



Grain by grain

Adding value at IREKS





What we do

Grain by grain



Agricultural trade

Raw material procurement

Grain processing

Raw material refinement

Raw material composition

Raw material analyses

Product development & quality assurance

Research

Professionals

IREKS Campus

Trade publications



What this means

Grain by grain



Impeccable **quality** for your best baking results

Reliability in raw material procurement for your secure planning

Safety that you can pass on to your customers

Transparency from the field



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



Focus on Security of raw material supply



AGRICULTURAL
TRADE

RAW
MATERIAL
PROCUREMENT



Security of raw material supply

Agricultural trade



- Company-own agricultural trade since 1885
- Procurement of grain via contract farming and other regional farms
- Cooperation starting with the choice of variety
- Joint determination of quantities, varieties and grain types
- Collection points in northern Bavaria and Thuringia
- Quality control and assessment of grain features
- Storage capacity for approx. 200,000 tons of grain



Retraceability



Purity of varieties



Influence on
quality & properties



Security of raw material supply

Raw material procurement



- Selection of partner companies and raw materials
 - Quality-oriented; observance of important certifications
 - Research on procurement markets
 - Multiple sourcing
 - Supplier development / management
 - Closing of long-term contracts depending on market conditions
- Forward-looking demand planning in cooperation with sales and production
- Raw material stockpiling & safe storage suitable for foodstuffs
 - Strong expansion of storage capacities for raw materials
 - Forward-looking stockpiling based on current market developments



Long-term thinking



Resilience in crises



Quality first



Focus on Process & product competence



GREEN SPELT
PRODUCTION



SPELT
HULLING



MILLING



MALTING &
MALT
REFINING



MALT
EXTRACT
PRODUCTIO
N



SOURDOUG
H PROCESS



RAW
MATERIAL
COMPOSITI
ON



Process & product competence

Green spelt production



- Green spelt = spelt harvested two to three weeks before ripeness
- Close coordination between IREKS and contract farmers to determine the right point in time in the tight harvesting timeframe
- Further processing of the fresh green spelt within 24 to 36 hours after harvesting
- Cleaning, hulling, drying & smoking of the green spelt in our in-house production facilities
- Green spelt obtains the typical aroma of beechwood smoke



Use of
synergy



Spelt
experience



Best possible
baking quality



Process & product competence

Spelt hulling



- Spelt is surrounded by a protective husk – similar to oats, emmer, einkorn and rice
 - Unhulled: Indigestible and with negative influence on taste and chewing impression
- Spelt comes from the field or warehouse to our own spelt hulling plant at the Schweinfurt site
 - Cleaning & separating of coarse components e.g. straw & small stones
 - Separation of the grain from the husk by hulling machines & shaking screens
 - Husks are pelletised and used as animal feed
- Ready for further processing, e.g. in the mill and malt house or for storage



Regional processing



Optimal preparation



100 % spelt



Process & product competence

Milling



- EICHENMÜHLE for milling spelt and wheat in two separate milling plants
- Using grain of homogeneous quality from the company-own agricultural trade
- Composition of grain qualities & processing according to the requirements of our products and customers
- Separating and merging as the basic principle of the mill
- Breaking up grain kernels and particles in roller mills to separate the individual components of the grain from each other
- Sorting of the individual milling fractions according to size and density in large plansifters
- Systematic combination of the individual passages into flour with different characteristics and qualities



Product safety



Control of flour properties



Focus on flour for demanding applications



Process & product competence

Malting & malt refining



- Many years of know-how in the production of malts for brewing and baking
- Different refinements for aroma characteristics and application variety
- Company-own malt mill
- Processing of enzyme-active malt and influencing the milling fineness possible
- Caramel malts through saccharification and caramelisation
- Brewing and kilning into melanoid malts
- Roasting facility for the production of intensely aromatic, dark roasted malts
- Thermal treatment to achieve enzyme-inactive malt products



Sole baking ingredients manufacturer with their own malt production



Aroma & flavour diversity



Tailored to the needs of bakeries



Process & product competence

Malt extract production



- Brewhouse for the production of light-coloured malt extract and roasted malt extract
 - In-company developed taste and aroma formation process
 - Particularly energy-efficient production
- Combination of our own malts and experience from the malting trade with extensive technical know-how
 - Mashing: Mixture of water and coarse malt is saccharified over time by adding heat and acquires typical taste and colour
 - Purification & evaporation: Wort (= dissolved malt sugar) is separated from the malt draff and gently concentrated so that storage stability is achieved
- Manufacture of special products such as spelt malt extract or organic malt extract



