# **©IGV** FOODTECH





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### Baking technology

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## **ABOUT**

### **IGV GmbH**

The Institute for Grain Processing was founded in 1960 as an application-oriented research institute for the milling, baking and food industries. As a result of an MBO in 1994, it was transferred into a limited liability company (GmbH). Our three departments, **TESTLAB, FOODTECH** and **PLANTTECH**, are now focused on the production of food and industrial development services.

#### **Business fields**

- > Innovative technologies for new protein products
- > Efficient, resource-effective production processes
- > Innovative recipes based on functional ingredients
- > Product manufacturing from algae and plants
- > Food safety methodologies on behalf of industry and retail

Our accredited test laboratory, our training and further education courses, our counselling services for project management and technology and the related transfer of knowledge into companies complete our profile.

## CONTACT

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### **IGV FOODTECH Baking Technology**

We work together with companies from the bakery trade, the confectionery industry, the supplying industry and companies from the engineering and construction sectors of bakery machines.

Our service range comprises the analysis of raw materials, the development of recipes and products, the preparation of engineering and technological expertise, the development of complex products and processes as well as the analysis of production processes.

We also focus on providing practical services, on the organisation of educational seminars and events in cooperation with the Chambers of Craft and the Chambers of Industry and Commerce as well as on research and development processes. We support our customers from the generation of ideas to the launch of a product, in quality assurance issues and Food Labeling Regulation.

### **IGV FOODTECH Extrusion & Milling**

This business field is based on the hydrothermal or mechanical processing and treatment of various plantbased raw materials.

Key areas of application are FOOD and FEED. We work with companies in the milling industry, the food industry, mechanical engineering, industrial construction and many start-up companies.

The development, optimisation and creation of individual products is part of our range of services: from initial tests to industrial production.

Special aggregates and peripheral devices complete our basic equipment. Technical and technological capabilities are supported by a wide range of laboratory analysis options.

# HIGH QUALITY BAKED GOODS

from healthy raw materials and innovative recipes

RAW MATERIALS AND PRODUCTS

**BASICS** 

**TEST SERIES** 

**RAW MATERIALS** 

**RECIPES** 

**RESEARCH PROJECTS** 



### RAW MATERIALS AND PRODUCTS

The IGV GmbH develops high quality baked goods which can be produced either in artisan bakeries or industrially. We would like to support your ideas and their implementation. We seize upon new market trends as well as also use well-tried concepts for individual solutions.

# Range of services



### **BASICS**

Organisation of feasibility studies, analyses, raw materials screening, raw materials screening tests and the manufacturing of prototypes.



### TEST SERIES ON BEHALF OF THE CUSTOMER

We perform test series on behalf of our customers and vary the composition of the raw materials. The result is a tailor-made production process. The test series is accompanied by a comprehensive range of analytical services. A well-founded media documentation and interpretation of the results is standard.



### RAW MATERIALS FOR THE BAKERY INDUSTRY

Forward-looking ideas are the basic element of our cooperation with milling companies and producers of bakery ingredients. Within the scope of the interdisciplinary cooperation of our experts from the science, product counselling and training departments, a number of issues will arise which will form the basis of new, market-ready solutions.



### RECIPE DEVELOPMENT FOR HEALTHY FOOD

We are in particular focusing on healthy food and food with added health benefits. This includes the development of new recipes based on natural raw materials and the elimination of additives, as much as possible. We take the individual requests of our customers in terms of Clean Label, organic production, nutritional composition, allergies and food intolerances into consideration.

### RESEARCH PROJECTS



Within the scope of research projects, we handle a broad range of research topics. These include material-science as well as technological and engineering tasks which we approach based on public tendering or directly upon customer requests. Our focus is on current market trends or the solving of individual problems described to us by our customers. Areas of emphasis include modified raw materials, efficient handling of raw material resources, food for a healthy diet, energetically feasible and quality-assuring production processes, in-line process control for trouble-free production and high quality final products.

