

BIOAKTIV FarEast

Germany: A Study by Hochschule Osnabrück University of Applied Sciences



HOCHSCHULE OSNABRÜCK
UNIVERSITY OF APPLIED SCIENCES

The Hochschule Osnabrück University of Applied Sciences completed a four-year study on the use of BioAktiv for Plants on organic potatoes in 2014.

The test site, a plot called An der Hecke at Bioland Experimental Farm in Waldhof Campus of the university, was of sandy loam to loamy sand (soil texture index 38¹). There were two reasons of trefoil grass on the site before 20 March 2014, when the study team planted it with potato of the Anuscka variety for the study. They also divided the test site into sixteen 8-metre × 3-metre plots (about 114 plants/plot) in 4-treatment × 4-replicate arrangement using the random Latin square method as below.

4	3	2	1
3	1	4	2
2	4	1	3
1	2	3	4

The four treatments were as follows:

Treatment	Treatment date	
	3 April 2014	6 May 2014
1	Control – no BioAktiv treatment	
2	BioAktiv 1 kg/ha	
3	BioAktiv 1 kg/ha	BioAktiv 0.5 kg/ha
4	BioAktiv 2 kg/ha	

The spray solution used was 1 kg BioAktiv in 330 litres of fresh water. There were two treatment dates; 3 April was before the potato plants emerged from the ground and 6 May was when the potato plants were about 10 cm tall. Treatment 1 was for control with no BioAktiv treatment. On 3 April the study team completed treatment 2 and 4 with BioAktiv 1 kg/ha and 2 kg/ha respectively. For treatment 3, they applied BioAktiv 1 kg/ha and 0.5 kg/ha on 3 April and 6 May respectively.

For accurate experimental data, on 26 June 2014 the team harvested only the central half of the plot (8m × 1.5m) with about 57 plants. They weighed all potato tubers harvested and categorised them into different sizes and rejects. Tubers smaller than 30 mm in diameter were unsaleable. Rejected tubers were those that were green or damaged, or had growth cracks, dry cores or wireworms.

¹ Indicated as “38 ground points” in the original report.

The table below shows the yields in tonnes/ha of all four treatments in 2014.

Category	Control	BioAktiv		
		1 kg/ha	1kg/ha+0.5kg/ha	2 kg/ha
Diameter < 30 mm	1.09	1.49	1.27	1.21
Diameter 30-60 mm	23.98	23.37	25.20	27.43
Rejects	0.73	0.60	1.18	0.54
Saleable	23.98	23.37	25.20	27.43
Total:	25.79	25.46	27.65	29.18

The table below shows the four-year average yields in tonnes/ha of all four treatments.

Category	Control	BioAktiv		
		1 kg/ha	1kg/ha+0.5kg/ha	2 kg/ha
Diameter < 30 mm	0.97	1.20	0.85	0.98
Diameter 30-60 mm	19.42	21.79	19.23	21.95
Diameter > 60 mm	2.10	2.03	3.75	2.62
Rejects	3.15	3.96	4.91	3.53
Saleable	21.52	23.82	22.99	24.57
Total:	25.64	28.98	28.75	29.08

Using the four-year average yields of the control plots 21.52 tonnes/ha as the base 100, the four-year average yields of all four treatments are as follows:

Treatment	Saleable Yield	Total Yield
Control	100	100
BioAktiv 1 kg/ha	111	113
BioAktiv 1 kg/ha + 0.5 kg/ha	107	112
BioAktiv 2 kg/ha	114	113

We note that all three BioAktiv treatments led to higher yields than those of the control.

[\[Original report\]](#)