

# Bokashi

Well fermented  
organic material



## Method of fermenting organic (residual) material and applying it as an effective soil improver.

### Making Bokashi through fermentation

Bokashi is the Japanese word for 'well fermented organic material', which is given back to the soil with retention of all energy. It is a recycling concept with the aim of increasing the microbial diversity in the soil and providing plants with bio-active nutrients, such as natural antibiotics, growth hormones, vitamins and amino acids. Bokashi is created with the help of Effective Micro-organisms, or EM, developed by Prof. Dr. Teruo Higa in Japan and for 35 years has been commonplace in more than 150 countries, worldwide. Bokashi is a soil enricher at its maximum.

### Benefits of making and applying Bokashi

- Optimal nutrition for the soil.
- Improved balance in organic matter
- Disease-suppressing effect on soil.
- Increased plant vitality.
- Environmentally friendly through maximum conservation of energy and carbon (less CO<sub>2</sub> and NH<sub>3</sub>)
- Soil minerals replenished
- Recycling of green waste
- Reduced cost of transporting green waste

### Apply Bokashi as a soil activator

After eight weeks, the organic remains are converted into valuable fermented compost to feed the soil. It is applied on the soil using a spreader.

Making Bokashi is an environmentally friendly method, whereby carbon is given back to the soil.



Bokashi composted verge cuttings, after eight weeks fermentation ready for fertiliser spreader



Bokashi compost of leaves from Hengelo Council, producing green manure for city plants.



### Bokashi recipe

Recycling the soils waste as a fermented super compost

- 1 Per tonne of organic material:  
12 kg Edasil clay minerals;  
12 kg Aegir seashell lime and  
2 litres of EM Actiferm added.
- 2 Mix well, compact and seal tightly.
- 3 Leave to ferment for at least 8 weeks.
- 4 Then feed the soil with Bokashi compost!



AGRITON

**Arable farmer:** "I made bokashi compost from my rejected roots."

**Tomato grower:** All my plants have been bokashi composted at the end of the season, returning the carbon back to the soil.



### Method and additions (recipe see front)

Bokashi compost can be made with any type of fresh organic material. For example: manure, unsuccessful grass silage or potato peeling waste, reeds, leaves, wood chips, but also residual green waste from horticulture growers and municipal growers. In all cases we use 1) Actiferm, 2) Aegir Seashell Lime and 3) Clay Minerals.

This guarantees an anaerobic fermentation process which produces the marvellous end product. Everything is mixed and sealed (sheeted) airtight for at least 8 weeks. (For some areas in the UK where the soil has sufficient clay we can omit the adding of clay minerals).

**1) Actiferm** takes care of the fermentation. This liquid consists of an optimal mix of bacteria, fungi and yeast. Also called EM (Effective Micro-organisms). It promotes the conversion of biomass so that the organic material can be better utilised. Actiferm increases the natural microbial balance and biodiversity.

**2) Aegir Seashell lime** prevents pH fluctuations and ensures a stable pH.

**3) Edasil Clay Minerals** bind moisture and important minerals and other nutrients that are released during the fermentation process.

#### Results from trials 2013 & 2015:

Total quantities in verge cuttings, with and without Bokashite additives:

- at the start;  
- after 6 (2013) weeks;  
- after 8 (2015) weeks  
composting,  
or ferment.

|                     | Verge cuttings | Common<br>compost<br>(after 6<br>weeks) | Bokashi<br>(ferment<br>after 6<br>weeks) | Verge cuttings | Verge cuttings<br>(with Bokashi-<br>ingredients) | Common<br>compost<br>(8 weeks of<br>composting) | Bokashi<br>(after 8<br>weeks fer-<br>mentation) |
|---------------------|----------------|-----------------------------------------|------------------------------------------|----------------|--------------------------------------------------|-------------------------------------------------|-------------------------------------------------|
|                     | 2013           | 2013                                    | 2013                                     | 2015           | 2015                                             | 2015                                            | 2015                                            |
|                     | Start Weight   | < Composted Weights >                   |                                          | Start          | Start                                            | Composted                                       | Composted                                       |
| Kg product          | 13.400 >       | 5.070                                   | 13.870                                   | 12.820 +       | 13.750 >                                         | 5.070                                           | 12.850                                          |
| Ds (kg)             | 2.706,8        | 1.384,1                                 | 3.079,1                                  | 2.640,9        | 3.973,8                                          | 1.363,8                                         | 3.610,9                                         |
| Organic matter (kg) | 2.130,6        | 882,2                                   | 2.080,5                                  | 2.051,2        | 2.117,5                                          | 699,7                                           | 2.017,5                                         |
| C total (kg)        | 1.072,0        | 441,1                                   | 1.040,3                                  | 1.076,9        | 1.113,8                                          | 329,6                                           | 1.053,7                                         |
| N total (kg)        | 48,2           | 43,6                                    | 52,7                                     | 34,4           | 47,7                                             | 28,9                                            | 46,9                                            |
| N mineral (kg)      | 6,7            | 1,5                                     | 2,8                                      | 2,9            | 5,1                                              | 0,2                                             | 0,5                                             |
| N organic (kg)      | 41,5           | 42,1                                    | 49,9                                     | 31,4           | 42,6                                             | 28,7                                            | 46,4                                            |
| C / N ratio         | 22             | 10,1                                    | 19,5                                     | 31,5           | 23,3                                             | 11,4                                            | 22,3                                            |
| PH                  | 7,3            | 7,9                                     | 7,1                                      | 6,9            | 7,2                                              | 7,6                                             | 7,4                                             |
| Gross energy (GJ)   | 43,5           | 18,6                                    | 43,0                                     | 39,3           | 41,5                                             | 13,2                                            | 38,5                                            |



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