# Laboratory services

### **GRAIN ANALYSIS**

CLEANING, DRYING, GRINDING

MOISTURE, HECTOLITER WEIGHT, 100-K WEIGHT

GERMINABILITY, KERNEL HARDNESS, PROTEIN

IMPURITIES, PEELING YIELD



### FLOUR ANALYSIS

MILLING TESTS, MILLING YIELD, FLOUR PARTICLE SIZE, SIEVING ANALYSIS

SENSORY EVALUATION, WATER ABSORPTION CAPACITY, RAW PROTEIN CONTENT

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TOTAL MINERALS, SEDIMENTATION VALUE

WET GLUTEN CONTENT, SWELLING NUMBER, STARCH DAMAGE

FALLING NUMBER, ASCORBIC ACID CONTENT, MALTOSE CONTENT

**β-GLUCAN CONTENT** 



#### **RHEOLOGY**

**AMYLOGRAM** 

FARINOGRAM

**EXTENSOGRAM** 

VISCOGRAM

SWELLING CURVE, MIXOLAB

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### **BAKING TRIALS**

WHEAT/RYE BAKING TRIALS

PAN BREAD BAKING TRIALS

RAPID MIX TEST

WHOLE GRAIN BAKING TRIALS

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SOURDOUGH BAKING TRIALS

### **DOUGHS AND BAKED GOODS**

RHEOFERMENTOMETER TEST

pH/ACIDITY

DETERMINATION OF DOUGH VOLUME

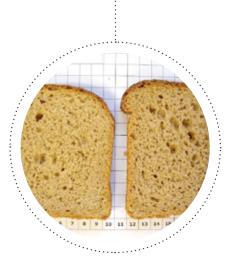
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DETERMINATION OF THE VOLUME OF BAKED GOODS

**TEXTURE ANALYSIS - FRESHNESS** 







# Main development focus: Added Health Benefits

RAW MATERIALS SCREENING **FUNCTIONAL FOOD** NUTRITIONAL VALUE/CHANGES IN NUTRIENTS RAW MATERIALS PRODUCTION BAKERY MIXES AND CONCENTRATES SPECIAL PURPOSE FOOD ORGANIC FOODS INDIVIDUAL CUSTOMER SOLUTIONS

# PRODUCTION ANALYSIS AND TECHNOLOGICAL ADVICE



TECHNOLOGY AND PROCESSES

**DEFECT ANALYSIS** 

**VIDEO ANALYSIS** 

CERTIFICATION

**FOOD LAW** 

**RESEARCH PROJECTS** 



### **TECHNOLOGY AND PROCESSES**

The IGV GmbH analyses production processes in artisan bakeries, larger chain bakeries and industrial bakeries alike. This task requires complex interlaced and analytical thinking. Our technical experts have comprehensive experience from practical applications and scientific project work. This means that the latest findings are included in the analysis to the benefit of you and your production team.

# Range of services



### **DEFECT ANALYSIS, VIDEO ANALYSIS, DATA EVALUATION**

Optimised recipes and processes open up new perspectives for our customers on their production and product range. We take raw material specifications, respective ingredients in the recipe and compliance with predefined processing parameters into consideration, conduct an overall analysis and define weaknesses. We use inline data logging for the identification of process faults and their elimination.



### **ENGINEERING SOLUTIONS**

We are the right partner at your side when it comes to joint development of concepts for suitable engineering solutions. We are specialists in the fields of raw materials metering, dough preparation, dough ripening, dough make-up, preparation of batters, proofing, cooling, freezing and baking.





Over the past few years, comprehensive quality management has become a basic requirement for many successful bakeries. The knowledge and control of QM systems play a decisive role in this. We support your company as part of quality management in the realisation of the FIC regulation or with the correct nutrition labelling. For associations and other organisations we carry out the certification of their member companies while auditing production processes and product quality according to defined rules.

### **RESEARCH PROJECTS**



Making use of our research services will improve the innovative strength of your bakery. Even without your own research possibilities, new perspectives for new developments will open up for you. With the assistance of project-related public funding from the EU, the federal and state governments, it is possible to improve the market presence of SMEs through innovation. We will support you personally in your application process for research projects and with the implementation of your research ideas.

