
SPELT
FIELD TALKS
Close to agriculture,
close to the raw material
IREKS SPELT COMPETENCE
Everything from a single source
IREKS SPELT VARIETY
One grain, many possibilities
spelt quiz included!
IREKS

SPELT

Safety, quality, reliability and transparency grain by grain – that's what IREKS stands for! As a manufacturer of baking ingredients and malts, we develop our areas of expertise along the entire value-added chain in a targeted manner and take as many production steps as possible into our own hands. This applies in particular to one of the company's most important raw materials: spelt.

Along our value-added chain, we show how grain is cultivated, prepared and processed. Find out more about our seamless quality control from grain to finished product in this magazine and be inspired by the diversity of the IREKS world of spelt.

Content

Spelt competence grain by grain

We think raw material quality
from seed to finished baked goods...

SPELT FACT

Spelt grains are

– like oats, emmer, einkorn and rice – surrounded by protective husks that cannot be removed during threshing.

... come along!

Close to agriculture, close to the raw material

As one of our most important raw materials, we accompany spelt right from the field

Markus Werner explaining the cultivation of spelt

Our own agricultural trade has been part of IREKS for more than 130 years. Through it, we procure a large part of our basic raw material: grain. A particular focus is on spelt. Shortly before last summer's harvest, we met Markus Werner and Matthias Klöffel, members of the Board of Directors of the Mainkorn producer group, in the field to talk about the cooperation with IREKS and the quality of our spelt.

What does the Mainkorn producer group do?
We are an association of farms from the region of Lower Franconia, jointly marketing the various crops that we grow. In addition to spelt and other types of grain, these include rapeseed, spices, herbs and edible flowers. Other than that, we implement projects on renewable energy together and bundle the purchase of means of production. In total, we have more than 2,100 members.

Why do you and your members opt for the cultivation of spelt?
Our region, Lower Franconia, is ideal for growing spelt, which is why we have specialised in this area. It rains little, so the spelt is hardly affected by fungal infestation and can ripen dry. The climate and the nutrient-rich soils contribute significantly to the fact that we can reliably grow spelt of a particularly high quality.

Despite the good conditions, there are certainly challenges, aren't there?
Exactly, climatic conditions are only half the battle. In order to contain grain diseases and maintain soil health, we rely on the annual crop rotation of our fields. We set up a so-called crop rotation plan years in advance. Variety produces quality!

That definitely unites us, because we at IREKS do our best for quality, as well! Is that a reason for you to work with us?
With IREKS, we have found a partner at eye level, simply because of the appreciation for our work and for our high-quality spelt. IREKS has paid attention to the origin and raw material safety of spelt at an early stage, which is why we have been working together for more than 15 years.

What are the advantages of the proximity between producer and processor?
Reliable cooperation is important to us! We know that IREKS will purchase the agreed quantities at fair conditions and, in return, IREKS has the certainty of receiving pure, high-quality spelt in sufficient quantity. Planning security is indispensable, especially in these challenging times. Thanks to our close coordination with regard to the cultivated varieties and the various quality characteristics, our spelt can be optimally aligned with the subsequent product features of the baking ingredients from the grain onwards. And last but not least, it is simply nice to know what becomes of our grain!

A conversation with Matthias Klöffel

Field talks

SPELT FACT

The baking properties...

...of spelt flour depend strongly on the variety and growing region.

Get to know **the IREKS value-added chain...**

CONTRACT FARMING

When it comes to the cultivation of spelt, we rely on long-standing partnerships with contract farmers from Lower and Upper Franconia via our own agricultural trade. The focus here: the quality of the grain! Since the baking properties of spelt are strongly dependent on the variety and the growing region, IREKS accompanies the grain from the seed onwards and selects the varieties to be grown together with partner businesses. In this way, IREKS lays the foundation for a consistently high processing and baking quality of all spelt products.

