

A guide to organic variety trials in cereals in 16 European countries

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Organic variety trials in cereals are an important step in the development of varieties for organic farming. It is of great importance that varieties intended for organic farming are tested under organic growing conditions – this holds true both for varieties developed specifically for organic farming and for conventional varieties.

Trials must be unbiased and reliable. Trial fields must be part of an organic crop rotation to get the full picture of the performance under organic conditions; it is not adequate to use conventional fields with no pesticides and no mineral fertilizer applied during the trials.

Organic trial results must describe important characteristics such as yield, competitiveness against weeds and susceptibility to diseases and pests. Results from the organic variety trials are the foundation for the recommendations of varieties for organic farmers.

Some European countries run commercial organic variety trials where foreign breeders can enroll varieties for a fee. Other countries have public financed trials, where it is possible to have a variety tested, if it is considered of interest for organic farmers in the concerning country or region. Yet some countries have organic trials, but do not have capacity to receive foreign varieties for testing, and some countries do not have organized organic trials. Some seed companies conduct their own trials, and only a few of these are mentioned in this paper, as it must be kept in mind that these trials are not necessarily unbiased by the interests of the seed companies.

In the table below 16 European countries are listed with information on contact persons for organic variety trials and links to trial results and recommendations for organic farmers. In some countries results and recommendations are published together. The Table is meant as a tool to gain easy access to contacts and results both for breeders who are interested in marketing varieties for organic farming in foreign countries and for seed companies, advisors, farmers and others who are looking for new and interesting varieties in neighboring countries; varieties that are suited for growth under organic conditions.

Lack of knowledge about the possibilities to have varieties tested under organic growing conditions may be an obstacle for breeders to expand the market for organic varieties.

Additional information about the variety trials and the possibilities for foreign breeders to have varieties tested in the organic trials can be found in the following chapters for each country.

	Contact person and institution	Links to trial results/recommended lists for organic farming
Austria	<p>Waltraud Hein, waltraud.hein@raumberg-gumpenstein.at HBLFA Raumberg-Gumpenstein</p> <p>Andreas Kranzler, andreas.kranzler@fibl.org FIBL Austria</p>	<p>Trial results, HBLFA Raumberg-Gumpenstein Trial results (Bionet, up to 2013) Trial results (Lako, up to 2013) (Each species marked: "Edelhof biologisch", are the results of organic trials) Descriptive variety list 2013 (Getreide im Biolandbau)</p>
Belgium	<p>Wallonia: Eddy Montignies eddy.montignies@cebio.be Organic Study Centre</p> <hr/> <p>Flanders: Lieven Delanote lieven.delanote@inagro.be Inagro</p>	<p>In Flanders information about test results on organic varieties is disseminated via the Coordination of Applied Research and Extension on Organic Farming (CCBT vzw)</p>
Czech Republic		No official organic variety trials
Denmark	<p>Inger Bertelsen, inb@vfl.dk Knowledge Centre for Agriculture</p>	<p>Trial results: http://www.sortinfo.dk Choose English language, select info: organic national trials, select crop</p>
Estonia	<p>Ilmar Tamm, ilmar.tamm@etki.ee Jõgeva Sordiaretuse Institute</p>	Individual papers
Finland		No official organic variety trials
France	<p>Laurence Fontaine laurence.fontaine@itab.asso.fr ITAB</p>	<p>Trail results, ITAB Variety descriptions 2013, ITAB</p>
Germany	<p>Armin Meyercordt Armin.Meyercordt@LWK-Niedersachsen.de Landwirtschaftskammer Niedersachsen</p>	Trial results, 2013
	<p>Dr. Claudia Hof-Kautz Claudia.Hof-Kautz@lwk.nrw.de Landwirtschaftskammer Nordrhein-Westfalen</p>	Trial results, up to 2013