# Process expertise

BASIC BAKING TECHNOLOGY PROCESSES

WETTING/DEDUSTING OF RAW MATERIALS AND BAKERY INGREDIENTS

AGGLOMERATION OF RAW MATERIAL POWDERS

FERMENATION OF MILLED PRODUCTS AND OTHER VEGETAL RAW MATERIALS

CONTINUOUS AND BATCH MIXING PROCESSES

FOAMING/AERATION OF CAKE BATTERS

PRODUCT-ADJUSTED COOLING AND FREEZING PROCESSES

ENERGY-EFFICIENT BAKING PROCESSES/OPTIMIZATION OF HUMIDITY IN BAKING PROCESSES

# Industrial consulting





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### Technical centre for industrial trials

Heated and air-conditioned hall, 45 x 16 m

720 m<sup>2</sup> suitable for food production

7.63 m eaves height, 9 m ridge height

5.70 m clearance height for crane

Crane runway with 3.5 t payload

Separate truck access, sectional doors 4.0 x 4.5 m

Power connection 600 kW (400 and 230 V)

Gas, water/waste water, compressed air, CO<sub>2</sub> supply



# Technical bakery centres in the IGV

### MACHINES AND TECHNICAL EQUIPMENT

FERMENTATION TECHNOLOGY

CONTINUOUS AND BATCH MIXING TECHNOLOGY

STATIC FOAMING TECHNOLOGY

DOUGH MAKE-UP TECHNOLOGY

COOLING AND FREEZING TECHNOLOGY

BAKING TECHNOLOGY (DIFFERENT MODELS AND HEATING SYSTEMS)

#### PREMISES AVAILABLE







TECHNICAL CENTRE FOR CONTINUOUS DOUGH PREPARATION

TRAINING BAKERIES FOR BAKERS AND CONFECTIONERS

TRAINING ROOMS FOR SALES ASSISTANTS

RESEARCH BAKERY

# Technical milling centre

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### **FRACTIONATION**

SIEVE CLASSIFICATION

CYCLONE SCREENING

### **MILLING SYSTEMS**

IMPACT MILL, ROLLER MILL

CUTTING MILL, HUSKER

CONDUX CLASSIFIER MILL

### MILLING PROCESS

PASSAGE GRINDING

MICRONISATION <50 μM







# TRAINING CENTRE FOR BAKERS AND CONFECTIONERS



TRAINING AND FURTHER EDUCATION

EXTERNAL APPRENTICE TRAINING

PREPARATION FOR MASTER CRAFTSMAN EXAM

**IN-HOUSE TRAINING** 

**COMPANY TRAINING** 

PRACTICAL SEMINARS



## TRAINING AND FURTHER EDUCATION

We support you and your employees with our training courses in all aspects of production and the sale of bakery products. In cooperation with the Chambers of Crafts in Potsdam, Cottbus and Frankfurt/Oder, the Potsdam Chamber of Commerce and the College Association of Bakers and Confectioners Bergholz-Rehbrücke e.V., we offer a multifacetted and comprehensive training and further education programme.

# Range of services



### **EXTERNAL APPRENTICE TRAINING**

The external education of baker, confectioner and bakery sales apprentices takes place within the scope of specified framework curricula for apprentices in the Chamber districts of Potsdam, Cottbus and Frankfurt/Oder. Participation is mandatory for apprentices. Moreover, participation on the training courses is also possible for apprentices from other food companies.



### PREPARATION COURSES FOR THE MASTER CRAFTSMAN EXAM

Every year we offer full-time training courses as preparation for the master baker's and mater confectioner's exams. Our programme range also includes special short courses for graduates from technical colleges for obtaining the master craftsman degree. The courses are conducted together with the Potsdam Chamber of Crafts (HWK). The board of examiners of the HWK Potsdam hold the exams.

### **TECHNICAL BAKER**



We offer you to develop and organise individual training courses and seminars for the employees of your company on specific topics tailored to their needs, or to customise the following topic suggestions as in-house training courses according to your requirements.

