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The Landrace

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Upcoming events

Landsorten’s annual Open field day 2025, Friday 20. June from 11.00 - 15.00.

Drop what you have in your hands and come experience what our wild organic grains can do in your field, your mill, your bread, your food and your spirits. We can't wait to see you and all other farmers, millers, bakers, chefs, brewers and grain nerds at the Landsorten's most festive summer field day.

The field walk is held on Landsorten's fields, which this year are warm and cozy at Ulvedal Øko Landbrug, Blenstrupvej 26, 9520 Skørping.

Registration email sent no later than June 10 to: henriette@landsorten.dk
(remember to send us the names of all your registrants)
Participant price incl. lunch and drinks: 220 DKK / 150 DKK for members of Landsorten
Pay on MobilePay to 21 23 79 79 23

PROGRAM:

- 11.00: *Welcome to Landsorten's Field Walk* by Emilie Berning, Landsortens Forperson
- 11.15: *FLOUR POWER Landsorten's booming bread wheat, which will soon rise.* by Johan Siboni Lund, seed coordinator and production manager in Landsorten
- 11.30: *The future of organic grain and flour in Denmark.* by Henriette Winther, Director of Landsorten
- 12.00: *Tempting lunch for all* with Landorten grains, local drinks and plenty of water. V. Chef Oliver Bendi - former head chef at Svinkløv Badehotel, soon to open AURA Dinning in Aalborg.
- 13.00: *Hot user experiences with revived West Jutland BORRIS RUG.* - in the field, in the mill, in bread and food and whiskey!
- 13.30: *Field walk in Landsorten's experimental field with myriads of different grains*, all with different characteristics in cultivation, taste, health and applications. Learn more about grains for your field, your mill, your bread, your food and your spirits. by Anders Borgen & Johan Siboni Lund.
- 15:00: Thank you for today.

Field walk at Gerding Grains and Genetics on Sunday, July 6 at 13:00

Dennis Christensen works together with Landsorten and Agrologica on research into the genetics of grain and the development of exciting new grain varieties.

On this year's field tour, at Gerdingvej 9, 9520 Skørping, you will be able to see many wheat varieties, Obersaxen naked barley and Gerding Rye.
We start by seeing the field and hearing a little about what we see and probably also some geekery about variety development, baking quality and genetics.
Then there will be bread, coffee, tea and soft drinks mixed with lively conversation.
Agrologica's common bunt trials are just down the road, so there will be an opportunity to see that too.
This year, around 350 varieties/lines are being tested with up to 10 different varieties of fire blight.
There are around 3000 small rows, each with its own sign. The trial is part of the research being done in the International Common Bunt Consortium.
Christian Hjort has a 12 ha field with Mariagertoba, Gurli and Thorus a little further down the road.
Here Landsorten also has almost 1 hectare with propagation of various new and old varieties such as Goldblume and Jørn Ussing Spelt.

Afternoon in Kornets Hus on Saturday, July 5, 12:30,

Visit Kornets Hus, Guldagervej 501, 9800 Hjørring with a tour of the field with Jørn Ussing Larsen and Anders Borgen, who talk about the grain garden, where old grain varieties and varieties from Landsorten are grown for demonstration.

Prices:

1. Adults: 125 kr.
2. Children (0-12 years): 65 kr.

The adult ticket includes entrance to Kornets Hus and free coffee/tea served with cake of the day.

The child ticket includes entrance and an optional juice/soda served with the cake of the day.

Let your hands braid with grain and reflect on regenerative agriculture at Roskilde Festival

THURSDAY 3. JULY at 11.00, our chairperson in Landsorten Emilie Berning and Landsorten's assistant seed coordinator Ingeborg Pouls will hold a workshop at the Roskilde Festival on grain based on their experiences with their mill Vild Hvede.

Meet the 2025 Landsorten Board

On February 25, Landsorten got a new board. And the now 7 members will support Landsorten in the coming year in the positive development we are currently experiencing. The board members come with different skills and experiences that will ensure that in the coming years we can expand the cultivation area, grain diversity in Denmark - and the creative scope for developing good bread and many more whole grains in Danish meals. We need to find solutions that can strengthen the purity of the National Variety's seed, meet the needs of the members and understand how to utilize the opportunities that exist in the market. Both in Denmark and abroad, where ambitious farmers, bakeries and distilleries are increasingly demanding our grains. We are grateful for that.

Meet the board members below, where they put themselves into words and explain why they have chosen to take a turn for Landsorten:

Emilie Berning, Vild Hvede, chairperson

My name is Emilie Berning and I represent a new generation of organic farmers. I believe that change happens through community and action. With the mill and farm Vild Hvede, I work to bring genetic diversity, organic thinking and regenerative practices to consumers - in close collaboration with a network of farmers, bakers and educators. I bring both down-to-earth experience and a value-driven commitment, and believe that together we can shape a more diverse, fair and vibrant food system.