	<p>Peer Urbatzka oekolandbau@LfL.bayern.de Bavarian State Research Center for Agriculture (Bayerische Landesanstalt für Landwirtschaft)</p>	Trial results and variety recommendations 2014
	<p>Dr. W. Karalus pressestelle@tll.thueringen.de Landwirtschaftskammer Thüringen</p>	Preliminary trial results, 2013
	<p>Gerd-Ulrich Krug gkrug@lksh.de Landwirtschaftskammer Schleswig Holstein</p>	Trial results, 2013
	<p>Dr. Harriet Gruber h.gruber@lfa.mvnet.de Landesforschungsanstalt Mecklenburg Vor- pommern</p>	Trial results and variety recommendations 2014
	<p>Hermann Böcker hermann.boecker@dlr.rlp.de Landwirtschaftskammer Rheinland Pfalz</p>	Trial results
	<p>Regierungspräsidium Hessen Ute Williges ute.williges@llh.hessen.de</p>	Database with trial results (choose "Versuchskategorie: Ökologischer Anbauversuch")
	<p>Dr. Diana Haase Diana.Haase@smul.sachsen.de Industrie und Handelskammer Sachsen</p>	Variety recommendations up to 2014: http://www.landwirtschaft.sachsen.de/landwirtschaft/17658.htm#17659 (copy in browser)
	<p>Herr Dr. Holz Poststelle@llfg.mlu.sachsen-anhalt.de Landesanstalt für Landwirtschaft und Garten- bau Sachsen Anhalt</p>	http://www.llg-lsa.de/
Latvia	<p>Linda Legzdina Linda.Legzdina@priekuliselekcija.lv State Priekuli Plant Breeding Institute Mara Bleidere maara.bleidere@stendeselekcija.lv State Stende Cereal Breeding Institute</p>	<p>Trials are mostly performed in frames of research and breeding programs. Results are not available on the internet. Spring barley, winter triticale and rye Spring barley, oat, winter and spring wheat</p>
Lithuania	<p>Dr. Alge Leistrumaite alge@lzi.lt,</p>	Not available online, only Lithuanian varieties are tested

	Lithuanian Institute of Agriculture	
Norway	Einar Strand einar.strand@bioforsk.no Bioforsk, The Norwegian Institute for Agricultural and Environmental Research and Norwegian Extension Service (NLR)	http://www.kornforum.no/fagartikler/5827/
Poland	Prof. Czembor h.czembor@ihar.edu.pl Prof. Bulińska-Radomska z.bulinska@ihar.edu.pl Plant Breeding and Acclimatisation Institute in Radzików	Recommended lists for organic farming: Winter cereal Spring cereal
Sweden	Southern Sweden: Jannie Hagman jannie.hagman@slu.se Northern Sweden: Kent Dryler kent.dryler@slu.se Swedish University of Agricultural Sciences (SLU)	Trial results (up to 2013) www.slu.se/ekologisksortprovning www.slu.se/organicvarietytesting Variety recommendations 2014
Switzerland	Jürg Hiltbrunner juerg.hiltbrunner@art.admin.ch Agroscope Reckenholz-Zürich Hansueli Dierauer hansueli.dierauer@fibl.org FiBL	Recommended varieties for organic farming, 2014 Testing results , Agroscope with the title “Bio-Winterweizen Sortenversuch” (year). Testing results , FiBL 2012 – results from 2013 available on request.
The Netherlands	Edwin Nuijten e.nuijten@louisbolk.nl Louis Bolk Institute	Trials are organized by farmer’s organizations in cooperation with researchers (for instance LBI) or agricultural advisors (for instance DLV) – results are scattered
United Kingdom	Organic Research Centre	Only limited organic trials by farmers organizations, research institutes and seed companies

Austria

Organic variety trials for organic farming are performed by research organizations like HBLFA Raumberg-Gumpenstein. The varieties for the trials are chosen in cooperation between seed companies, organic advisors from rural departments of the federal states and the organic organization. Promising varieties from neighboring countries are also included. At HBLFA Raumberg-Gumpenstein the variety trials are not commercial; if foreign varieties are included, they are free of charge.

FiBL Austria also performs organic variety trials.

(Source: Waltraud Hein, HBLFA Raumberg-Gumpenstein)

Post registration tests: It is also possible to have an already listed variety tested within the VCU trials (value for cultivation and use for national listing) to be compared with a new variety.

If applicants want to have their varieties within the VCU trials to be compared with a new variety, they must pay for the registered variety.

Application for VCU-testing after registration: 22,96 €/year (2013 prices).

VCU-testing after registration: between 192 € (oat) and 372 € (winter wheat)/year.

Actual prices can be found at

<http://www.baes.gv.at/amtliche-nachrichten/gebuehrentarife/saatgutgesetz/> under Sortenordnungsgebührentarif

Contact person: Clemens Flamm clemens.flamm@ages.at

(Source: Clemens Flamm, Austrian Agency for Health and Food Safety - AGES)

Seed companies and breeders also conduct organic variety trials;

Saatzucht Edelfhof, contact: elisabeth.zechner@edelfhof.at

Kärnter Saatbau, contact: r.frank@saatbau.at

http://www.saatbau.at/nc/deutsch/saatgut/landwirtschaft/versuchsbericht.html?sword_list%5B%5D=versuchsbericht

Results of the location "Weindorf" are organic.

Belgium

Organic variety testing in Belgium is divided between the Walloon region and Flanders. In Wallonia trials are performed by the Organic Study Centre and in Flanders there are test centers specific for organic agriculture. Inagro runs tests for cereals.

Czech Republic

According to Ing. Petr Konvalina, PhD, Department of Applied Plant Biotechnology, Faculty of Agriculture, University of South Bohemia in České Budějovice there have been some long term variety testing under organic growing conditions at the Czech University of Life Science (contact Ivana Capouchová), these are not official trials.

