Mehrmals im Jahr
- ☐ Einmal pro Jahr
- ☐ Seltener als einmal pro Jahr
- ☐ Gar nicht

Treffen diese Aussagen auf Sie zu?

Ja Nein

- ☐ ☐ Ich wusste gar nicht das es solche Treffen gibt
- ☐ ☐ Solche Treffen gibt es bei mir in der Gegend nicht

3.5. Sind Sie Mitglied in einer Diskussionsgruppe (Gruppe/Verein der aktuelle Themen der Landwirtschaft bespricht/diskutiert)?

- ☐ Ja
- ☐ Nein

Wenn ja, bitte beschreiben Sie, was das für eine Gruppe ist:

3.6. Wenn ja, Empfinden Sie die Mitgliedschaft in dieser Diskussionsgruppe als hilfreich für Ihre landwirtschaftliche Tätigkeit?

- ☐ Ja
- ☐ Nein

3.7. Welche Gruppe oder Vereinigung, in der Sie Mitglied sind, ist die für Ihre Tätigkeit in der Landwirtschaft die hilfreichste?

3.8. Welche Gruppe, Vereinigung oder Person hat den größten Einfluss auf ihre landwirtschaftliche Tätigkeit?

3.9. Gibt es Ihrer Meinung nach eine Art Quereinsteiger-/Neueinsteigernetzwerk?

	Ja	Nein	weiß ich nicht
in Ihrer Gemeinde			
in Österreich			
in Europa			
weltweit			

3.10. Sind sie Mitglied in einem solchen Netzwerk?

- ☐ Ja
- ☐ Nein

3.11. Wenn JA: Ist dieses Netzwerk hilfreich für Sie?

- ☐ Ja
- ☐ Nein

Warum?_____

3.12. Bitte schätzen Sie ein, wie sehr diese Aussagen auf Sie zutreffen (Bitte in jeder Zeile zutreffendes ankreuzen):

	Trifft sehr zu	Trifft zu	Neutral	Trifft wenig zu	Trifft nicht zu
Ich tausche regelmäßig Erfahrungen mit anderen					
Viele meiner Freunde und Bekannten sind keine					
Für die Bereiche, die mich in der LW interessieren, kenne ich kompetenten Personen, die ich					
Ich pflege Kontakte zu anderen Quereinsteigern					
Wir Quereinsteiger haben ein sehr gutes Netzwerk (für Erfahrungsaustausch etc.)					

Teil 4 – Informationsquellen:

Der folgende Teil bezieht sich darauf woher Sie die Informationen beziehen/bezogen haben die Sie für Ihre alltägliche landwirtschaftliche Tätigkeit sowie den Einstieg in die Landwirtschaft benötigen/benötigt haben.

4.1. Welche Informationsquellen haben Sie zu Beginn Ihrer landwirtschaftlichen Tätigkeit genutzt? (Mehrfachnennungen möglich)

- | | | |
|-----------------------|-----------------------|-----------------------|
| Ja | Nein | |
| <input type="radio"/> | <input type="radio"/> | Beratungsstellen |
| <input type="radio"/> | <input type="radio"/> | Kammern |
| <input type="radio"/> | <input type="radio"/> | Schulungen/Kurse |
| <input type="radio"/> | <input type="radio"/> | Bücher |
| <input type="radio"/> | <input type="radio"/> | Zeitschriften |
| <input type="radio"/> | <input type="radio"/> | Internet |
| <input type="radio"/> | <input type="radio"/> | andere Landwirte |
| <input type="radio"/> | <input type="radio"/> | andere Quereinsteiger |
| <input type="radio"/> | <input type="radio"/> | Sonstige: _____ |

4.2. Nutzen Sie noch die gleichen Informationsquellen wie zu Beginn Ihrer landwirtschaftlichen Tätigkeit?

- ☐ Ja, welche? _____
- ☐ Nein
- Was hat sich geändert? _____

4.3. Gibt es eigene Informationsangebote speziell für Quereinsteiger von denen Sie wissen?

- ☐ Ja, welche? _____
- ☐ Nein

4.4. Haben Sie schon einmal eines dieser Angebote genutzt?

- ☐ Ja, welches? _____
- ☐ Nein

4.5. Haben Sie schon einmal vom „Netzwerk Existenzgründung in der Landwirtschaft“ gehört?

- ☐ Ja
- ☐ Nein

4.6. Werden Quereinsteiger Ihrer Meinung nach ausreichend unterstützt (von Behörden, Gemeinde, Staat,...)?

- ☐ Ja
- ☐ Nein

4.7. Gibt es Ihrer Meinung nach ausreichend Informationen speziell für Quereinsteiger?

- ☐ Ja
- ☐ Nein

4.8. Welche Art von Unterstützung bzw. Informationsquelle würden Sie sich wünschen?

- | Ja | Nein | |
|-----------------------|-----------------------|-----------------------------------|
| <input type="radio"/> | <input type="radio"/> | mehr Kurse |
| <input type="radio"/> | <input type="radio"/> | Info Homepage für Quereinsteiger |
| <input type="radio"/> | <input type="radio"/> | speziell geschulte Berater |
| <input type="radio"/> | <input type="radio"/> | mehr Bücher |
| <input type="radio"/> | <input type="radio"/> | andere Bücher |
| <input type="radio"/> | <input type="radio"/> | spezifische Zeitschriften/Artikel |
| <input type="radio"/> | <input type="radio"/> | Telefon Hotline |
| <input type="radio"/> | <input type="radio"/> | mehr Vernetzungstreffen |
| <input type="radio"/> | <input type="radio"/> | Sonstige: _____ |

11.2. Interview guideline for expert interview

Interviewleitfaden für das Experteninterview mit einem Mitglied von NEL
(Netzwerk Existenzgründung in der Landwirtschaft)
am _____

Angaben zum Interviewpartner:

NAME: _____

Telefonnummer: _____

Mitglied bei NEL seit: _____

Funktion: _____

1. Worin seht ihr als Netzwerk eure Aufgabe (im Bezug auf Quereinsteiger)

Wer ist eure Zielgruppe (angehende Quereinsteiger oder jene die es schon geschafft haben?)

2. Von allen Interviewpartnern (n=15) gab es nur zwei die schon einmal etwas von euch gehört haben

Wie erklärst du dir das?

Geht ihr aktiv auf Quereinsteiger zu?

Ist es in Eurem Interesse mehr auf euch Aufmerksam zu machen?

3. Gibt es deiner Meinung nach ein Quereinsteigernetzwerk? (in Wien, anderen Bundesländern, österreichweit, europaweit, weltweit)

4. Wie würdest du das Informationsangebot speziell für Quereinsteiger (in Österreich beurteilen?

Welche Informationsquellen fallen dir ein?

Welche Organisationen etc. würdest du einem Quereinsteiger empfehlen der nach konkreten Informationen sucht?

Welche Informationen stellt ihr für Quereinsteiger zur Verfügung?

Welche Informationen/Informationsangebote fehlen deiner Meinung nach?

5. In meinen Interviews wurde mehrfach der Wunsch nach organisierten Vernetzungstreffen für Quereinsteiger geäußert.

Findest du so etwas sinnvoll?

Könntest du dir vorstellen, dass ihr als Netzwerk so etwas organisiert?

Habt ihr so ein Treffen in der Vergangenheit schon einmal organisiert?

Was könnte deiner Meinung nach das Ziel eines solchen Treffens sein?