

# Austrian Wheat Crop

# 2018

## Preface

Dr. Peter Gartner

Chairman of the Expert Committee for Cereals  
Federal Agricultural Wholesalers Association



*Ladies and Gentlemen,  
Dear Customers and Friends of Austrian Wheat!*

*Summer is not a relaxing time for most of us, with the crop variations repeatedly presenting great challenges for us all. In parts of Northern Europe, Russia and the Black Sea region, a long-lasting and extreme drought and heatwave resulted in partly disastrous crop yields, which led in the last weeks to a market boom and significantly rising wheat prices. Such a market trend, the extent of which was not predictable until mid-July, put a strain on the nerves of all market members and brought back memories of the years 2007, 2010 and 2012.*

*This year's Austrian wheat crop yielded 1.3 million tons, which is even lower than last year and around 20 % below the five-year average.*

*Analysis results suggest that the major part of the total volume harvested in the Pannonian climate zone reached a protein level of 15 %, which allows it to be marketed as premium wheat. Quality wheat plays a minor role again, milling and feed wheat is only available in Upper Austria and is again, much to the regret of the domestic and international milling industry, in short supply in Austria.*

*Due to the very high protein content and the excellent gluten content of the crop we have reasonable grounds to believe that higher marketing revenues may compensate the low yields, at least in part. However we should not neglect the fact that in the neighbouring countries of Eastern Europe this year's dry weather conditions also resulted in high protein content in the wheat crop, therefore Austrian will have to face again strong competitive challenges in the classic distribution markets.*

*While until early summer all market observers pointed continually to high stocks, repeated downward revisions of the crop forecast finally led to a takeover of the bulls at the futures exchanges.*

*In large parts of the northern hemisphere the maize crop still lies ahead, though, and might bring better results than feared, which might subsequently cool down market participants' overheated spirits. It remains to be seen whether the current rally on the exchanges will last or if, in the aftermath of satisfying autumn crop results, we will recognize that the price development in the last few weeks had partly speculative traits.*

*In such an environment, market participants should make every effort to benefit from attractive marketing possibilities and to serve good customers reliably, the more so as the price development over the entire campaign is particularly difficult to assess this year.*

In terms of quantity we must report a below average wheat crop for the second successive year. The dry autumn provided a large window for seeding the wheat. The winter crops survived the following winter well with heavily negative temperatures in March. Average winter moisture was able to be utilised only after the late commencement of vegetation at the end of March. The especially dry spring resulted in low tillering and a reduced number of kernels in each ear. Especially later-sown wheat stands and later-ripening varieties suffered under these conditions. Last year the drought appeared only in May and June, while in 2018 April and the first half of May tormented the crops with low rainfall and above average temperatures. The rainfall deficit against the multi-year average reached 73 % in April in the Pannonian area. The traditional milling wheat area of Upper Austria received much less rainfall than average (April -72 %). The crop of milling wheat is as a result lower than in 2017, while the crop in the Pannonian area is equally below average as last year. The Waldviertel (recorded in the tables under the western Weinviertel) provides an exception: the rainfall deficit against the long-term average was greatest last year, while this year normal rainfall allowed a comparatively good wheat crop. The quality of wheat harvested in Austria in the year 2018 is above average again. Very high protein values (a high proportion of quality and premium wheat) and excellent falling number values due to the dry and warm harvest period surprised market participants.

The traditional Austrian quality wheat region covers the central and eastern parts of the province of Lower Austria and the northern and central parts of the province of Burgenland. In climate terms this region is called the continental Pannonian climate zone (Figure 1). As a result of long-term observations we know that this climate zone is the best region for the production of high quality wheat, a fact which has come to be known all over Europe. Although the yields are not as high as in the western parts of Lower Austria and in Upper Austria due to the lack of rainfall, the climate is highly favourable to the development of very good baking qualities.

Moreover this region profits from the deep and rich humus soil that also has an influence on the wheat quality.