Recently some cereal varieties have been tested in four locations in the framework of the Bionet Programme. Results are not yet available. Mostly organic farmers in the Czech Republic have to orientate themselves according to descriptions of variety properties available in the recommended list of conventional varieties or from other sources. The value of their choice has to be verified in practice.

(Source: Ing. Zdeněk Stehno, CSc., Gene Bank, Crop Research Institute)

Denmark

The organic variety trials in the Danish National Field Trials are used by breeders and seed companies to have a variety tested for its suitability for organic cultivation.

The price (2013) for signing up a variety for testing is 15.075 DKK (approx. 2000 €) for spring varieties and 22.000 DKK (approx. 2950 €) for winter varieties. It is an impartial and reliable testing system beneficial for breeders, seed companies, advisors and not least farmers. All results are made public - not only results that are beneficial for companies. The results are made available for use shortly after the results are collected in the field. First data are made available in harvest. Results are actively used in the advisory service and farmers use it to make a valid choice of varieties.

Information on yield, weed competition and disease susceptibility under organic growing conditions are important features of the trials. Testing protocols are kept limited in order to keep the price down.

Additional registrations can be arranged against further costs.

From conventional observation plots, which are not chemically treated, disease susceptibility, straw length and straw breaking and other relevant information is collected.

A project is currently in progress to expand the present organic variety trials, especially concerning weed competition and nutrient uptake.

There are four testing locations in the organic variety trials. Between 2006 and 2012 there were no winter varieties in the trials, but in 2012 and 2013 there have been a few varieties of winter wheat and winter triticale.

Danish farmers, consultants and companies use the webpage <http://www.sortinfo.dk> to get easy access to trial results. At SortInfo the varieties from the national field trials (conventional and organic) and from the official variety testing are listed and described as soon as testing results are ready. An English version is available.

Estonia

Jõgeva Plant Breeding Institute has performed organic trials for wheat, barley and oat (coordinator: Ilmar Tamm). The Breeding Institute is now part of Jõgeva Sordiaretuse Instituut. The listed varieties of spring cereals (oat, spring wheat and barley) have been tested since 2005 and winter cereals (rye, winter wheat) since 2009. Recommendations to farmers have been published in Estonian.

The financing of this nationally applied research project will end by 2013 and the future of the organic variety trials in Estonia is unclear.

(Source: Pille Ardel, Deputy Director, Jõgeva Plant Breeding Institute)

Finland

In Finland there are no official organic variety trials. There are conventional trials with no disease control, but with conventional weed control and mineral fertilizer. Information on performance under organic conditions is needed by organic farmers. But so far there are only scarce experiments without long term commitment.

(Source: Pirjo Peltonen-Sainio MTT)

France

There is a network that conducts screening for organic cereals. The network was settled between the following partners:

GEVES, Variety and Seed Study and Control Group.

ITAB, Technical institute for organic farming, which helps to implement the organic network of VCU testing.

ARVALIS, conventional institute for arable crops, which have several trials in organic farming, in partnership with GEVES (part of the official network).

INRA, research institute, which have some trials in organic farming, in partnership with GEVES (part of the official network).

Coordinator of this French network is Laurence Fontaine from ITAB.

Foreign breeders can ask to have a variety in the trial network. During the last years, numerous varieties from different European countries (Switzerland, Germany, Austria, Hungary..) have been tested.

Until last year the trials were free of charge, but this was changed because of an increased number of varieties from abroad with very limited information about potential performance in France. Therefore varieties with no reference in France must now pay to be in the trials. The price of such trials is under evaluation.

ITAB publishes recommendations of varieties for organic farming.

Germany

In Germany the Bundessortenamt is responsible for VCU testing and registration. After registration the federal states are responsible for further testing of the registered varieties to examine the regional performance and are each responsible for recommendations in their territory.

The system of organic trials called Öko-LSV or Landessortenversuche is carried out by all federal states except Saarland, Hamburg, Berlin and Bremen. To improve the comparability of trial results between trials performed in different states, the area of Germany has been subdivided into different cultivation zones "ABG" regardless of state borders. The zones refer to different soil types as well as climatic conditions. The results of the organic variety trials are the most important basis for recommendations to the farmers.

In the case that several states are conducting trials in the same cultivation zones, a group of representatives from the involved states decides which varieties are included in the trials. Varieties from outside Germany may be included if the board decides that they are of agronomic interest for the organic farmers within that particular growing region.

The results of the trials are available on the internet pages of each of the federal states. In the descriptive list of varieties "Beschreibende Sortenliste Getreide 2013" it is possible to find, beginning from page 292, the web-addresses of the institutions in the federal states, where the results can be found. Some of these are listed in the above table.

Beside the official trials of the federal states most of the agricultural universities have organic trial fields.