- > Pre-ferment and sourdough processes for wheat and rye bakery products
- > Kneading and preparation of wheat and rye doughs
- › Retarded and interrupted fermentation of dough pieces and pre-baked or partially baked products
- > Sensory evaluation of bakery products and other groceries



### PREPARATION FOR THE EXAMINATIONS

We perform practical training days for apprentices about 4 weeks before the dates of the intermediate and journeyman examinations for bakers, confectioners and bakery sales assistants. To achieve this, we collaborate with the respective responsible audit committees.



### **PRACTICAL SEMINARS AND COURSES**

Our annual training and further education programme contains a number of interesting educational events. Please visit our website or request a printed copy.

# Prep course for the master baker's exam

Annual full-time course

### Part 1

Prep course for the practical exam

### Part 2

Prep course for the theoretical exam

### Part 3

Prep course for the exam in business administration and law

### Part 4

Prep course for the occupation-educational and work-educational exam

All parts can be booked separately or en bloc.



# Prep course for the master confectioner's exam

Annual full-time course

### Part 1

Prep course for the practical exam

### Part 2

Prep course for the theoretical exam

### Part 3

Prep course for the exam in business administration and law

### Part 4

Prep course for the occupation-educational and work-educational exam

All parts can be booked separately or en bloc.



## **Technical Baker**

Full-time course in modules

### Module 1

Bread and small baked goods made from wheat

Analysis of milled products and flour

Application of improvers

Pre-ferment and sourdough processes

Dough preparation and dough make-up

Retarded and interrupted fermentation

Baking process

Sensory training

### Module 2

Bread and specialty bread made from rye

Analysis of milled products and flour

Sourdough processes

Hot soaked and soaked grain

Application of improvers

Dough preparation and dough make-up

Special bread variation

IGV Rye method

Baking process





The training centre is certified by DQS in accordance with the standards DIN EN ISO 9001:2015 and AZAV as an institution under the law of employment promotion.





# Contact/Registration

Training Centre in the

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# EVALUATION OF THE QUALITY OF BAKED GOODS

for bakeries and retail companies

# SENSORY EVALUATION

Accreditation sensory lab according to ISO 17025:2005

**RAW MATERIALS** 

**INGREDIENTS** 

**SEMI-FINSHED PRODUCTS** 

**BAKED GOODS** 

**TRAINING** 



### SENSORY EVALUATION

The quality of a product is a decisive factor for its success and the initial and repeated purchase by the consumer. If the controlled quality attributes do not match the customer's requirements, the product can easily lose its acceptance and it will not achieve sales. A sensory quality evaluation is suitable for the frequent control of your product range, for evaluating the quality of newly developed products, for verifying the best-before dates in storage tests, for analysing product defects, for comparing competitor products, for comparing products with different ingredient and processing parameters and for customer acceptance tests.

# Range of services

### SENSORY EVALUATION AT DIFFERENT STAGES IN PRODUCTION



Good product quality should never happen by chance but rather should be the result of numerous professional tests. A broad range of possible methods is available for testing. Sensory evaluation should also be performed prior to the production process within the scope of the raw materials receiving process. We offer an optimal selection of suitable sensory instruments for the individual production stages. A well-trained and educated sensory panel is absolutely required; we have such a panel in our **accredited sensory laboratory**. We evaluate raw materials and ingredients, baked goods, pasta, confectionery products, cereal products in an unprejudiced and objective way, based on precisely defined descriptors.

### RAW MATERIALS, INGREDIENTS & SEMI-FINISHED PRODUCTS



Sensory and analytical measurements are a great help in determining the quality and suitability of raw materials in the production process. In cooperation with the accredited IGV test laboratory, we are able to conclude precisely from the quality of the raw materials on the quality of the final product. Sensory tests are also recommended in the production process in order to influence the entire process in a targeted fashion and to detect the reason for possible quality deviations of the final product. We would be delighted to put our comprehensive expertise at your disposal.