SPELT HULLING

To process the spelt optimally and to avoid contamination with other types of grain, we have our own hulling plant in which spelt and green spelt are hulled. The spelt comes from the field or from the company's own warehouse right into the hulling plant. In a process consisting of a total of ten steps, the grain is cleaned and then the husks are removed from the spelt grains in several hulling machines.

MILLING

IREKS can look back on a hundred years of milling tradition. Today, we mill our grain at EICHENMÜHLE, the company's own mill site in Scherneck, Upper Franconia. There, modern, separate milling facilities ensure the safe processing of spelt and wheat without impurities. The resulting milled products are precisely tailored to the requirements of our products. In particular, the properties of flours for demanding applications can be specifically controlled in this way.

QUALITY & INNOVATION
in every step

At IREKS, quality control extends from the cultivation recommendation to the testing of the end product and is continuously developed further through research on spelt and investments in technology. In order to assess quality and baking properties, we test the spelt in our ultra trace analysis laboratory, which is unique in the industry, for pesticide residues and mycotoxins, for example, check the purity of the spelt using digital PCR and carry out baking tests to compare dough and baking properties.

VARIETY
of the IREKS world of spelt

The processed spelt grains and flours form the foundation for the great variety of the IREKS world of spelt. In addition to further processing into baking malts, spelt is also refined into spelt or green spelt sourdough. In the various forms of processing, spelt is used as an aroma and flavour enhancer in the company's wide range of baking ingredients. The large variety of products gives customer businesses the opportunity to find customised solutions and further develop their individual profile. At the same time, they can rely on the safety and quality of the baking ingredients used, which are prioritised at every step along the value-added chain.

WHY

we take so much
into our own hands:

Transparency
right from the field

Safety
which you can pass on to your customers

Reliability
in raw material procurement for your safe planning

Flawless quality
for your best baking results

A wide variety of products
for your varied range of baked goods

Individualisation options
for customised solutions and your creativity

Competent contacts
for your questions and concerns

Back to the roots!

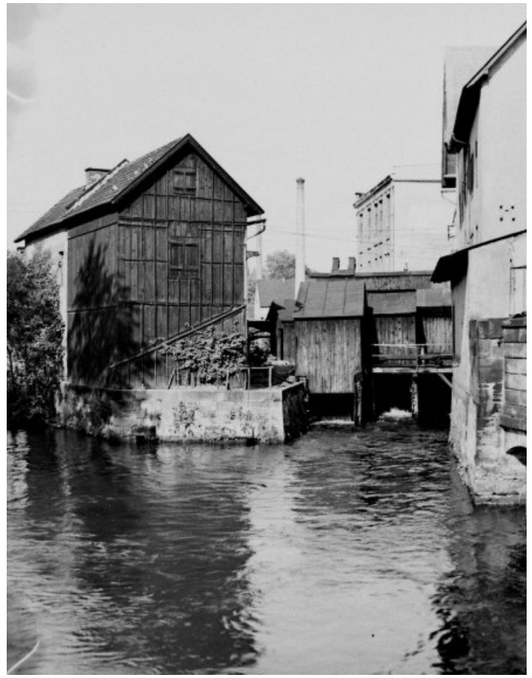
IREKS expands mill expertise to...

...tie in with tradition

Milling has been part of IREKS for more than 100 years! In 1920, IREKS acquired the traditional Eichenmühle in Kulmbach, which was first mentioned in a document in 1398. After the acquisition by IREKS, it supplied our company with milling products until 1988. This was followed by the relocation to the IREKS headquarters in Lichtenfelser Straße, where the mill with its cast-iron housings is still in operation today.

...produce malt specialities

Precisely, it is these original roller mills that are still used to process our malts into various kinds of malt flour today. Depending on whether the whole grain including husk and aleurone layer or only the endosperm is ground, the composition of malt flour is influenced and with it the taste, aroma and baking properties.
Since the mill is purely used as a malt mill, enzyme-active malts can be processed. This, once again, increases our variety of raw materials, which become part of a wide range of IREKS products or are used as baking ingredients in their own right. Each of our malt flours contains the accumulated knowledge of more than 150 years of our own malt manufacture and the accompaniment of our products from the grain onwards.