In the milling wheat region (western Lower Austria and Upper Austria) the quality parameters are inferior, but they usually produce a good milling quality (Figure 1).

The essential parameters for the baking quality of wheat are protein quantity, protein quality and the gelatinization of the starch. The protein quantity is determined by the variety as well as by weather conditions, soil, fertilization and climate. The protein quality on the other hand is mainly a genetic characteristic and thus a variety feature. Gelatinization of the starch depends essentially on the weather conditions before harvest.

# Wheat Varieties

The Austrian wheat varieties are graded into 9 quality categories, category 1 representing the lowest and category 9 the highest baking quality. In the Pannonian climate zone in eastern Austria the quality wheat varieties are dominant, which are classed into the baking quality categories 7 to 9. The leading quality wheat varieties are “Bernstein”, “Capo”, “Midas”, “Energio”, “Arnold” and “Element”. Among the milling wheat varieties, which are classed into the baking quality categories 3 to 6, the varieties “Spontan”, “RGT Reform” and “Siegfried” are noteworthy.

## Yields

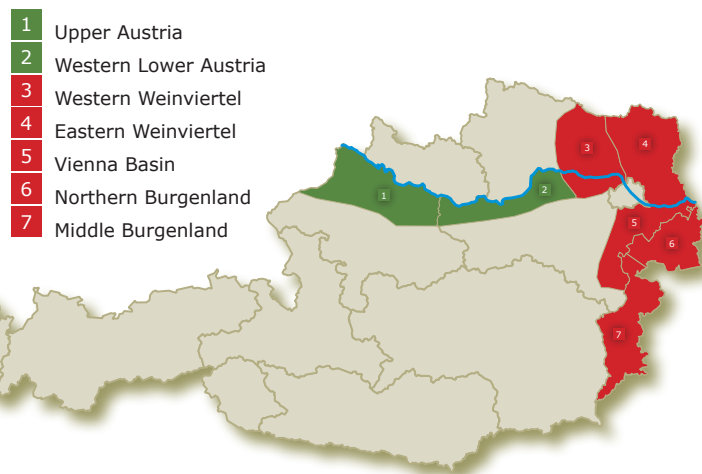
Table 1 lists crop areas, average yields and total production as well as available quantities. Quantities available from the crop 2018 are estimates.

### Production and available quantities of quality and milling Wheat per crop year

Although good sowing conditions for winter wheat prevailed in the autumn farmers reduced the wheat area once again from the multi-year low of the previous year. In comparison to last year the total crop area of winter wheat in Austria (258,236 ha) shrank (-655 ha) to the smallest area for fifteen years. The areas shown in figure 1 in the eastern part of Austria also sank to 156,000 ha, which is 2,000 ha less than last year. The crop area in western Lower Austria and in Upper Austria were raised slightly (+1,000 ha) to around 72,000 ha. The average yield of soft wheat in the entire area is expected to be around 50 dt/ha. This means that the region has a total producti-

Figure 1:  
Quality wheat and milling wheat region

■ Quality wheat ■ Milling wheat



on of quality and milling wheat in 2018 of around 1,147,000 tons (estimates). Available from this region from the crop of 2018 is around 1,090,000 t, of which around 60 % of the quantities are to be found in the Pannonian climate zone, of which 75 % is above 14 % protein. Due to the low yields the quantity of wheat with over 14 % protein is equal to last year.

## Quality Criteria

The quality data listed in the table below are based on a crop survey made by “Agrarmarkt Austria” and the “Versuchsanstalt für Getreideverarbeitung” (Institute for Cereal Processing) in Vienna who drew samples at the various wholesale buyers and analysed them. The recorded date of the quality data for 2018 as well as of the comparative data from 2017 is August 10th, thus the results are provisional ones.

The average hectolitre weight of quality wheat is 80.9 kg and is good. In Upper Austria and in western Lower Austria the hectolitre weight is also good. The milling quality of the new crop is good. More details about the hectolitre weights in the different regions are to be found in tables 2a and 2b.