Natural flavour
enhancer

1856

More than 100 years
of malting tradition



Use of synergy for
innovation



Process & product competence

Sourdough process



- Around a hundred years of experience with sourdough products
 - In-house cultivated pure cultures of lactic acid bacteria
- Production of liquid and dried sourdoughs
 - Traditional three-stage method
 - Gentle drying
- Sourdoughs based on rye, wheat, spelt, durum wheat, etc.
- Innovative processes for special sourdoughs made from raw materials such as green spelt or buckwheat



No foreign or faulty fermentations



Consistent baked goods quality



Variety of sourdoughs for customised applications



Process & product competence

Production of Lievito Madre



- Italian-style wheat sourdough produced by the propagation and fermentation of natural yeasts inherent to flour
- Cooperation with Meraner Mühle
- Joint development of unique know-how for fermentation, drying and packaging
- State-of-the-art production facilities in Lana, South Tyrol
- Experienced Lievitisti take care of daily refreshment and monitoring
- Monitoring of the raising power and properties of the Lievito Madre through continuous controls of temperature and time
- Gentle drying facilities with the lowest possible temperature to preserve the activity of the yeasts and lactic acid bacteria



Sole producer of dried, active Lievito Madre



Natural sourdoughs



Tradition meets trends



Process & product competence

Composition of baking ingredients



- Use of all our intermediate products for baking ingredients: Grain, flour & other milled products, refined malt products and sourdoughs
 - Precise tailoring of properties to each other and the desired result
 - Wide range of combination and individualisation options
- Sophisticated, fully automatic baking ingredients production
 - Batch production with documentation of all quality-relevant work steps starting with the raw material
 - Integration of continuous product compatibility testing for the safe manufacture of products with special characteristics
 - Use of the law of gravity for energy efficiency



Composition for best baking results



Avoidance of cross-contamination



Product diversity from a single source



Focus on Quality and innovation standards



RAW
MATERIAL
ANALYSIS



PRODUCT
DEVELOPMENT
& QUALITY
ASSURANCE



RESEARCH



Quality & innovation standards

Raw material analysis



- Taking & analysing samples before receiving or processing raw materials
- Flour analysis: Scientific evaluation and observation of flour over many years as a basis
- Enzyme analysis
- Trace analysis
- In-house solution unique in the industry
- 2022: Carrying out special analyses with a market value of EUR 3 million
- Including pesticides, mycotoxins, heavy metals, allergens, etc.
- Detection of 1 grammes in 1,000 tons
- DNA laboratory: Detection of GMOs and authenticity verification



Testing of each raw material batch



Comprehensive in-house analysis



Large pool of data & experience



Quality & innovation standards

Product development & quality assurance



- Monitoring of the entire formation and manufacturing process of our products with close-meshed analyses and quality tests
- 28,000 baking tests, 55,000 raw material analyses and 320,000 product analyses per year
- Development of new products, product variations and customised solutions ready for the market
- Research bakery and confectionery bakery for dough and baking tests as well as dough and baked goods evaluations
- Food sensory analysis through in-house panel for decision-making in development projects and consultation on quality and complaints issues



Permanent quality assurance



Baking technology and sensory tests and analyses



Quality & innovation standards

Research



- Innovations in terms of raw materials, products & analytical methods
 - Continuous expansion of analytical capabilities
- Research Technical Centre
 - Scale-up from laboratory trials to large-scale production
 - Development of IREKS-own raw materials such as malts, sourdoughs, hydrothermally treated raw materials, etc.
 - Use for the permanent further development of the product range
- Research projects in various scientific fields in cooperation with suppliers and institutions



Innovative power



Constant update of the analysis



Knowledge networking



Grain by grain

Where we are headed



...our tradition and the synergy between our business areas become a **breeding ground for innovation.**

...we rely on **long-term partnerships** and promising cooperation.

...we build and expand **competencies** that **advance** our customers and ourselves.