...provide security from the grain to the finished baked goods

So by integrating EICHENMÜHLE at the Scherneck site into our Company Group, we are going back to our roots, creating the opportunity to produce our own flour. This addition to our value-added chain not only allows us to perfectly adapt the properties of the flours to our various products, but also ensures that we have no admixture of milled wheat products. The single-variety grain we use for this purpose is sourced through our own agricultural trade. After various quality controls and a multi-stage cleaning process, milled spelt and wheat products are made from it. Since we use separate plants for milling the two types of grain, any unintentional mixing is ruled out. The result: pure, high-quality flour that exactly matches the baking ingredients it is incorporated in, forming the best basis for great baked goods. Because the quality of food begins with its individual ingredients.

Pure spelt? You bet!

That's how we develop our innovation and quality standards

Dr Thomas Kunte in the IREKS Technical Centre

How do we ensure the quality and purity of our spelt at IREKS? In an interview with Dr Thomas Kunte, Director of Research and Development at IREKS GmbH, we find out about the possibilities of the new IREKS Technical Centre and how we ensure double safety.

Dr Kunte, raw material security is always an important issue for high-quality artisan baked goods. How does IREKS deal with this?

Dr Thomas Kunte: Raw material security and quality are our top priorities. That is why we analyse our raw materials along the entire value-added chain, from the field to the finished product. We define precise quality parameters with our contract farmers and audit suppliers on site to ensure that our quality criteria, which our customers expect from us with good reason, are met.

Why exactly was the IREKS Technical Centre built when there is already the IREKS IQ Centre, where everything revolves around Innovation & Quality?

Dr Thomas Kunte: In the IREKS IQ Centre, quality tests and baking tests are the main priority and can be carried out properly in the extended and modern premises of the new Technical Centre. But the Research Technical Centre makes it possible for us, above all, to optimize the refinement of our field crop and to try out completely new processes to bring unique and innovative products to the market which can be used to manufacture baked goods with unmistakable aroma. In this way, we carry out tests and analyses along the whole value-added chain "from farm to fork" for our customers in our Innovation and Quality Centre.

To be quite specific: What are the options that the new Technical Centre facilitates?

Dr Thomas Kunte: Unique within the sector is our ultra-trace analysis laboratory, where tests with a value of 3 million euros are carried out every year and which has now been expanded again in connection with the Technical Centre. Having this competence in our company is a decisive advantage, as, in this way we carry out safety-relevant tests on our raw material and products quickly and at frequent intervals recognizing possible problems with the raw materials much faster, i.e. before they are used in our production and not only when the products have arrived at the premises of our customers. Our latest analysis equipment, which we were able to acquire due to the additional space, is also contributing to this. In this way, for example, we can detect more than 200 pesticides at the same time with only one reading or determine traces of wheat in spelt flour by using a completely new method (digital PCR) – the latter being an absolute unique selling point.