### **BAKED GOODS & OTHER PRODUCTS**



One of the main tasks of a producer is to recognise and avoid product defects as early as possible. The sensory evaluation allows the quality to be assessed based on predefined attributes, possible deviations in quality and their cause to be determined and finally corrective measures to be introduced. We apply different test methods for the evaluation of quality. These methods have a high informative value and have been statistically verified. We guarantee a non-judgmental and comprehensible estimation of the quality within the framework of previously defined attributes. Within the scope of our sensory evaluation range, we offer the possibility of examining the quality of your products on a frequent basis.

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### **SENSORY TRAINING**

We will also train your employees in the application of sensory test methods and we can also provide in-house training within your company.

# Food inspection

Expertise	Methods		
Sensory quality assurance	Descriptive tests		
› Test for marketability	> Simple descriptive examination		
<ul><li>Quality assessment</li></ul>	> Expert reports/assessments with scale		
	› Profile inspection, Consensus profile		
Accompanying the product development	› Evaluating quality inspections		
› Profile testing	(various test procedures)		
› Alignment with standard/master sample			
<ul><li>Acceptance/popularity</li></ul>	Differentiation tests (discriminatory)		
	› Pairwise comparison test, Triangle test		
Definition of best before date (BBD)	> Ranking Test		
› Determination BBD	Well trained expert panel		
› Extension of the BBD	<ul> <li>Untrained consumer panel</li> </ul>		
<ul> <li>Examination of the storage stability</li> </ul>			
› Accelerated storage test	Investigator training and auditor qualification		
	Determination of taste sensitivity		
Seminars* (In-house training possible)	<ul> <li>Training of assessors for sensory tests</li> </ul>		
<ul> <li>Basic seminar according to DIN standard</li> </ul>			
<ul><li>Product specific seminars</li></ul>			
Examination of sensory counter-tests			
> Foods			

# **Seminars**

In our seminars on sensory analysis, you will gain basic knowledge about the standard sensory test methods and test techniques, as well as an overview physiological processes of the senses. In numerous practical training and sessions you will intensify your own sensory abilities. With this training, you will learn how to recognize quality differences in your products more quickly.

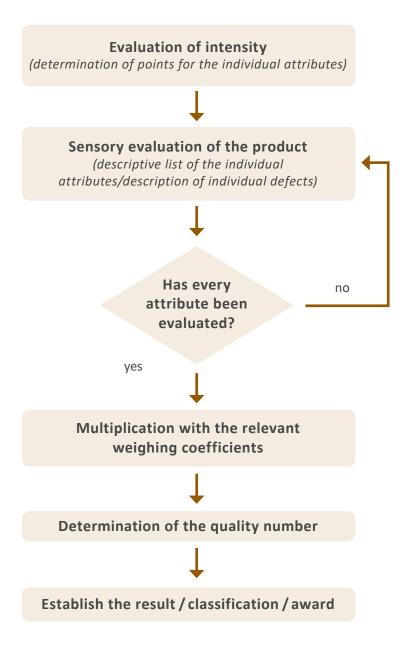
### Contents of the seminar

- > Basics of sensory evaluation in theory and practice
- > Training of sensory senses and sensory memory
- > Planning and implementation of a sensor environment and sensor panel
- > Sensory methods and tests

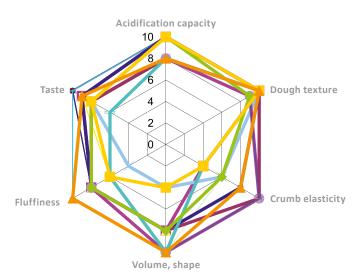
The training courses are carried out especially for specialists and managers from quality assurance, quality control, laboratory, product development as well as marketing and distribution in the food and beverage industry and supplier industry.

Ask us for an individual offer!