The landrace is important for securing and promoting genetic diversity in organic plant production through the development, preservation and use of diverse plant varieties, as well as for strengthening an engaged community of organic farmers and creating new connections between field and market.

Christian Hjorth, Ulvedal Landbrug, board member

I am an organic farmer and run Ulvedal Øko Landbrug in Skørping, where Landsorten has its field trials. Ulvedal is a family farm that was converted to organic in 2016. This year I grow several of Landsorten's cereals, including about 40 hectares of Borris Rye, about 35 hectares of Mariagertoba wheat and about 11 hectares of Flour Power. At Ulvedal, we have a strong focus on soil health and robustness, and work with green fields of crops and cover crops with high biodiversity all year round.

The focus on organic crop development and climate adaptation of field crops for real organic use is extremely important. Robustness, good disease resistance, good ability to compete in nature, along with properties that make our plants suitable for human consumption, are sought-after characteristics.

Anders Borgen, Agrologica - board member

Since 1984 I have run a small organic farm alongside my academic work with seeds and seed-borne diseases. Since 2007 I have worked almost exclusively with cereal varieties for organic farming, including selecting and developing many of the varieties and populations that are now produced in Landsorten.

I see Landsorten as an association that serves its members in a broad sense and, as an important part of this, helps to provide the varieties that members need.

Jonas Astrup, Development and Innovation Manager at MEYERS, board member:

Working with organic agricultural crops such as bread grains, in the light of Landsorten, is a wonderful mix of real conservation and development work and biodiversity, food cultural detective work, but also work that stimulates the development of new trade and cooperation models with agriculture, and not to forget, sensory work in the kitchen and bakery.

In this way, Landsorten reinforces our dreams that the enthusiasm for raw material quality and taste can find broad anchoring in our common food life, and that the combined demand for grains in particular, but also peas, lentils and beans - as a kind of Trojan horse - can contribute to the acceleration of the green transition, both of our common food culture and our food system.

Gitte Breum, Director Food for every DAY, board member

My name is Gitte Hesselbæk Breum. I am 65 years old and a trained economist. I have almost 50 years of experience in professional kitchen operations. Since I was 21 years old, I have been a manager of public kitchens; from nursing homes to canteens and hospital kitchens.

Ecology has been my passion for the last 30 years and is today my professional compass. Today I am the director of "Food for every day", which is a section 60 company owned by 5 municipalities. In addition, I have a small consulting company; Økokonsulenten. In my spare time, I produce the professional podcast "Vær min gæst - samtaler fra et køkkenliv". I am also one of the three professional geeks behind the professional platform www.metodikogsmag.dk

For me, Landsorten is important to ensure diversity in grains and flours for our professional kitchens. Grains, kernels and flours help to promote green and organic food. For me, good bread is one of the most important things to complete a meal, and with Landsorten's grains we can bake bread that is healthy, tasty and high in fiber.

Karsten Kjærgaard, Organic farmer at Livø Avlsgård, board member

I'm a farmer on Livø and we've been growing grain for many years. The island is owned by the Ministry of the Environment and has been run organically since 1991. It is a demonstration farm. As a result, we have grown spelt on the island since 2003. All crops have so far been sold to Aurion, so we only grow food grains and have, in all modesty, a wide range of crops in the fields every year. In addition, there are a number of small plots with different grains that the island's many summer visitors can inspect and inform themselves about via signage.

Our society has experienced a number of crises in recent decades. These include a seemingly strange combination of overeating and malnutrition - probably the biggest cause of today's so-called lifestyle diseases and their consequences. I believe we as farmers have an obligation to produce nutritious and nutrient-rich food. As far as I know, as the only grain breeder in Landsorten, we focus on this important work.

Visti Kræn Møller, Founder of Gl. Buurholt, board member

I grew up on a machine station and am a trained agricultural machinery mechanic. I have worked on farms in both Australia and Canada and as operations manager at Riber Kjærgård Agricultural College. I also have a green diploma from Kalø Agricultural College and have run a machinery company for 6 years. I started with the first mobile cleaner 30 years ago and have now sold most of my business Gl. Buurholt Aps (www.buurholt.dk) and therefore have time to give something to the association Landsorten.

I was part of the idea group that wanted to start an association that could continue Anders Borgen's life's work. Anders Borgen has created a unique starting point for organic plant breeding; not only for Danish organic plant breeders, but also for other parts of the world. To my knowledge, no one else has the knowledge and genetic material within organic plants that Anders Borgen has - and this MUST be preserved and passed on. That's why it's important that the Landsorten association succeeds and I want to help with that. Landsorten must be organized in a way that makes it more business-oriented. So Landsorten can become "master in its own house"...

