

# Compost declaration: Bio Vækst municipal waste compost

August 1, 2017 – July 31, 2018

## Compost

Organic soil improver produced from:  
Source-separated biodegradable municipal waste:  
70 % (wet weight)  
Branch waste from gardens and parks:  
30 % (wet weight)  
Additives: none

## Production site

Bio Vækst AS,  
Hagesholmvej 7, DK-4520 Svinninge

## Product responsible

Aikan AS  
Tel: +45 4399 5020

## Instructions for use

BioVækst compost is an organic fertiliser and soil improver. Up to an annual 170 kg of total nitrogen and 30 kg of total phosphorous per hectare can be applied with organic fertilisers and/or livestock manure.

Thus, up to 3.6 tonnes (approx. 8.0 m<sup>3</sup>) of Bio Vækst compost may be applied per hectare per year, if no other organic fertiliser is used. This quantity can be applied every year, provided that crops with a nitrogen norm are cultivated. Thus, 66 kg of total nitrogen, 9 kg of ammonium nitrogen, 30 kg total phosphorous, 24 kg of potassium and around 150 kg of agricultural lime (estimated effect) can be applied. 13 kg of nitrogen must be included in the fertilisation accounts, corresponding to 20% utilisation of total nitrogen, cf. the Danish Plant Directorate's guidelines for fertilisation accounts.

**Maximum application every third year is 10.8 tonnes (approx. 23.9 m<sup>3</sup>) of Bio Vækst compost per hectare** (= 197 kg of total nitrogen, 28 kg of ammonium nitrogen, 90 kg of phosphorous, 73 kg of potassium, approx. 450 kg of agricultural lime). Here, 39 kg of nitrogen must be included in the fertilisation accounts.

Application in the period from harvest time until 20 October may only take place on fields with crops the same winter. On cattle holdings, application and ploughing of compost must take place before seeding. By application to grazing land, the fields cannot be used for grazing or hay harvesting for the four subsequent weeks.

## Nutrients in this compost

|  | kg/tonne  |
|--|-----------|
| Nitrogen – total   | 18.3      |
| Ammonium-nitrogen  | 2.6       |
| Nitrate-nitrogen   | 0.0       |
| Nitrogen for fertilisation plan<br>(20% of total cf. Danish Plant Directorate) | 13        |
| Phosphorous - total  | 8.4       |
| Potassium - total  | 6.8       |
| Magnesium – total  | 1.5       |
| Sulphur – total  | 2.7       |
| .....  |           |
|  | 10mS/cm   |
| Lv, conductivity value   | 14.8      |
| Lt, conductivity number  | 34.5      |
| .....  |           |
|  | (no unit) |
| pH-value, acidity  | 6.8       |
| Rt, reactivity number  | 7.0       |

## Soil improving properties in addition to microorganisms

Calcium-total converted into calcium carbonate:  
83.7 kg CaCO<sub>3</sub>/ tonne  
Effect of lime is: 41.8 kg agricultural lime/ tonne  
(estimated to around 50% of Ca-total)  
Organic matter 52.7 % of dry matter  
(ignition loss)

## Physical properties

|                  |      |                      |
|------------------|------|----------------------|
| Screen mesh size | 10   | mm                   |
| Dry matter       | 66.3 | %                    |
| Density          | 0.45 | ton / m <sup>3</sup> |

(by stated dry matter rate)

**Sampling and quality control** Samples are taken according to the directions of the Danish Plant Directorate. Detailed procedure for internal quality control and analysis reports from external laboratories will be submitted on request.

# Municipal waste compost: declaration guaranteed parameters

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## Heavy metals – all samples comply with limit values in force: **yes: X no:**

| Content in mg/kg dry matter |      | Compost average | Limit value <sup>1)</sup> |
|-----------------------------|------|-----------------|---------------------------|
| Cadmium                     | (Cd) | 0.4             | 0.8                       |
| Lead                        | (Pb) | 28              | 120 (60 <sup>1)</sup> )   |
| Mercury                     | (Hg) | 0.0             | 0.8                       |
| Nickel                      | (Ni) | 10.1            | 30                        |
| Arsenic <sup>2</sup>        | (As) | 3.3             | 25 <sup>1)</sup>          |
| Chromium                    | (Cr) | 12              | 100                       |
| Zinc                        | (Zn) | 267             | 4000                      |
| Copper                      | (Cu) | 121             | 1000                      |

1) Special limit value for use in private gardens.

## Hygienisation rate

Stabilisation/composting:    Controlled composting: **X**    Controlled hygienisation: **X**

cf. Annex 3 to Statutory Order No. 843 of 26 June 2017 of the Ministry of Environment and Energy.

## Xenobiotics (requirement for one sample per year)

**Complies with limit values in force:**                      **yes: X**                      **no:**

| Content in mg/kg dry matter |                                   | Compost <sup>2)</sup> | Limit value |
|-----------------------------|-----------------------------------|-----------------------|-------------|
| DEHP                        | (e.g. softeners in pvc)           | 6.0                   | 50          |
| LAS                         | (detergents and surfactants)      | < 50                  | 1300        |
| NPE                         | (surfactants, emulgators)         | 1.0                   | 10          |
| PAH                         | (e.g. from incomplete combustion) | 2.0                   | 3           |

2) Result of tree analysis: From the samples mentioned below. Demand of analysis: 1 per year

## Instructions for storage with user:

The compost may be stored in field stacks on the user's property. The stored quantity must be applicable in the present and coming planning period for fertiliser purposes at the agricultural farm.

The field stacks must be covered, preventing water from penetrating the stacks, and the location must comply with the rules of the Statutory Order from the Ministry of Environment and Energy on professional livestock, livestock manure, silage etc. The field stacks may be covered, for example, with water-repellent bonded fabric (may be supplemented with tarpaulin on the top) or as clamp cover with straw matting and tarpaulin. The stacks should not exceed a height of 2 meters and a width of 3 meters, and coverage on the sides must allow for air penetration in order to avoid oxygen deficiency and odours in the compost.

Temporary storage in the field in connection with transfer of the waste from haulage vehicle to spreading equipment may be permitted, when the waste does not cause ground or surface water contamination. The duration of temporary storage should not exceed two weeks.

## Sampling and quality control

Date of sampling: Jan-16 (ref.no. CA00388814), Oct-16 (ref.no. CA00473365) and Apr-17 (ref.no. CA00533009).

Samples are taken according to the directions of the Danish Plant Directorate. Detailed procedure for internal quality control and analysis reports from external laboratories will be submitted on request.