# Typical sensory test procedure



Example of a quantitative descriptive analysis which depicts the effect of recipe ingredients on the product quality



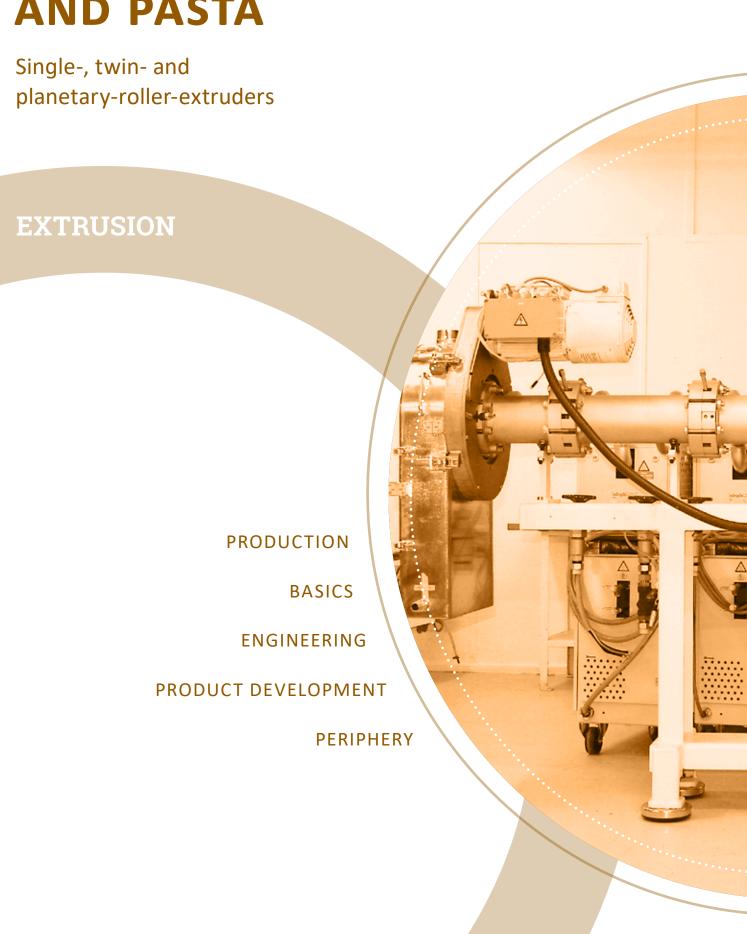








# EXTRUDATES, PRE-MIX AND PASTA



### **EXTRUSION**

The technical equipment has a capacity up to 250 kg per hour. The cooperation with the ENTEX® company offer symbiotic relationship in the field of planetary roller extrusion.

# Range of services



### PRODUCTION FOR CUSTOMERS

We are the perfect business partner for the production of small to medium sized volumes within industrial projects and for the production of sample batches before upscaling to the industrial level. This means lots **from 5 kg to approx. 2,000 kg per day.** 



### **BASICS & CONSULTING**

Fundamental, theoretical and practical feasibility e.g. lab-tests, prototypes, product and market studies, product labelling for food and feed, calculation and labelling of nutritional values, EU Food Information.



### **ENGINEERING**

We are able to benefit from the whole potential from raw materials like wheat, rye, spelt, maize, barley, oat, legumes and other crops and trim them by extruding, roasting, flaking, coating or filling. Suitable procedures are figured out by customer oriented trials and application tests.



### PRODUCT DEVELOPEMENT, RECIPIES, FORMING

Extension and development of product range, formula development, by-product finishing, internal and external customer trials and the possibility on testing customer owned plants in the new technical center



### **PERIPHERY**

Up- and downstream techniques, related technologies for extrusion, roasting, fractionation, drying, flaking, conveyor-, bulk material-, mixing technique

# Laboratory services

PARTICLE SIZE MEASUREMENT

RHEOLOGY

**THERMOANALYSIS** 

**BULK MATERIAL PROPERTIES** 

**COLOR MEASUREMENT** 

COMPOSITIONAL ANALYSIS



# Technology

### **EXTRUSION**

SINGLE-SCREW EXTRUDER

TWIN-SCREW EXTRUDER

PLANETARY ROLLER EXTRUDER (ENTEX)

