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**Commercial Trial  
BioAktiv in Spring Barley  
and Corn**

**2018**

## Spring Barley:

**Sowing date:** 5.4.2018    **Sowing rate:** 180 kg/ha    **Crop condition:** compact, dry

**Variety grown:** Malz    **Fertiliser:** winter wheat

**Sowing depth:** 3 cm    **Row spacing:** 15 cm    **Plant spacings, in row:** 2.5 - 3 cm

### Agrotechnical interventions performed:

Date	Method	Planter type:	Note
August 2017	Discing 8 cm	Horsch Joker	
5.4.2018	ploughed	Horsch Tiger	
5.4.2018	Planting	Horsch Pronto	

### Fertilisation:

Date	Growth phase of crop	Type & amount of fertiliser	Amount of nutrients
5.4.2018	Before sowing	NPK8-24-24 200 kg/ha	16kg N, 48 kg P <sub>2</sub> O <sub>5</sub> , 48 kg K <sub>2</sub> O
2.5.2018	BBCH 25-29	Urea 200 kg/ha	92 kg N

### Protective interventions during the trial (over the whole trial):

10.5.2018 Arrat 0.2 kg/ha + Dash 0.5 lt/ha

18.5.2018 Boogie Xpro 0.9 lt/ha + Nurelle D 0.6 lt/ha, phase BBCH 32

### Overview of varieties and application:

Var.	Spring Barley	BBCH 25-27	3.5.2018
1	Control	---	
2	PlantAktiv (BioAktiv Plants)	1 kg	

### Results:

Var.	Spring Barley	BBCH 25 – 27 3.5.2018	Yield t/ha	Bulk Density	Crude Protein
			31.7.2018	15.8.2018	15.8.2018
1	Control	---	5.91	67.75	14.2
2	PlantAktiv (BioAktiv Plants)	1 kg	6.35	68.12	14.2

## Corn:

**Sowing date:** 26. 4. 2018      **Sowing rate:** 107 ths. seeds/ha      **Seed bed condition:** compact, dry

**Variety:** KWS Agro Vitallo      **Fertiliser:** winter wheat

**Sowing depth:** 5 cm      **Row spacing:** 37.5 cm      **Plant spacings, in row:** 25 cm

### Agrotechnical interventions performed:

Date	Method	Planter type:	Note
August 2017	Discing 8 cm	Horsch Joker	
5.4.2018	Ploughed	Horsch Tiger	
19.4.2018	Pre -planting	Horsch Terrano	
26.4.2018	Planting	Direct drill - Kinze 3600	

### Fertilisation:

Date	Growth phase of crop	Type & amount of fertiliser	Amount of nutrients
5.4.2018	Before sowing	NPK8-24-24 200 kg/ha	16kg N, 48kg P <sub>2</sub> O <sub>5</sub> , 48kg K <sub>2</sub> O
2.5.2018	BBCH 05-07	Urea 200 kg/ha	92 kg N

### Protective interventions during the trial (over the whole trial):

10.5.2018 Akris 3 lt/ha BBCH 11-12

### Overview of varieties and application:

POST BBCH 15 + 18.5.2018	
1	Control
2	PlantAktiv (BioAktiv Plants) 1 kg

### Evaluation:

POST BBCH 15 + 18.5.2018		Average plant height (cm)
		20.7.2018
1	Control	247
2	PlantAktiv (BioAktiv Plants)	259

## Meteorological conditions and their influence on the course of the experiment:

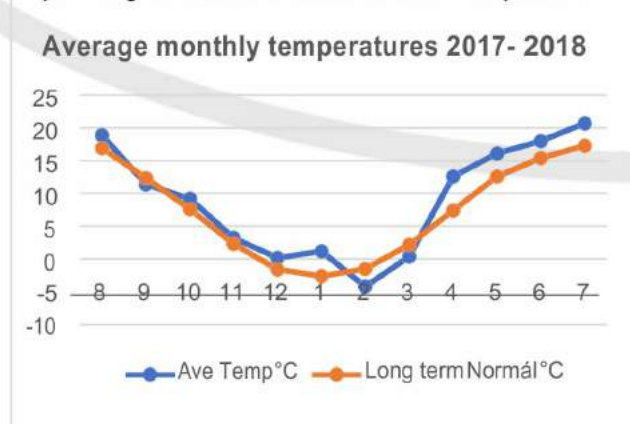
Spring barley was sown in early April, after which persisted dry and warm weather. Despite the minimum rainfall, it was within 10 days and evenly. The total precipitation measured from April to July was 222 mm compared to the long-term normal of 274 mm. In terms of temperature, these months were above average. The total rainfall is 81%. However, below average rainfall was only at the beginning and end of spring barley vegetation. The rainfall in May and June was slightly above average and the spring barley crop was richly offspring, thickened and kept in excellent condition. At the end of June, after storms with strong winds, part of the spring barley lodged.

Corn sowing took place in dry soil at the end of April and there was concern about its emergence. At the beginning of May, several major rainfall occurred, which greatly helped the emergence and involvement of stands. In the following months of May and June, precipitation totals passed in sufficient quantities and for maize optimum timing. In combination with above-average temperatures, the crop had an excellent condition, with enough mass until mid-July. From mid-July, maize began to show a lack of moisture and quickly lost water. In mid-August, the stands were ready for harvesting, which was 4 weeks earlier than usual at the experimental site.

