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## QAS activity report 2013 ARGE Kompost & Biogas Österreich (AKBOe)

The Austrian Compost & Biogas Association (AKBOe) is the umbrella organisation of 5 provincial organisations situated in Tyrol, Styria, Upper and Lower Austria and Carinthia which are in operation since the early 1990ies. From the very beginning their scope was to provide competent extension work and planning and operational assistance to the composting industry as well as accompanying the communication with authorities.

AKBOe represents more than 480 compost and biogas plants covering all provinces of Austria.

AKBOe is member of:

- ECN - European Compost Network
- EREF (European Renewable Energies Federation),
- EBA (European Biogas Association),
- ELSA (European Land and Soil Alliance (ELSA)),
- dt. Fachverband Biogas (German Biogas Association)
- ÖGUT (Österreichische Gesellschaft für Umwelt und Technik),
- ÖWAV (Österreichischer Wasser- und Abfallwirtschaftsverband)
- Fachvereinigung Bayerischer Komposthersteller e.V..

With those organisations we share the aim to strengthen the *decentralised* compost and biogas production. We give a distinct preference to this strategy against centralised, large scale concepts entailing long distance transports or incineration of organic waste.

Since March 2005 AKBOe operates the programme management *biogas* as part of the Austrian initiative *klima:aktiv*. Based on funds allocated to this programme the envisaged activities can be realised.

As the decentralised concept is mainly based on the idea that the treatment of source separated organic waste is done by farmers. This not only contributes to an efficient and recycling of the organic resources in the region of its origin but the so-called agricultural composting scheme secures also the rural economies by creating additional income for the farmers.

With respect to composting technologies we promote a controlled process management in open wind-row systems aiming at minimising negative environmental impacts and emissions.

All members signed a self obligation to comply with all regulatory requirements (water protection, state of the art of composting, compost application according to GAP rules, compost ordinance etc.)

### Quality assurance

In addition to the legal obligations AKBOe provides a mandatory comprehensive quality management and quality assurance scheme for its members. It is based on the Austrian standards [ONS2206/1 & ONS2206/2 and the technical guidance ONR192206].

Each compost plant – as a member of AKBOe and depending on the yearly throughput – is controlled on a regular basis. Composting plants which produce less than 150m<sup>3</sup> compost per year, may be controlled or certified on a voluntary basis. All other companies will be controlled within unannounced on-site visits.

The so-called external quality approval is the regular sampling and analysis of a compost batch by an acknowledged laboratory. A list of acknowledged laboratories which have to participate in compost ring tests on a regular basis is published on the [AKBOe web page](#).

A key measure is the regular on-site inspection of the composting plants where the material fluxes are assessed for their plausibility.

The on-site inspection is carried out by a contracted company which prepares the *inspection report* including recommendations for the quality committee with respect to eventually necessary adapta-

tions, sanctions or approval of the related plant. The quality committee decides on sanctions, awarding or withdrawal of the AKBOe quality label. In principle the responsible operator of a composting plant is heard in the case of a possible withdrawal or major sanctions in case of severe failures.

Acknowledged and quality certified facilities may present a common QA sign provided by AKBOe at the gate of the facility and use the quality label within their product presentation and branding.

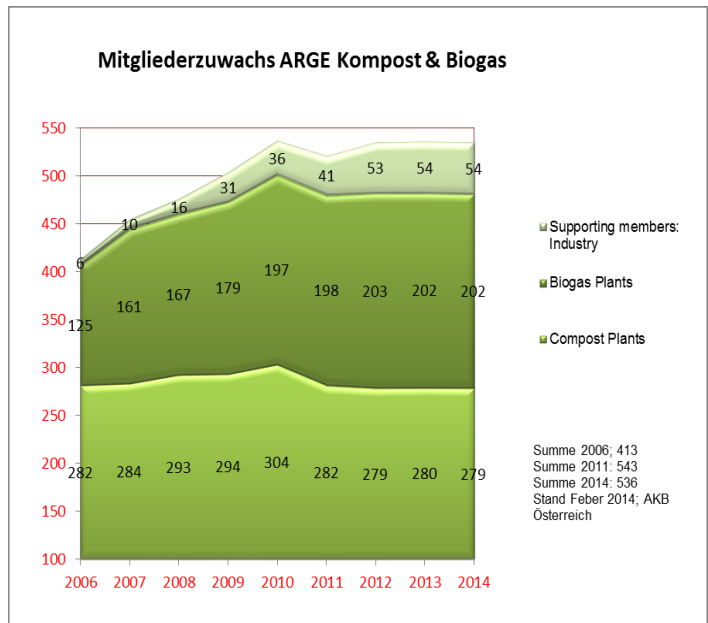


## Members of the Austrian Compost & Biogas Association (AKBOe)

173 of a total of 271 composting plants have been inspected and controlled according to the AKBOe control scheme in 2013. With the exception of a voluntary participation, facilities with less than 150 m<sup>3</sup> per year compost produced were not included in the external QAS in 2013. The certification system was changed in March 2013 from an operating control at the plant to a system, where the applicant has the obligation to deliver required documents in advance.

