PLANGE

Harvest Report 2022

Information by application technology

A company of the

Bindewald Gutting MÜHLENGRUPPE

BAVARIA MÜHLE DORFNER AKTIENMÜHLE

BINDEWALD SEIT 1871

CORNEXO

RETTENMEIER MÜHLE

RHEINTAL MÜHLEN

SAALEMÜHLE + DRESDENER MÜHLE

biomill by VogtländisBioMühlen

The harvest 2022 and its conditions

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In the catchment area of our mill in North Rhine-Westphalia our partner farmers were able to harvest a significantly higher volume of grain in comparison to previous years. In 2022, 11% more than in 2021 was harvested across all crops- all in all, the volume harvested amounted to 3.93 million tons of which winter wheat accounted for 2.15 million tons. According to Landwirtschaftskammer (equivalent to Chamber of Agriculture) our region has experienced the best wheat harvest since 2016.

On the whole, the winter of 2021/22 was significantly milder than usual. As per Deutscher Wetterdienst (equivalent to Official German Weather Service), the temperatures in winter were 2.7 degrees higher than on the long-term yearly average. This was the eleventh winter in sequence being too warm. March 2022 was the sunniest since records have been kept. Precipitation in the spring only barely reached 70% of the multi-annual average.

After having overcome the comparatively mild winter well, especially the grain on sandy soils with poor water storage properties suffered from a lack of soil moisture due to the spring being far too dry. In early summer, a warm (warmer than average) to even hot period, full of sun, followed. In the further course there was still nearly no precipitation which led to a significantly earlier start of the harvest than in previous years. As early as the beginning of July, two weeks before the harvest was expected to begin, this year's wheat harvest started.

Due to the conditions the harvest was executed fast and full of pressure. The regional qualities showed values which surpass previous year's ones with regard to falling numbers and hectoliter (HL) values. Thus, due to the periods of low rainfalls in the course of vegetation, the grain kernel has become significantly drier. The protein- as well as the gluten values in the batches received are lower and more widely spread. The receding values are mainly a result of consistently implementing the fertilizer regulations in farming as well as of the extreme drought in spring.

To sum up, we can report a good, widely spread range of qualities across all crops harvested and therefore well -bakeable mixes can be achieved. By targeted raw material selection, selective storage and optimized grain recipes, combined with our intense baking trials, we will be able to set the wheat and rye flours to a uniform, very well-bakeable optimum.

Grain market- and price development

The expectations of worldwide existing insecurities to be reduced rapidly have fallen far short of. Instead, military conflicts on European ground have arisen massive additional challenges on top. Commodity markets, especially the grain market, have shown a massive incline and consequently a high volatility since the end of February.

Taking up wheat exports from Ukrainian ports in July has slightly eased the supply situation, whereas simultaneously the market on the whole remains tense and depends extremely on political/military incidents. The increase of cost in the energy sector affects companies as well as private households. Further influences such as the low stock of grain worldwide, shifting streams of goods, ongoing massive changes of environmental factors and profound political decisions play an important role regarding price developments of grain. The strong influences on the grain price of these factors create volatilities which prevent long-term and above all reliable estimates.

Due to the good harvest results the supply with regional milling wheat is secured. The supraregional procurement of special qualities is currently suffering from hinderances in logistics (low water levels, congested rail networks, staff shortage).

You, as our client, can be sure to achieve highest baking qualities when using our sustainably produced flour.

As our long-standing and loyal client, you can be assured that existing contracts are being kept to as well in the future and we will jointly find reasonable agreements for both ends. As usual, our technical expert will assist you with advice as well as with practical support. You will be contacted in person at short notice.

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Advice on processing our flours

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Wheat flours

Comparison of the key figures for wheat flour type 550

Key figures	Harvest 2021	Harvest 2022
Falling numbers in secs	280 – 340	290 – 380
Protein in %	11,3 – 12,8	11,0 – 12,5
Wet gluten in %	25,5 – 30,0	24,5 – 29,0
Gluten characteristics	elastic-well stretchable	elastic-well stretchable

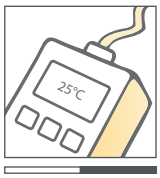
Scheme of production technology

Harvest 2022

Kneading

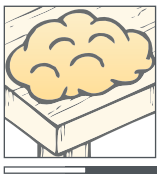
maintain

Temperature of the dough



24 – 26 degrees Celsius

Resting time of the dough

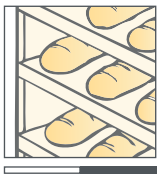


prolong slightly

Mellowness baking

normal mellowness

Baking



maintain starting temperature / baking through temperature

Dough output

Our wheat flours show a comparably good water absorption with excellent dough characteristics. As a rule, the dough outputs can be kept.

Kneading

In general, the levels of your previously most favorable overall kneading time do not have to be changed. For individually setting your perfect kneading time, our technical expert will be glad to assist.

Teigtemperaturen

The most favorable temperatures of the dough should be set at 24 – 26 degrees Celsius for the direct processes and at 23 – 25 degrees Celsius for the rising control. The appropriately controlled dough temperature influences the development of the dough to a high extent and therefore is a decisive factor for the quality of the baked goods.

Resting time of the dough

The common operational resting time of the doughs should be reviewed and slightly increased, if applicable. Regarding all kinds of long-time processing, we recommend a relaxation period of 5 – 10 minutes for the bread rolls dough.