### Quality Parameters of Quality and Milling Wheat Crop 2018 in comparison to 2017

Figure 2 displays averages of this year’s quality and milling wheat crop. The protein content, at 15.5 % in the quality wheat area, is excellent, lying only slightly below last year’s high value. The gluten content is correspondingly good at 36.5 %. In the milling wheat area a protein of 13.9 % was measured, which is far above the minimum value for milling wheat at the Exchange for Agricultural Products (12.5 %). The wet gluten content is correspondingly good at 32.3 %.

### Quality Survey 2018 – Protein Contents and Falling Numbers of Quality Wheat

Tables 3a and 3b list the protein contents and the falling numbers of the Pannonian climate regions and the milling wheat regions. The protein levels and falling numbers are excellent in all areas of the quality wheat region.

### Quality Survey 2018 – Farinogram and Alveogram in the Quality Wheat Area

Table 4 lists the behaviour of wheat in processing. The Farinogram characterizes the consistency of the dough. The average dough development of 6.9 minutes is excellent, while dough stability at 22.5 minutes is an extraordinarily good result.

For the Alveogram the W-value of quality wheat with an average result of 337 units is very good.

The ratio P/L of 0.4 is good.

Imprint / Editors



Agrarmarkt Austria (AMA)  
Dresdner Straße 70, A-1200 Wien  
Tel. 0043 1/33 151/0  
Fax: 0043 1/33 151/396  
E-Mail: getreide@ama.gv.at  
www.ama.at



Landwirtschaftskammer Österreich (lk)  
Austrian Chamber of Agriculture  
Schauflegasse 6, A-1014 Wien  
Tel. 0043 1/534 41-8520  
Fax: 0043 1/53 441-8519  
E-Mail: office@lk-oe.at  
www.lk-oe.at



vg Versuchsanstalt  
für Getreideverarbeitung  
Institute for Cereal Processing  
Prinz-Eugen-Straße 14, A-1040 Wien  
Tel. 0043 1/505 33 38  
Fax: 0043 1/505 33 38-18  
E-Mail: labor@vfg.or.at  
www.vfg.or.at



Bundesgremium des Agrarhandels  
Federal Agricultural Wholesalers  
Association  
Wiedner Hauptstraße 63, A-1045 Wien  
Tel: 0043 (0)5 90 900 DW 3000  
Fax: 0043 (0)5 90 900 DW 290  
E-Mail: agrarhandel@wko.at  
http://wko.at/agrarhandel

## Farinogram and Alveogram of the crop 2018 in the survey areas of quality wheat and milling wheat

The behaviour of wheat of the various Pannonian areas is listed in table 5a and of the milling wheat areas in table 5b. The Farinogram stability and the W-values as per Alveogram are excellent in all quality wheat areas. Farinogram and Alveogram values of milling wheat are normal to good.

## Mycotoxin Contamination

The problem of the mycotoxins DON (Deoxynivalenol) caused by Fusarium fungi has been studied in Austria for many years (examination of the influencing factors in field tests, evaluation of head blight in variety classification tests, etc.). In particular the large-scale field monitoring conducted by the Chambers of Agriculture and the samples analysed give on the one hand an excellent survey of the contamination in the various regions, and on the other hand they make it possible to develop adequate agricultural strategies for the reduction of infection risk. From this viewpoint the Austrian wheat producers have been well prepared to respond to the introduction of the maximum mycotoxin level of wheat applicable at present (DON 1250 µg/kg).

## Summary

The proportion of premium and quality wheat to the whole crop is similar to last year.

The quality results are presented in the folder. The quality wheat harvest in 2018 regarding the baking quality in the Pannonian area is classified as excellent. The protein, wet gluten and falling number values are of the very best.

The Farinogram and Alveogram lead to expectations of very good processing characteristics. The values in the milling wheat areas are, as expected, lower than in the quality wheat area, but also excellent.