The control of this system is done by the responsible management officer and unannounced “on-site-checks” by an external auditor. In relation to the annual compost amounts, the on-site-checks vary: - 150 m<sup>3</sup> finished compost \* 1 / a - from 300 m<sup>3</sup> 3 times in 2 years and - more than 1,000 m<sup>3</sup> 2 times per year.

Currently 95 composting plant have been certified and awarded with the AKBOe Quality Label. Because of the change of system, a lack of documents rose, which will be handled in the coming period. However, the Quality Label covers more than 60% of the members treatment capacity.



### Number of first Award 2013

In 2013 there were 2 thirst evaluations (Obereder und Rosenberger) and 1 thirst award (Rosenberger).

### Re-Certification

95 certificates (other: 15 status red; others yellow) – see above.

6 plants havn't meet the requirements of certification and so they have lost their membership in 2013.

### Qualtiy Committee meeting

2013 are 2 Meetings. in Grafenstein/ Carinthia and Gallneukirchen Upper Austria.

### Input materials;

Suitable waste materials and its quality requirements, final product criteria for *quality compost, compost, sludge compost etc* are ruled by national legislation (above all by the Austrian Compost Ordinance)

It includes also requirements for:

- Compost designation and specification
- Waste materials (*waste codes*) with approved origin,
- Type and frequency of quality measurements for certain input materials,
- Type and schedule of records and documentation
- Receipt control.

In 2013, contracted composting plants treated still more than 50% of the total amount of separated collected organic household waste (Biobin collection scheme). The total compost production is estimated with 200.000m<sup>3</sup>. Approximately 120.000 m<sup>3</sup> of quality assured compost is marketed.

### Compost quality

The entire compost produced complies with the quality criteria of the Austrian Compost Ordinance. 663 sampling and analysis up to 2013

Parameter	Mean	25 %- Qantile	Median	75 %- Qantile
Org. matter (loss of ignition) (% d.m.):	35,30	28,42	34,62	41,27
Org. matter (wet digestion) (% d.m.):	29,40	23,75	29,08	32,62
Water content (% f.m.):	37,84	32,47	37,80	43,50
El. conductivity (mS/cm):	2,21	1,48	2,11	2,62
pH (CaCl <sub>2</sub> )	7,51	7,31	7,53	7,75
Bulk density (g/l):	848,5	760	850	940
Dry matter (% f.m.):	59,29	53,16	59,81	65,96
Excess max. particle size (>12 mm, % f.m.):	5,00	5,00	5,00	5,00
Max. particle size (mm):	15,00	10,00	15,00	16,25
Total impurities (% d.m.):	0,11	-	0,02	0,10
Plastics <2/20 mm (% d.m.):	0,02	-	-	0,02
Metals/glass (% d.m.):	0,03	-	-	
<b>Parameter</b>	<b>Mean</b>	<b>25 %-</b>	<b>Median</b>	<b>75 %-</b>

			Qantile		Qantile
Organic Carbon (% d.m.):		18,76	14,88	17,90	21,72
N total (% d.m.):		1,60	1,30	1,56	1,86
CaCO <sub>3</sub> (% d.m.):		10,43	5,73	9,26	13,53
Boron, available (mg/kg d.m.):		7,19	1,88	7,19	12,50
K (% d.m.):		1,15	0,80	1,05	1,30
P (% d.m.):		0,74	0,35	0,48	0,84
Pb (mg/kg):		26,05	17,20	23,05	30,93
Cd (mg/kg):		0,50	0,33	0,45	0,54
Cr (mg/kg):		25,07	19,50	23,55	29,40
CU (mg/kg):		53,08	33,65	45,00	62,00
Ni (mg/kg):		17,97	13,30	17,00	20,90
Hg (mg/kg):		0,30	0,10	0,15	0,25
Zn (mg/kg):		173,29	124,57	155,32	197,70
<i>Plant response (cress test; % f.m. harvest relative to standard substrate)</i>					
15 % compost (%):		99,19	99,00	100,00	101,00
30 % compost (%):		95,94	95,00	100,00	100,00
C_N		12,92	11,00	12,37	14,00

Best regards  
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