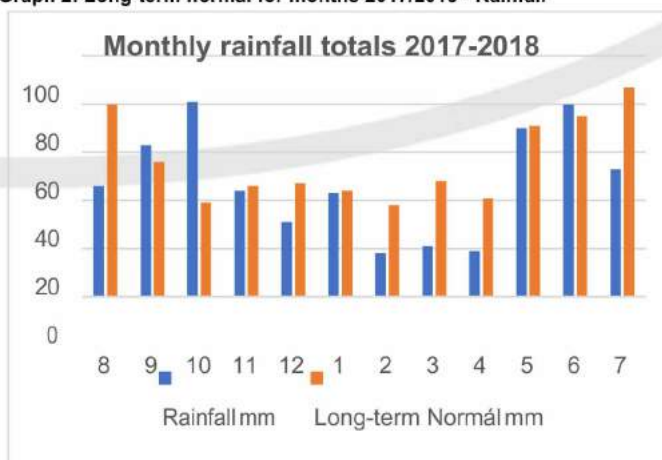
Comparison of long-term normal with moons of the year 2017/18 - temperatures	VIII	IX	X	XI	XII	I	II	III	IV	V	VI	VII	prům.
30 year average temp (°C)	16,9	12,4	7,6	2,3	-1,6	-2,6	-1,5	2,2	7,4	12,6	15,4	17,3	7,4
2017/2018 year, ave. temperature (°C)	18,9	11,4	9,2	3,2	0,2	1,2	-4,2	0,4	12,6	16,1	18	20,7	9

Comparison ave. long-term with moons of the year 2017/2018 - rainfall	VIII	IX	X	XI	XII	I	II	III	IV	V	VI	VII	sum.
30 year average of rainfall(mm)	80	56	39	46	47	44	38	48	41	71	75	87	672
2017/2018 year, rainfall (mm)	46	63	81	44	31	43	18	21	19	70	80	53	569

Graph1: Long-term normal for months 2017/18 – Temperatures



Graph 2: Long-term normal for months 2017/2018 - Rainfall





## Evaluation of the experiment:

Rocnik 2018 can be characterized as above-average (normal). Cooling during February and March, along with low rainfall in April, caused the later onset of vegetation, but the spring crops were again in optimum agrotechnical terms. Due to the weather, the growths accelerated their development and moved forward in the vegetation phases.

The prevalent disease in the Malz variety was in an attempt to fall grass, the infection began to develop in the early vegetative phase of barley BBCH 25. Fungicidal treatment was carried out 18.5.2018. On the pennant and under the pennant leaf the disease did not significantly spread and in late June began to spring physiologically ripen. The short time (about a week) was between the full deployment of the flag leaf and the beginning of the sweep.

Due to the acceleration of ripening it was necessary to harvest the silage stands and the whole experiment at once as soon as possible. For these reasons, it was not possible to wait for the agreed termination of the trial trimmer and yield assessment was not carried out for each variant.

The yield results of spring barley show that the treated variant with the PlantAktiv preparation resulted in an increase in yield of 0.44 t / ha (7.4%) compared to the untreated control. We pointed out that it was an experimental experiment for demonstration purposes. For a valid evaluation, it would be necessary to establish an experiment according to maize, it can be stated that the plants treated with the preparation of the plant product showed a better condition, which appeared especially on the height of plants and a stronger root system. Again, it was an experimental setup for demonstration purposes, without the possibility of statistical evaluation.



Control – photo 25.6.2018



PlantAktiv (BioAktiv Plants) – photo 25.6.2018

Za ADW AGRO, a.s. Ing. Vojtěch Kašpar



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## PlantAktiv in Spring Barley and Corn 2018

**ADW AGRO, a.s. - locality Lesonice**

In co-operation with the company:

**BioAktiv CZ s.r.o.**

### **Aim of the experiment:**

The aim of the experiment was to verify the efficacy of PlantAktiv in spring barley and maize. Furthermore, the presentation of the efficacy and properties of the preparation on the 2nd field day to customers of ADW AGRO, as, held on 21 June 2018.

### **Location:**

**Experimental locality:** Třebíč region, Vysočina region

**Experiment site:** Lesonice

**Block size:** 660-1160sq m, abbreviated code: 9301/2

**District:** Třebíč

**Country:** Czech Republic

**Production area:** B1

**Slope:** 2.36°

**Exposure:** 48% SW, 42% SW

**Altitude:** 527 m

### **Contents of the soil:**

pH	ppm											Org.wt.%	KVK meq/100g
	P	K	Ca	Mg	S	B	Cu	Fe	Mn	Zn	Na		
5.5	42	83	1222	137	12	0.3	2.1	201	44	2,5	26	2.7	10,3

**Plot method:** longitudinal

**Type of checks:** checks included in blocks

**Total number of variants:** 2 of which untreated controls 1

**Area of barley / maize plots in total :** 50 m<sup>2</sup>

**Plot width:** 5 m

**Plot length:** 10 m

**Number of barley / maize repetitions:** 1