


<p align="center"><b>Agrobiosol and Biovegetal Produced the Best Effect on the Yield of Leek</b></p>	<p align="center"><b>Fertilizer of Vegetable Origin Leek Organic Farming</b></p> 
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## Summary – Recommendations

As many people are highly critical of commercial fertilizers containing substances of animal origin, the competence center of organic vegetable farming Bamberg of the Bavarian state institute of viniculture and horticulture (Bayerische Landesanstalt für Weinbau und Gartenbau) examined eight fertilizers of vegetable origin with regard to their effect on the yield of a leek culture. For technical reasons, all variants were refertilized with Rizi-Korn only.

The variants treated with the commercial fertilizers Biovegetal 7-4-7 and Agrobiosol increased the leek yield by more than 40 % as compared to the untreated control. The variants treated with the commercial fertilizers Rizi-Korn and the regionally grown lupine and broad bean meals achieved a 30 percent increase. All variants required refertilization.

When working with organic fertilizers, soil analysis using the Nmin method proves to be insufficient, therefore alternative methods should be found.

## Trial Purpose and Background

The nutrition of vegetable cultures with fertilizers of vegetable origin becomes more and more important. So far, little is known about the yield performance and mineralization behavior of these fertilizers.

## Results

### Culture data

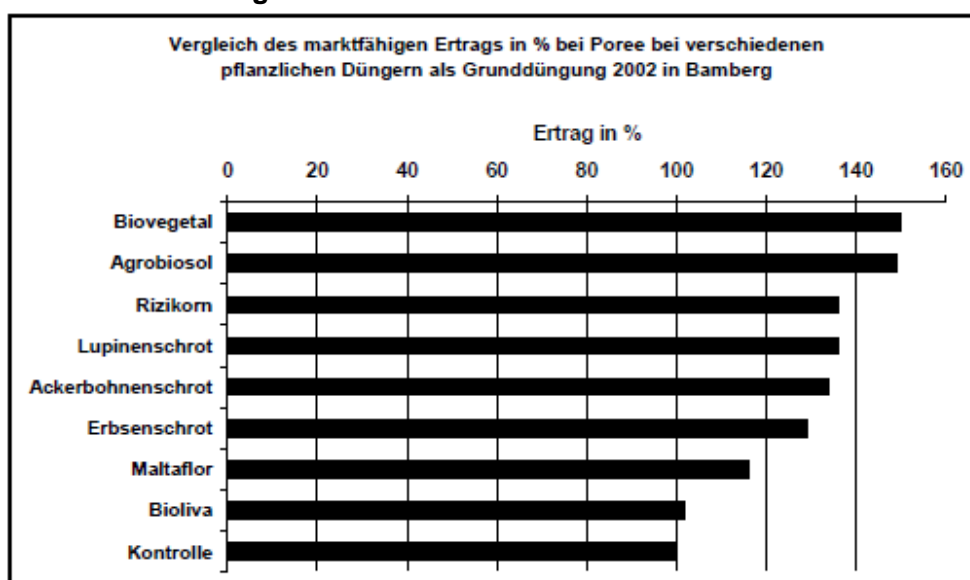
Seeding: broadcasting in the frame on April 26, 2002  
Fertilization: no green manuring before starting the culture  
**Basic fertilization:** 110 kg N/ha with the variant fertilizers on June 12, 2002 (based on the N content according to the manufacturer's declaration).  
**Refertilization:** 50 kg N/ha as Rizi-Korn on Aug. 14, 2002  
Total fertilization amounted to 160 kg N/ha, basic fertilization in the individual variants amounting to 110 kg N/ha (= 69 %) and refertilization to 50 kg (= 31 %).  
Planting: on June 14, 2002, 3 replications, plot size 57.7 m<sup>2</sup>  
Variety: 'Herbstriesen 2' / 'Hannibal' from Hild (Nunhems) from organic propagation  
Plant protection: protective net Rantai K  
Harvest: first replication Oct. 29, 2002  
second replication Oct. 30, 2002  
third replication Nov. 7, 2002

<b>Trials in German horticulture</b> <b>LWG Würzburg/Veitshöchheim</b> In charge: Birgit Rascher, Wilhelm Schubert	<b>2002</b>
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**Table 1:** origin, costs, and N content of the fertilizers used

Fertilizer	Purchase	Euro/dt	Euro/kg N	% N	% N
		incl. 16 % VAT without freight		Manufacturer's specifications	in-house analysis
Maltaflor		44.00 EUR	8.80 EUR	5	4.88
Rizi-Korn	Beckmann/Baywa	88.00 EUR	17.60 EUR	5	5.70
Biovegetal	Mack	51.00 EUR	7.30 EUR	7	6.93
control				0	
Bioliva	Bioliva-Konzepte	unknown		3.9	1.38
Agrobiosol	Gebr. Friedrich	31.00 EUR	4.40 EUR	7	7.88
Erbsenschrot (pea meal)	organic farm	40.00 EUR	8.00 EUR	5 *	3.63
Lupinenschrot (lupine meal)	organic farm	unknown		5 *	3.57
Ackerbohnschrot (broad bean meal)	organic farm	40.00 EUR	8.50 EUR	4.7 *	4.02
				* estimate	

**Comparison of the marketable yield of leek in % with different vegetable fertilizers as basic fertilization 2002 in Bamberg**



**Table 2:** Nmin in the soil from planting to shortly before harvesting for leek 2002 in Bamberg  
Basic fertilization: 110 kg N/ha on all plots except no. 4 (control) using the respective fertilizer

Datum	1 Malta- flor	2 Rizi- korn	3 Bio- vegetal	4 Kon- trolle	5 Bio- liva	6 Agro- biosol	7 Erbsen- schrot	8 Lupinen- schrot	9 Ackerbohnen- schrot
24.06.02	40	55	60	26	22	32	25	37	23
08.07.02	70	98	149	47	38	75	36	48	44
16.07.02	30	48	67	24	19	38	30	24	32
30.07.02	11	4	32	11	2	2	9	4	10
13.08.02	5	2	0	17	10	0	0	3	3
27.08.02	19	25	37	40	20	22	33	40	24
11.09.02	21	0	9	12	6	16	0	3	0
24.09.02	8	6	6	11	10	8	5	6	9

Note: 06.06.02 Nmin at the start of the trial: 15 kg N/ha  
14.08.02 refertilization with Rizi-Korn 50 kg N/ha on all plots