The mycotoxin levels (DON) are classified as low in the whole wheat area.

Figure 2

Quality of quality and milling wheat crop 2018, in comparison to crop 2017

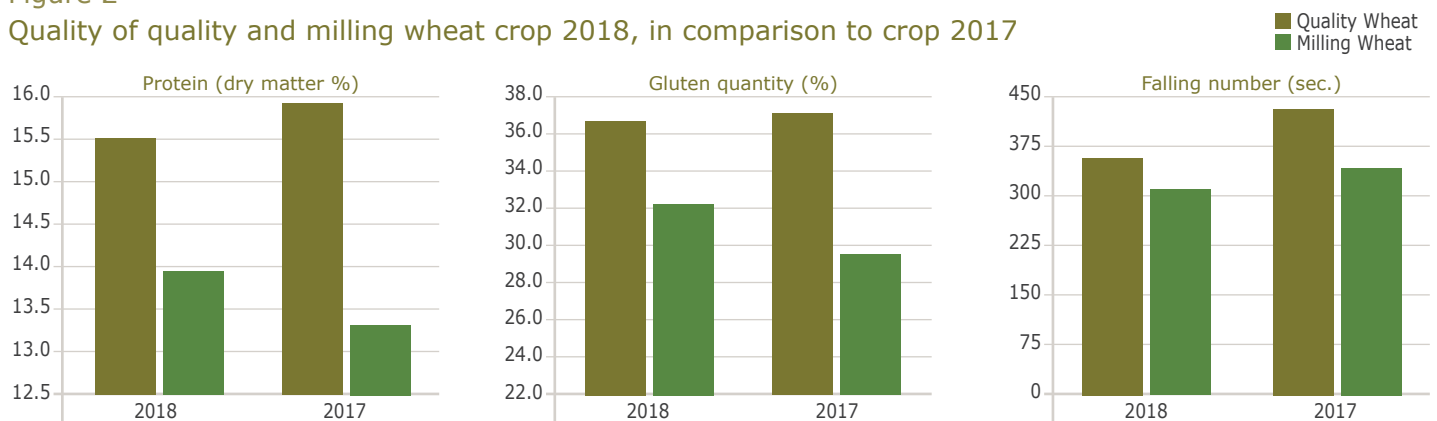


Table 1

Production and available quantities of Quality and Milling wheat

Survey area	2018/19 Estimate				2017/18 Final				2016/17 Final			
	Area in ha	Yield in dt	Production in t	Availability in t	Area in ha	Yield in dt	Production in t	Availability in t	Area in ha	Yield in dt	Production in t	Availability in t
Northern Burgenland	16,324	37	60,000	57,000	15,355	38	58,000	55,000	17,078	57	97,000	92,000
Middle Burgenland	12,009	44	53,000	50,000	11,399	45	51,000	49,000	11,601	60	70,000	66,000
Vienna Basin	20,890	47	98,000	93,000	21,449	51	109,000	104,000	23,151	62	144,000	137,000
Eastern Weinviertel	49,204	43	212,000	201,000	50,582	43	218,000	207,000	53,965	64	347,000	338,000
Western Weinviertel	58,000	46	267,000	253,000	58,909	41	242,000	229,000	60,228	64	385,500	366,000
	156,365	44	690,000	655,000	157,694	43	678,000	644,000	166,022	63	1,043,000	991,000
Lower Austria - West	23,777	60	143,000	136,000	23,184	65	151,000	143,000	25,563	74	188,000	179,000
Upper Austria	48,410	65	315,000	299,000	48,093	73	351,000	333,000	50,331	70	352,000	335,000
	72,187	63	457,000	434,000	71,277	69	502,000	477,000	75,894	71	541,000	514,000
<b>Total</b>	<b>228,552*</b>	<b>50</b>	<b>1,147,000</b>	<b>1,090,000</b>	<b>228,971*</b>	<b>51</b>	<b>1,180,000</b>	<b>1,120,000</b>	<b>241,916*</b>	<b>66</b>	<b>1,584,000</b>	<b>1,505,000</b>