Brian Nybo, CEO of Aurion, deputy board member:

Since 2013, I have been the CEO of Aurion A/S. We are an organic and biodynamic mill in North Jutland and have around 35 Danish growers who grow the vast majority of the grain we bring to the Danish market. For many years, we have worked with many of the old grain varieties, and we were some of the first in Denmark to work with these varieties. Therefore, we also have a long experience of working with Anders Borgen, among others. My work has covered the entire value chain from growers to production and sales of the products to the BtB and BtC markets. I therefore have broad experience from the entire value chain - including the development of new, old grain varieties.

It is important that we further develop Landsorten if we want to continue to bring tasty and nutritious cereals to the Danish market. Our bread culture is severely challenged and our use of grains in food needs a boost. Landsorten is part of the chain that will help change this. There is a lot to do if we are to succeed - and we must. Also in collaboration with other players in the large value chain.

Meet the employees of Landsorten

Landsorten's staff is growing. We have just hired Ingeborg Pauls, who many of you will know from the miller on Funen. Ingeborg will continue to run her mill, but in the future she will help Landsorten with seed coordination - and we are very happy about that. A warm welcome to you Ingeborg.

The total staff group of the country resort now consists of 5 people:

Ingeborg Pauls
Såsædskoordinering

Johan Siboni Lund
Såsædskoordinering & dyrkningsrådgivning

Anders Borgen
Sortsudvikling & - rådgivning

Henriette Winther
Administration, og Marketing

Bjarne Hansen
Såsædskooridering

Grains, biodiversity and brain hemorrhages

By Anders Borgen, Mariager

One of the biggest quantum leaps in modern health science is the discovery of the connection between gut bacteria and the rest of the body's functions. A healthy gut flora is essential for good health. There has been a particular focus on the effect of bacteria on our mental health and immune system, but the effect is more general and there is probably no function in the entire body that is not in some way connected to the function of gut bacteria.

If you look at brain hemorrhages as an example of something you wouldn't immediately associate with gut bacteria, there turns out to be a correlation here too. When you analyze the composition of the intestinal bacteria in stool samples from people who have had a stroke and compare it to a control group, it turns out that there is a statistical correlation between the bacteria in the sick and healthy patients, and also on who recovers best in the time after the stroke. For example, the group of patients with poor recovery and poor functional ability 3 months after the stroke often have a high proportion of Acidaminococcus bacteria in the gut. Also, the bacteria Fusobacterium, Lactobacillus, Negativibacillus and Lentisphaeria are associated with stroke severity.

Now, it's not like you have to go through your feces every time you've been to the barrel to protect yourself from brain hemorrhages, gluten allergies, autism, schizophrenia or one of the many other diseases associated with gut bacteria. Focusing too much on health can also make you sick. Therefore, a better approach is to look at nutrition more generally to ensure that the conditions for healthy gut function are in place.

With the advent of agriculture 11,000 years ago, our diet has changed to contain far more carbohydrates than before, and especially in the last 100 years, the proportion of sugar, starch and other easily convertible carbohydrates has increased significantly. This has led to obesity, diabetes and a host of other diseases, and Stone Age diets, low-carb diets and other new diets have been proposed as a cure for our welfare diseases. The problem with these diets is that they often replace a starchy diet with a diet dominated by protein and fat.

This has some positive effects on diabetes, for example, but protein and fat are no better for gut bacteria than carbohydrates. Gut bacteria live in the large intestine and feed on the part of the food that remains after sugars, amino acids and simple fatty acids have been extracted from the food in the small intestine. To ensure a good gut flora, you need to make sure that the food contains both a large amount of something that is difficult to digest, especially dietary fiber, and at the same time it provides a large diversity of different chemical components so that the many different bacteria in the gut have the chemical building blocks they need to deliver nutrients and signal substances to the body's functions. This is where the modern diet fails, because we eat too little dietary fiber and we eat too one-sided.

To ensure a good gut flora, you need to make sure that the food contains both a large amount of something that is difficult to digest, especially dietary fiber, and at the same time that it contains great diversity so that the many different bacteria have the chemical building blocks they need to deliver nutrients and signal substances for the body's functions.

The question is, what place should grains play in a modern healthy diet?

Grains are not just grains. Cereals may be high in starch, but they also contain a lot of other things, and there are differences in what different types of cereals contain. The problem is not that we eat a lot of grain products. The problem is that we have increasingly replaced whole grain rye with sifted wheat flour. Rye contains many more healthy dietary fibers than wheat, which counteract the effect of the high starch content. The vast majority of dietary fiber is in the bran layer, which is only found in whole grain flour. There's nothing wrong with eating a good amount of grain products if the majority of them are whole grains. The problem with grains is that, like meat and fatty foods, they are concentrated nutrients that quickly fulfill our energy and other needs. This leaves less room in the overall diet for other things that are also needed to maintain the diversity of gut bacteria. When food is concentrated, we either become overweight or go on a diet where we are more or less hungry all the time. But the gut bacteria are still hungry and malnourished.