CO-EXTRUSION

### **PERIPHERY**

**ROLL EMBOSSING MACHINE** 

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AGGLOMERATION

MIXING TECHNIQUE

**BIG-BAG PACKING** 

### **DRYING**

**BELT DRYING** 

SPRAY DRYING

MULTI-LEVEL DRYER

FREEZE DRYING







# Product range

Extrudates	Crispies, Nuggets, Balls, Flakes, Pillows
Convenience	Pasta, Gelatinised products, Instant products
Flours	Vegan Pre-Mix, Swelling flours, Coloring malt flours, Enriched fractions
Animal feed & Pet food	Feed components, Fish feed, Feeds for small animals, Supplementary feed, Snacks
Protein products	Vegan and vegetarian protein-rich products









# Raw materials

Cereals	Wheat, Maize, Rye, Rice, Oat, Barley, Millet, Spelt	
Legumes	Peas, Lupines, Lentils, Beans	
Starches	Potatoes, Maniok	
Pseudocereals	Buckwheat, Amaranth, Quinoa	
Proteins	Concentrates and isolates from plant protein	
Oil seeds	Rapeseed, Linseed, Hemp, Mustard seed, Evening pimrose seed	
By-products	Pomace, Marc, Seeds, Product abrasion from the food production	

# COARSE, FINE, MICRONISED < 50 μm

by milling and fractionation

MILLING

SAMPLE PREPARATION

MONITORING

SAMPLE BATCHES

**PRACTICE SEMINARS** 

**CHARACTERISATION** 



### **MILLING**

Whether it is coarse flour, semolina, fine semolinas, flours from grains or milling products from legumes, oil seeds, herbs and spices, fibres, roots or residues, we have the possiblity to mill, roll, cut, dehull, sieve and sift a wide range of raw materials.

# Range of services



### SAMPLE PREPARATION FOR ANALYTICAL PURPOSES

The majority of samples has to be milled to allow further investigations in our accredited **IGV TESTLAB.** For these purpose various technologies are available to ensure a suitable sample preparation.



### HARVEST MONITORING

Since 1996 IGV is responsible for the investigations on the annual harvest of wheat and rye in Brandenburg. These investigations include quality and processability regarding variety, mycotoxins, stalk-reducing substances, heavy metals and quality evaluation of wheat and rye.



### FRACTIONATION, MIXING, SAMPLE BATCHES

We are the ideal partner for industrial interim projects, the production of medium-sized volumes on behalf of our customers and the production of sample batches before entry into the production lines. Milling or fractionation of vegetal raw materials is possible from 5 kg up to 50 kg.



### PRACTICE SEMINARS MILLING & FRACTIONATION

- Quality parameter for bread cereals
- › Methods for quality evaluation
- > Rye for bread baking purposes
- > Special milling technologies

- > Wheat for bread baking purposes
- > Milling techniques for wheat and rye
- > Quality requirements for milled products

### **CHARACTERISATION OF MILLING PRODUCTS & FRACTIONS**

- > Particular flour and cereal analytics
- > Sensory quality, colour values, texture, viscosity, grain hardness, impurities
- > Particle size measurement (sieving and laser diffraction)
- > Determination of contaminants (pesticides, mycotoxins, heavy metals)
- Moistening and conditioning behaviour
- > Capability of baking and milling (standard milling and baking trials)
- > Flour yield
- > Evaluation of storage stability



# Laboratory services

PARTICLE SIZE ANALYSIS

RHFOLOGY

FLOW PROPERTIES OF DRY SUBSTANCES

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THERMO ANALYSIS

BULK MATERIAL CHARACTERISTICS

COLOUR VALUE DETERMINATION

ANALYTICAL EVALUATION ON INGREDIENTS



# Technology

### **FRACTIONATION**

SIEVE CLASSIFICATION

CYCLONE SCREENING

#### **MILLING SYSTEMS**

IMPACT MILL, ROLLER MILL

CUTTING MILL, HUSKER

CONDUX CLASSIFIER MILL

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#### **MILLING PROCESS**

PASSAGE GRINDING

MICRONISATION <50 μM







### RHEOLOGY

ROTATION VISCOSIMETER RHEOLAB MC20 RANGE FROM 0,01 TO 9900 PAS

BRABENDER-VISCOGRAPH E

BROOKFIELD-VISCOSIMETER RVDV II

TEXTURE-ANALYSER (Stable Micro Systems)