\*) Remarks on the total area: The following areas for organic farming are included: **2018/19:** 34,968 ha • **2017/18:** 31,127 ha • **2016/17:** 26,820 ha

# Quality Survey 2018

Table 2a

Hectolitre Weight of Quality Wheat in the Quality wheat region

Average Hectolitre Weight

SURVEY AREA	2018	2017	2016
Northern Burgenland	80.2	80.7	82.7
Central Burgenland	80.0	79.2	80.8
Vienna Basin	81.4	80.9	84.0
Eastern Weinviertel	81.6	81.4	79.8
Western Weinviertel	81.4	81.5	81.3
Average	80.9	80.7	81.7

Table 2b

Hectolitre Weight of Milling Wheat in the Milling wheat region

Average Hectolitre Weight

SURVEY AREA	2018	2017	2016
Western Lower Austria	80.5	81.7	79.1
Upper Austria	80.9	80.7	79.1
Average	80.7	81.2	79.1

Table 3a

Protein Contents and Falling Numbers of Quality Wheat in the Quality wheat region

Average Protein in dry matter %

SURVEY AREA	2018	2017	2016
Northern Burgenland	15.3	16.3	14.1
Central Burgenland	15.5	15.9	14.2
Vienna Basin	15.3	15.8	14.1
Eastern Weinviertel	15.8	16.3	14.1
Western Weinviertel	15.5	15.4	14.1
Average	15.5	15.9	14.1

Average Falling Number

SURVEY AREA	2018	2017	2016
Northern Burgenland	319	410	383
Central Burgenland	323	384	407
Wiener Becken	372	404	388
Eastern Weinviertel	392	401	387
Western Weinviertel	371	367	366
Average	355	393	386

Table 3b

Protein Contents and Falling Numbers of Milling Wheat in the Milling wheat region

Average Protein in dry matter %

SURVEY AREA	2018	2017	2016
Western Lower Austria	14.8	14.5	14.3
Upper Austria	13.0	12.1	12.7
Average	13.9	13.3	13.5

Average Falling Number

SURVEY AREA	2018	2017	2016
Western Lower Austria	295	366	318
Upper Austria	330	334	346
Average	313	350	332

Table 4

Average Farinogram Results

Quality wheat region

	2018	2017	2016
Stability	22.5	26.8	20.0

Average Alveogram Results

Quality wheat region

	2018	2017	2016
W (Total Energy)	337	385	309
P/L = Resistance/Extensibility	0.4	0.6	0.7

Table 5a

Farinogram and Alveogram of the crop 2018 in the survey areas of quality wheat

SURVEY AREA	Stabilität	W (Gesamtkraft)	P/L, Widerstand, Dehnbarkeit
Northern Burgenland	18.7	314	0.4
Central Burgenland	18.1	332	0.4
Vienna Basin	24.7	341	0.5
Eastern Weinviertel	25.0	330	0.5
Western Weinviertel	25.9	368	0.5
Average	22.5	337	0.4

Table 5b

Farinogram and Alveogram of the crop 2018 in the survey areas of milling wheat

SURVEY AREA	Stabilität	W (Gesamtkraft)	P/L, Widerstand, Dehnbarkeit
Western Lower Austria	20.8	331	0.4
Upper Austria	10.8	249	0.5
Average	15.8	290	0.5

Table 6

Mycotoxin contamination for each survey area

SURVEY AREA	DON 2017 [µg/kg]
Northern Burgenland	129
Central Burgenland	269
Vienna Basin	110
Eastern Weinviertel	<40
Western Weinviertel	56
Western Lower Austria	376
Upper Austria	<40

The contamination levels of the current crop is regarded as low in the quality and milling wheat areas, being well below the maximum tolerance of 1250 µg DON/kg.