Adding pre-doughs

Pre-doughs can still be used without hesitation, but may be slightly increased in their dosage. The amount of flour for the pre-doughs can amount up to 25%. Such aromatic pre-stages are especially suitable for the production of highly aromatic wheat baking goods with an improved structure of the breadcrumbs.

Retarded proofing and refrigeration processes

Different technologies of retarded proofing - long-time dough processes enable the production of highly aromatic and upmarket baking products from wheat. As a rule, the parameters of these processes can be maintained.

Our wheat flours of this year are characterized by:

- a similar water absorption in relation to the previous year
- stabile dough properties
- an attractive volume of the goods baked
- a good dough formation

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Rye flours

Comparison of the key figures for rye flour

Key figures	Harvest 2021	Harvest 2022
Falling numbers in secs	180 – 240	200 – 270
Amylogram units in AE	500 – 950	600 – 1100
Gelatinisation temperature in degrees Celsius	66 – 72	68 – 74

Production of sour dough

Outputs of sour dough and temperatures

Sour doughs should be checked and slightly adjusted to the ripening- and aromatic development by increasing the dough output and starting temperature, if applicable. This adjustment leads to a perfect acidification of the sour doughs. We recommend implementing regular pH-value and degree of acidity checks.

For bruised rye doughs using medium-sized granulations are advisable.

Dough production
Dough temperatures for rye- and rye-mix bread doughs can generally be maintained. A sufficient yet not too extended resting time promotes the swelling of the rye flour and prevents damper dough surfaces.
Generally, the proportion of the flour quantity to be acidified does not have to be adjusted.

Dough output
In comparison to the prior year the outputs of mainly rye-based doughs can be slightly raised.

Kneading
The usual kneading times can also be maintained this year. Sufficient kneading of rye doughs on a slow level promotes a maximum volume formation.
Baking temperatures can be maintained.

Production of bruised grain bread

When producing bruised grain bread, a sufficient swelling of the bruised grain proportion is still to be taken into account. Bruised grain bread doughs can be kept a little firmer.
Resting and fermentation time of the dough should be slightly shortened.
Starting baking temperatures should be reviewed and raised, if applicable.

Our rye flours of this year are characterized by:

- a tendency of higher water absorption in relation to the previous year
- a good acidification of the sour doughs
- a good baking volume
- a strong formation of crusts and browning
- a good shelf life
- aromatic baking goods

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Spelt flours

Comparison of the key figures for spelt flour

Key figures	Harvest 2021	Harvest 2022
Falling numbers in secs	250 – 340	280 – 360
Protein in %	14,5 – 16,5	13,5 – 15,5
Wet gluten in %	37,0 – 42,0	35,0 – 40,0
Gluten characteristics	elastic- very well stretchable	elastic-well well stretchable

Our spelt originates from monitored Ährenwort-grain cultivation. By a significant extension of acreage for spelt in 2021, we have reached target of a 100% cover from the monitored Ährenwort-grain cultivation this year. The combination with our baking analyses guarantees you a sustainable and mainly regionally produced spelt flour with perfect baking properties.

In case you may require support with creating recipes or optimizing, please feel free to contact our technical experts.

Checking dough output

This year, our spelt flours show the tendency to a lower water absorption with stabile dough properties. For the quality's sake of the baking goods, the amount of water added should be adjusted, yet fully utilized to prevent dry bread crumbs.

Kneading intensity

Spelt flour doughs should be kneaded longer, if possible and less intensively than usual wheat doughs. Please note to set the time distribution for kneading on approx. 80/20.

Kneading long and less intensively well promotes the gluten integration without stressing this too much as well as binding the added water perfectly.
Our technical expert will be glad to be of assistance setting the ideal kneading times for your kneading machine.

Temperatures of the dough

The ideal temperatures for directly processing the dough should be set at 24 – 26 degrees Celsius and for controlling the fermentation time at 23 – 25 degrees Celsius.
The controlled setting of dough temperature influences its development positively and therefore is a decisive factor regarding the quality of the goods baked.

Resting time of the dough

The resting time set for spelt doughs should be 50% higher than for usual wheat doughs. This results in an ideal dough ripening despite lower enzyme activities and a good swelling of the flour components.

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Durum/Hard wheat

Comparison of the key figures

Key figures	Harvest 2021	Harvest 2022
Vitreousness in %	› 90 %	› 90 %
Yellowness value	26,0	26,0
Protein in %	14,0 – 15,0	13,0 – 15,0
Falling numbers in secs	260 – 400	260 – 400

Our regionally generated durum grain provides very good quality properties with regard to vitreousness- (› 90%) and color values. Furthermore, the low enzyme activity is of advantage for the production of fresh dough products.

Fusarium infections occurred only rarely, the proof of vomitoxin (DON) in occasional batches was significantly below the statutory limits.

Ruch flour is a flour specialty from the Alleman-Swiss cultural region. It is the basis of various highly aromatic, strongly baked and especially lush baking specialties.
Our HeimatÄhre special flours for unique, state-of-the art baking specialties combine traditional culinary pleasure with valuable ingredients and attractive value creation – additional values which are to be used.

You will be especially enthusiastic about the high-water absorption properties with stabile, easily processable doughs, which provide a maximum of flexibility for creating recipes.
Apart from distinct advantages for your baking products with regard to quality, you support our intense commitment to regional business cycles and sustainable farming.
Our focus on bio-diversity, i.e., the large variety of species und ecological systems, sends out another signal for environmental protection.