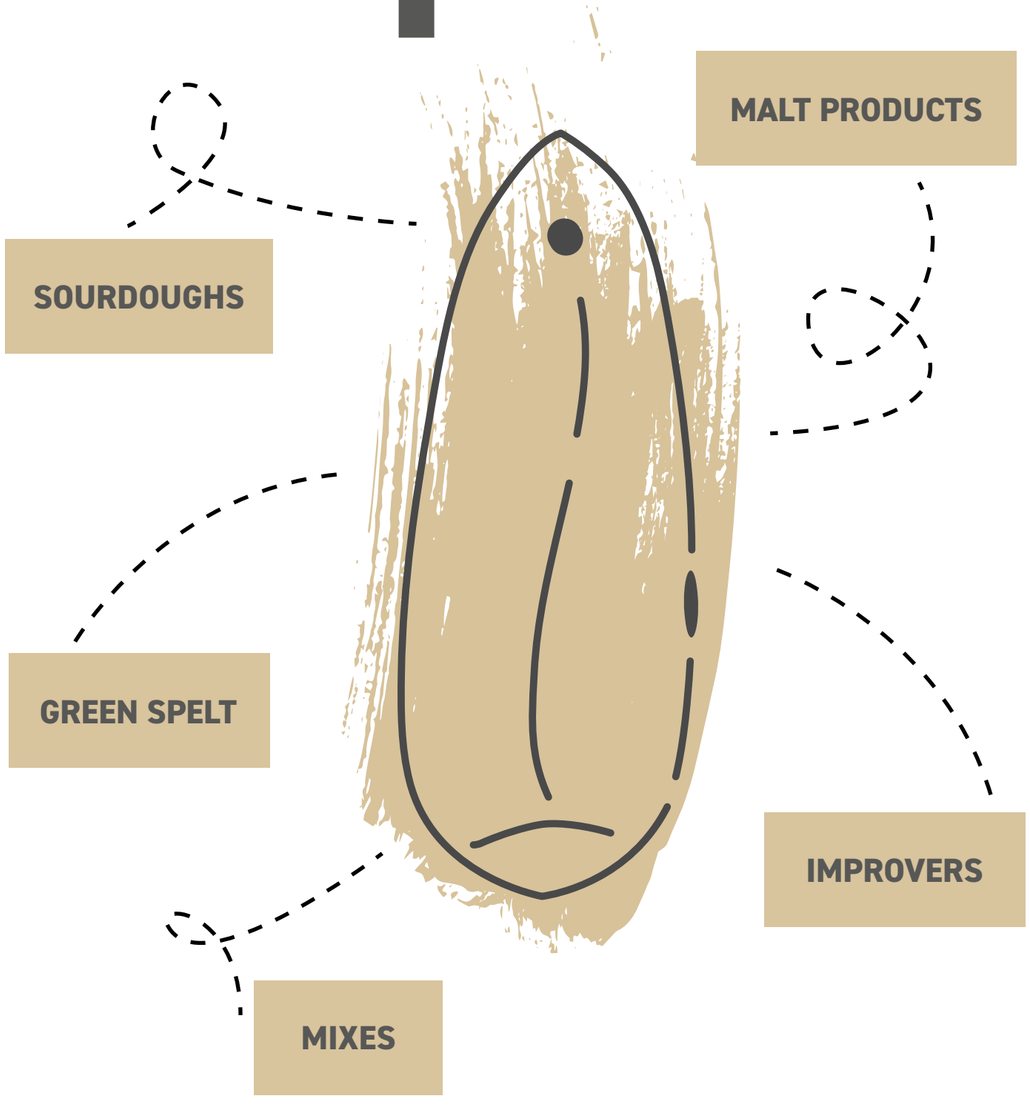
Why is this certainty so important when it comes to spelt?