(Source: Uta Schnock, Bundessortenamt and Armin Meyercordt, Landwirtschaftskammer Niedersachsen)

Latvia

Organic cereal variety trials in Latvia are mostly performed by research institutions in frames of research projects and breeding programs:

State Priekuli Plant Breeding Institute - spring barley, winter triticale and rye (contact Linda Legzdina Linda.Legzdina@priekuliselekcija.lv).

State Stende Cereal Breeding Institute - spring barley, oat, winter and spring wheat (contact Mara Bleidere maara.bleidere@stendeselekcija.lv).

Information on research project and other contact persons can be found on the homepages of the mentioned institutions.

(Source: Dr. Linda Legzdina, State Priekuli Plant Breeding Institute)

Lithuania

At the Institute of Agriculture at the Lithuanian Research Centre for Agriculture and Forestry they have a Department for cereal breeding. Although there is no specific organic breeding programme, there have been organic variety trials of promising winter and spring breeding lines since 2004 in certified organic fields. Because of limited capacity, only Lithuanian varieties are tested.

(Source: Dr. Alge Leistrumaite, Lithuanian Institute of Agriculture)

Norway

The Norwegian Institute for Agricultural and Environmental Research (Bioforsk) and Norwegian Agricultural Extension Service (NLR) perform organic variety trials. The trials are financed through The Norwegian Institute for Agricultural and Environmental Research (Bioforsk) and Norwegian Agricultural Extension Service's own budgets.

It may be possible for a foreign breeder to have an organic variety tested in the organic variety trials, the price is not established.

(Source: Einar Strand, Bioforsk, The Norwegian Institute for Agricultural and Environmental Research)

Poland

The Plant Breeding and Acclimatization Institute in Radzików have done some variety trials for organic farming. Recommended lists for variety choice in organic farming are available on their webpage.

(Source: Aleksandra Orzeszko-Rywka)

Sweden

The Swedish University of Agricultural Sciences (SLU) is responsible for the organic variety trials, i.e. planning and analysis, but the trials are usually located at organic farms and maintained by the Rural Economy and Agricultural Societies in the relevant region.

The results from the organic variety trials are used in the advisory service in organic farming, by the County Administrative Boards and also by the Agricultural societies, the Extension Service Division at the Swedish Board of Agriculture and different agricultural schools or private companies.

The organic variety trials for cereals have been carried out since 1997. The Swedish Board of Agriculture finances the trials, which are now carried out at three locations for the cereal species that are tested in the southern part of Sweden (both winter and spring cereals). For the varieties of oats and spring barley that are to be tested only in the northern part of Sweden, there are four testing locations.

Information about organic variety trials is available at www.slu.se/ekologisksortprovning

(Source: Eva Dahlberg, Swedish Board of Agriculture, Plant and Environment Department)

Switzerland

Organic variety trials are organized by the Swiss Federal Research station Agroscope (field experiments and quality testing) in collaboration with DSP.

The list with the recommended varieties for organic farming is based on results from these organic trials - small plot experiments (approx. 15 m²) with 3 reps at 9 sites (coordinated by Agroscope) and strip experiments (6 x 200m) without replication on 7 farms (conducted by FiBL). For a strip experiment approx. 275 kg of seed per variety is needed. Therefore the first place to have a variety tested is Agroscope.

(Source: Jürg Hiltbrunner, Agroscope Reckenholz-Zürich and Hansueli Dierauer, FiBL)

The Netherlands

There are no public funded organic variety trials anymore in the Netherlands. Field trials to compare varieties are sometimes organized by farmer's organizations in cooperation with researchers (for instance the Louis Bolk Institute) or agricultural advisors (for instance DLV). They have to organize funding themselves. Dutch seed companies who are often active in both conventional and organic varieties, test on their own organic test fields or on organic farms. Besides that, there are several organic demonstration fields where new varieties are demonstrated every year.

In 2014 there will be some variety trials for wheat, and it is possible for foreign breeders to have interesting varieties in the trials. Payment is not settled.

For choice of variety organic farmers get information from seed companies.

(Source: Maaïke Raaijmakers, Bionext and Edwin Nuijten, Louis Bolk Institute)

United Kingdom

Organic variety trials are carried out by farmer's organizations, research institutions and seed companies, but on a limited scale only. The Organic Research Centre (ORC) is trying to increase the number of sites and run some variety trials with the help of the Soil Association and others.

Organic Seed Producers (OSP) conducts replicated trials for varieties for marketing and sale in UK. There is no published result on the internet. According to John Bradwell the normal procedure for foreign breeders is that there are no charges, if they are granted the marketing rights in UK. John Bradwell can provide further information. Contact: organicseeduk@gmail.com

(Source: The Organic Research Centre, Elm Farm and John Bradwell, Organic Seed Producers)