Gut bacteria constantly produce and modify substances in the colon, and the immune system constantly monitors the substances being produced. If something is wrong, the immune system reacts as the body's defense against infections and poisoning. The immune system looks at the surface of the proteins, where different glucans, methyl groups and much more are located, and the immune system uses these to assess whether it is a known good substance or whether it is unknown and therefore potentially dangerous. If we have the wrong bacteria in the gut or if the bacteria do not have the right chemical components to process the food, the signaling substances become incorrect. For example, if certain glucans are missing in the food, the bacteria will replace these glucans with other substances on the protein surfaces and the immune system will perceive the substances as foreign elements and launch a defense. This is what happens when we have an allergy, inflammation or an autoimmune reaction.

Grain is not unhealthy. Cereals are a fantastic foodstuff where, in a small area and with little effort, you can produce a lot of valuable nutrients that can keep us alive. But everything in moderation. Sifting flour only consists of ⅔ of the grain, so ⅓ of the grain is wasted when the grain is sifted, and this ⅓ of the grain contains a large part of what a regular modern diet lacks. If we fill our plates with pasta or French bread every day, there will be less room in the diet for Jerusalem artichokes, beans or other foods that we also need.

Enjoy your meal

READER LETTER:

How hot can the flour get when grinding?

by Therese Brøndsted, Ulstrup Mølle on Røsnæs - member of Landsorten

I'm assist a small museum mill on Røsnæs that wants to sell small amounts of flour to guests when it's open on Sundays. The mill has received funding to purchase table mills that can grind 1 kg of grain at a time while the consumer looks on. Ulstrup Mølle still has the large old millstones, and the mill can still run on wind power with the large mill blades. But with a small production where you don't grind flour daily, it's too cumbersome as flour mites get between the millstones over time and need to be cleaned every time the mill stops.
In the museum mill, we have chosen table grinders with larger millstones so that the flour does not get too hot when grinding frequently. (Small home grinders have a millstone of 7-8 cm. After grinding a loaf of bread, it is recommended to let the grinder rest so the flour doesn't get too hot).
But how hot can the flour get when it is ground?
And what is the problem with it getting hotter than the recommended temperature?
I've asked around. Most people don't measure the temperature. An acquaintance with a home grinder said that her flour could be 49C° when she measured. Another said he put the grain in the freezer beforehand so the temperature rise was not so high. I have spoken to millers who sell flour in larger quantities. They are aware that the flour must not get too hot. But they didn't measure it. Nor could they say exactly why it is worse to bake with flour that has become too hot during milling.
I have therefore searched the web. Some English sources recommend max 35C° . I have an Aurion baking book from 1997, which also says 35C° . But it does not say why.

Why should the flour not get too hot?
Some say that vitamins in the grain are destroyed by heating. But it's strange when the bread has to be baked in the oven anyway, where it reaches close to 100C° , where the heat-sensitive vitamins disappear anyway.
One source mentioned that the fats in the wheat germ are vulnerable to rancidity. This has an impact on the shelf life of the flour. But it is only when heated to 60C° . And it is only relevant for stone ground flour where the germ is included. The germ is separated in roller milled flour and it can therefore last longer.
Then there's something about the enzymes in the flour being destroyed at higher temperatures. With wholemeal flour, you need the phytase enzyme to break down phytin. But if you bake with sourdough, the lactic acid bacteria also come with phytase.
The most relevant explanation I've come across is that **the proteins** in the flour should not get hotter than 50C. It's like when you boil an egg: the proteins solidify with the heat. The bread dough process is all about developing the gluten proteins. They need to be rolled out - like the string in a ball of yarn. And then they must form a network that traps the air bubbles from rising. Otherwise the bread would be compact and dense. You can't create this gluten network if the protein has already solidified with the frictional heat from the grinding. Then they lie in small dense "balls of yarn" and cannot form the network that also gives the bread elasticity. The 50C° is related to roller milled flour.

When you search for denaturation* of gluten, it says that the process starts at 38C° , but is only complete at 71-82C° . My practical experience shows that heating to 35C is not critical° . A limit of 50C° sounds more likely. **(Denaturation of gluten means that the gluten proteins lose their original structure, which can affect their properties. This is typically done by heating, whipping or other chemical processes that break the protein structures that give gluten its special properties).*

Try it yourself when grinding and baking!
But here is something to experiment with if you measure how hot the flour got during milling. Does it make a difference to the elasticity and airiness of the bread if the flour was below 38C° versus 40-50C° ? And what if it was warmer than 50C° ? You can easily measure the temperature of your flour yourself with a sliding thermometer when the flour just comes out of the grinder.

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