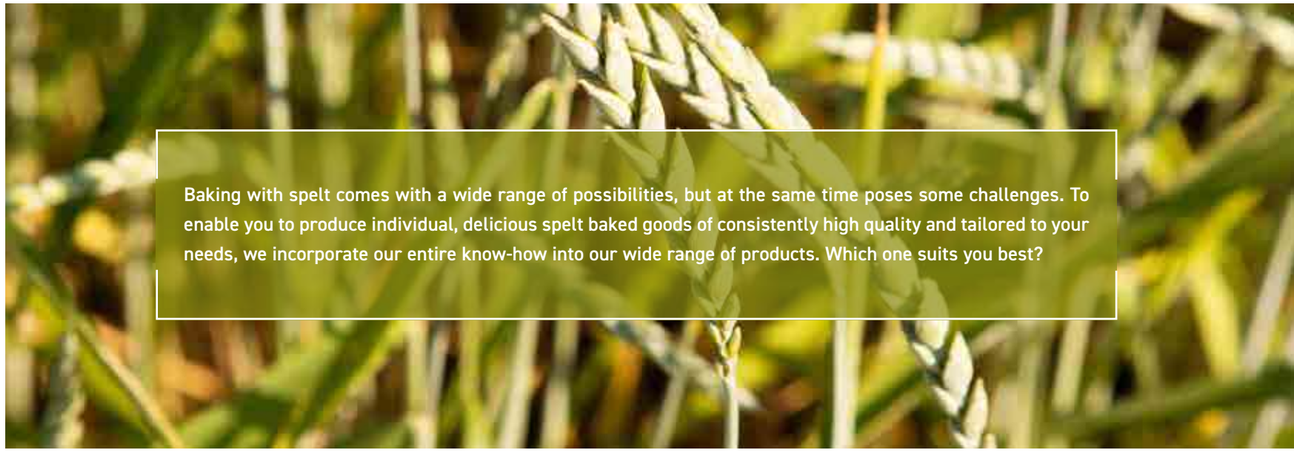
Dr Thomas Kunte: We want to assure our customers complete safety when it comes to food fraud in connection with spelt! Hulled spelt grains from the outside are virtually indistinguishable from wheat grains, even for specialised personnel. Unfortunately, it is therefore not possible to completely rule out that spelt is stretched with cheaper wheat.
Bakeries always have a certain degree of uncertainty, as they cannot know in the event of a food inspection whether spelt raw materials they have sourced consist to 100 % of spelt. Many spelt suppliers, such as mills or manufacturers of baking ingredients, certainly act with a clear conscience and the best of intentions, but do not have the means for full examination. We are going one step further. On the one hand, we want to be analytically sure by means of digital PCR, which we use to analyse every spelt raw material, every flour and every coarse grain to determine whether it is 100 % spelt. On the other hand, we have taken the entire value-added chain into our own hands – from the selection of seeds to contract farming, through to the collection of goods and processing – so that we can offer bakeries precisely this security.

What quality parameters does IREKS look at in addition to the purity of spelt raw materials and how are these determined?

Dr Thomas Kunte: Every year, we analyse the quality of various single-variety grain samples directly from our contract farmers. These samples are cleaned and ground in our mill in the Technical Centre. The flours produced in this way are tested for their baking properties according to standardised baking tests. Every year, we get a precise impression of the varieties that are performing very well in the fields of our contract farmers and can thus agree on detailed cultivation plans for the varieties of the coming years. Additionally, we are always checking the quality of new, promising varieties in our fields and work out the advantages and disadvantages of these new varieties.
Not only baking and sensory properties are assessed, but also safety-relevant properties. For example, every year the susceptibility of mycotoxins is tested and residues and properties that favour the formation of acrylamide during baking (asparagine content) are examined.

Favourite raw material spelt





Baking with spelt comes with a wide range of possibilities, but at the same time poses some challenges. To enable you to produce individual, delicious spelt baked goods of consistently high quality and tailored to your needs, we incorporate our entire know-how into our wide range of products. Which one suits you best?

?You want full flavour and an individual taste profile?

Malt products

Spelt malt is not very common in breweries, but great spelt malt products are definitely not to be missed in baking! IREKS has more than 160 years of experience in the production of malts, was the first manufacturer of baking ingredients to offer malts for baking, and is now one of the largest producers of speciality malts in the world. We draw on this wealth of experience for our spelt-based malt products. They are available in the traditional ground form, as whole malt kernels in our pastes or as spelt malt extract. With their specific aroma characteristics such as caramel or toasted, they offer countless application options for an unmistakable taste.

Sourdoughs

IREKS has been working with sourdoughs for more than a hundred years and to this day we still rely on our own development and production. A good decision! On this basis, we also offer our customers high-quality spelt sourdough products. Just like wheat sourdoughs, spelt sourdoughs convince with their mild, balanced acidity. Over and above, the slightly nutty flavour of spelt rounds off the taste in an ideal way and gives spelt baked goods that certain something. Use our variety of different flavours for the creation of unique spelt baked goods with recognition value!

