Excess Salt Removal

Indonesian compost has a relatively high salt content. It comes from our raw material, which is mostly garden and park waste. By composting organic material, the salt is concentrated as there is a 70 % weight loss.

Compost for seeds, seedlings and sensitive plants may need to be rinsed with water to reduce salinity. This Technical Note helps you to avoid potential salt damage to your plants. Most of the salt is potassium chloride (KCl).

Impact of salt content on plant growth

The salt content is measured in milli-Siemens per centimeter (mS/cm), which is the dimension for conductivity. The higher the conductivity, the higher is the salt content. If a 1 to 2 extraction of compost has a conductivity of 1 mS/cm, the salt content is about 0.2 % (5 mS/cm = 1.0 % salt, 10 mS/cm = 2.0 % salt, etc.)

Normal Yield can be expected	Sharp Fall in Yield must be expected	Plant Reaction to Salt Content	Examples of Plant Species
up to 0.4 % salt	over 0.8 % salt	sensitive	all seedlings, apples, peaches, beans
up to 0.8 % salt	over 2.0 % salt	fairly tolerant	wheat, maize, alfalfa, vines
up to 2.0 % salt	over 3.2 % salt	very tolerant	spinach, barley, sugarbeet
up to 3.2 % salt		salt-loving	few saline plants grow

The salt content of TEMESI Compost

The average salt content of TEMESI Compost is 1.0 to 1.5 %, depending on the composition of the raw material. The majority of salt in TEMESI Compost is potassium chloride (KCl).

According to above table, the salt content of TEMESI Compost may be too high for all seedlings and plants that are sensitive or only fairly tolerant to salts.

Whether excess salt must be removed depends on the plant species and the compost mix applied. Only test can indicate the necessity to remove excess salt. However, general rules are:

- Compost that is applied on the top of existing soil never needs salt removal.
- Compost blends with a soil to compost mixture of more than 3 to 1 seldom need salt removal.
- Compost blends for seedlings and salt sensitive plants usually need salt removal.

Methods for salt removal

After rinsing the compost with one of the following methods, it can be used straight or in soil blends. It is then suitable for even very sensitive plant seedlings.

1. For pure compost or blends in pots that allow rinsing (e.g. with holes in the bottom):
   Rinse the compost or soil blends in the pot with an equal volume of water. About 20 % of the water stays in the compost and about 80 % drips out with the removed salt. This reduces the salt content by about 80 %.
2. For pure compost or blends in applications that do not allow rinsing:
   Rinse the pure compost first in a separate container with an equal amount of water. Remove most water by pressing the compost or with a fine sieve. This reduces the salt content by about 75 %. Use the pure compost or blend it with the desired amount of soil.
3. For larger scale compost rinsing:
   Put a terpal sheet on a slope and place the compost on it. Then rinse the compost with an equal amount of water. Start rinsing from the higher end. Collect the water used for rinsing in a bucket. This reduces the salt content by about 75 %.

If tests with such rinsed compost still don't show healthy growth, use more water. The water used for rinsing is valuable compost tea that can be used for mature plants.