# Product range

Cereals	Wheat, Maize, Rye, Rice, Oat, Barley, Millet, Spelt
Legumes	Peas, Soy beans, Lupines, Lentils, Beans
Pseudocereals	Buckwheat, Amaranth, Quinoa
Proteins	Concentrates and isolates from plant protein
Oil seeds	Rapeseed, Linseed, Hemp, Mustard seed, Evening pimrose seed
By-products	Pomace, Marc, Seeds, Product abrasion from the food production



# IGV AMINO PRODUCT RANGE

Created by IGV or manufactured to customer order

**REFERENCES** 

**VEGAN PROTEIN PRODUCTS** 

**CEREAL MIX** 

ANIMAL FEED





### **IGV AMINO Flakes #60** Naturel

Vegan allergen-free Protein-Extrudate as breakfast cereal or as an ingredient for bars Protein content: 62 g/100 g



### **IGV AMINO Flakes #60** Cacao

Vegan allergen-free Protein-Extrudate as breakfast cereal or as an ingredient for bars Protein content: 62 g/100 g



### **IGV AMINO Balls #45** Naturel

Vegan allergen-free Protein-Extrudate as breakfast cereal or as an ingredient for bars Protein content: 45 g/100 g



### **IGV AMINO Balls #45** Cacao

Vegan allergen-free Protein-Extrudate as breakfast cereal or as an ingredient for bars Protein content: 45 g/100 g



IGV AMINO Balls #45 Naturel | mini

Vegan allergen-free Protein-Extrudate as breakfast cereal or as an ingredient for bars Protein content: 45 g/100 g



**IGV MATE Pillows #60** 

Vegan caffeine-containing Mate-Extrudate as breakfast cereal or snack Natural caffeine from Mate: 60 mg/100 g



**IGV AMINO Crispies #75** Dente

Vegan allergen-free Protein-Extrudate as vegan roasting mass or as an ingredient for bars

Protein content: 75/100 g



**IGV AMINO Crispies #75** Soft

Vegan allergen-free Protein-Extrudate as vegan roasting mass or as an ingredient for bars Protein content: 75 g / 100 g



**IGV AMINO Nuggets #75** Dente

Vegan allergen-free Protein-Extrudate as a soup ingredient, vegan strips or snack Protein content: 75 g/100 g



**IGV AMINO Nuggets #75** Soft

Vegan allergen-free Protein-Extrudate as a soup ingredient, vegan strips or snack Protein content: 75 g / 100 g



**IGV AMINO Pre-Mix #20** Burger

System product for vegan protein roastlings with 20 g Protein/100 g in the final product in combination with IGV AMINO Crispies #75 Dente



### IGV AMINO Pasta #25 Erbse Leinsaat

Vegan allergen-free Protein-Pasta for a gluten-free protein-rich nutrition Protein content: 25 g/100 g



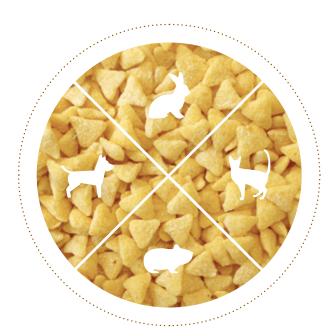
# **IGV FEED Pea-Crispies**

Vegan allergen-free animal feed from pea protein isolate Protein content: 75 g/100 g



# **IGV FEED Potato-Crispies**

Vegan allergen-free animal feed from potato protein isolate Protein content: 72 g/100 g



### **IGV FEED Cheese-Wedges #13**

Vegetarian additional feed for small animal rodents with cereals and cream cheese Protein content: 13 g/100 g



# **IGV FEED Microalgae-Balls**

Fish food based on rice crispies with micro algae and high natural nutritional content

NOTES

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### **Imprint**

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