?You want a real speciality with trend character?

Green spelt

The “younger brother” of spelt, namely green spelt, has evolved into an absolute trend grain in recent years – especially in connection with various nutrition trends. Green spelt is spelt that is harvested early. Due to the early harvesting time and the consequently not yet fully developed ingredients such as starch or gluten proteins, it is not so easy to process green spelt, and pure green spelt flour lacks baking capability. But at IREKS, we know exactly how to handle it! The basis for this are our many years of experience with spelt and the use of our own production installations and refining methods. Try, for example, our mixes or our aromatic wholemeal unripe spelt sourdough – a real speciality that is second to none!

?You want safety, preferably in combination with further added value?

Improvers

The subsequent dough and baking properties of spelt are strongly dependent on the variety and weather conditions. As a result, spelt flours with poor baking properties are repeatedly found on the market, which leads to significant fluctuations in the quality of baked goods. This is exactly where we come in with our spelt improvers! Based on many years of flour-analytical and baking-technological research, we create improvers that compensate for these fluctuations, guaranteeing optimal processing reliability through excellent baking properties.

Mixes

We go even further with our spelt mixes! In cooperation with our contract farmers, we decide which varieties to grow, we mill and hull the grain ourselves and mix flours with optimal and consistent baking properties. This guarantees that IREKS mixes contain suitable baking qualities made from pure spelt in optimal quality at all times. Simultaneously, we take up various trends for our mixes, such as the combination with currently interesting ingredients.

?You want a partner with whom you can find the best solution for yourself?

All our products are accompanied by numerous analytical and baking technological quality tests during their development and production. Innovation is not only created by special refinements of spelt raw materials, but also as part of recipe development in our Baking Academy. With all this professional know-how, as well as our strong team in the field and in our worldwide Baking Centres, we are at your disposal to set up your perfect spelt assortment.

Spelt expert or newbie?

Find out in our quiz!

1 Let's start our little quiz in a scientific way! **What is the botanical name of spelt?**

a) Triticum aestivum

b) Secale cereale

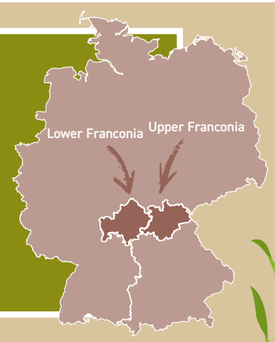
c) Triticum spelta

d) Hordeum vulgare

2 When spelt grains are hulled, even professionals have difficulty in distinguishing them from wheat grains. Can you manage? **Match the pictures with the right type of grain!**

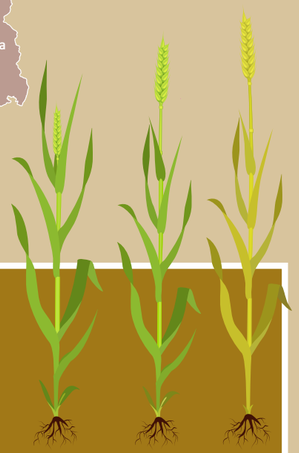
3 For our spelt, we pay particular attention to regionality and source the grain from contract farmers in northern Bavaria. **How many contract farmers does IREKS work with to cover its total spelt requirements?**

a) 50 b) 125 c) 200



4 The time window for harvesting green spelt is usually very short. Depending on weather conditions, temperature and growing area, spelt is in the appropriate stage of milk ripeness to be harvested as green spelt only for a few days. **What do you think: Approximately how many weeks earlier than spelt is green spelt harvested?**

a) 5 - 6 weeks b) 2 - 3 weeks c) 1 - 2 weeks



Solution: 1. c | 2. Wheat - 2, Rye - 4, Oats - 5, Barley - 1, Spelt - 3 | 3. b | 4. b

IREKS

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