TIPS FOR NEW USERS OF COMPOST

Some tips for new users of compost:

- Plant nutrient needs change when compost is used because the plants are potentially stronger and may require more of some nutrients. They are also more efficient and may need less of other nutrients. The first time Phuong used compost at high rates during a research trial, the plants were setting well, but growing less so potentially missing out on even higher yield. In some cases you may need more nitrogen during what should be the strong growing phase. This depends on the pre-existing nitrogen levels in the soil as well. Trace elements are generally unlocked and used more efficiently, but if there is a shortage compost alone will not fix it unless the trace elements are present in the compost at sufficient concentrations. Only an analysis of the compost can tell you this.
- Make sure you use a soil test and leaf tests so you supply only what is needed and ensure there are no deficiencies. Too much is not a good thing, apart from being expensive.
- Put compost in promptly to keep microbes levels high, and do not let it get too dry or too wet. Compost is most effective when it is not allowed to dry out before applying and incorporating it into your soil.
- If you can, apply your compost after fumigation you will be able to keep more of the good microbes in it alive. However compost also helps fumigation to be more effective by improving the soil structure, so if you have a major disease problem and poor soil structure it may be best to fumigate after incorporating compost for a couple of years. As disease levels decrease you may be able to fumigate after applying the compost or even avoid the need to fumigate.
- Compost has the ability to release fertilisers and salts in the soil which is a good thing in terms of unlocking nutrients and assisting leaching but there can be a range of unwanted effects the first time it is used before soil condition is truly improved. If salinity readings are already very high in the soil the initial additional release of solutes, before irrigations begin leaching them out, can create a salt spike that is dangerous for tender seedlings. Roots can burn and become vulnerable to disease. On the other hand if the soil contains excess nitrogen that has become locked up compost will release some of this which may promote overly strong growth and reduce setting. If your soil indicates very high N it may be better to use a half or even a third of the compost that Phuong regularly uses in the first season.
- Compost will require some adjustments to previous irrigation practices. Because compost increases the soils water holding capacity more irrigation may be needed before and at planting so seedlings do not become drought stressed. This will also help to reduce any initial spike in salinity. Once the soil has been fully wetted (see 'soil water management' and 'calculating Readily Available Water') during the rest of the season and especially in winter this increased water holding capacity can lead to over-wetting and root stress (see Module 3. 'a. good irrigation practices' and 'e. detection and remediation of plant stress')
- Too much compost applied too often can cause soil pH to become too low. This should only happen gradually and can be monitored by using soil tests and watching plant performance for signs of stress and deficiency.

Be well prepared when ordering and receiving compost on your farm

- Put aside a convenient accessible disease free area to receive compost deliveries (even fumigate the storage area if possible). Planning ahead will help to avoid delivery and application issues, and will reduce the risk of bringing in disease to your farm (see 'Tips for planning for deliveries and contractors').
- Don't lift dirt from underneath the pile to save compost – this is false economy ! You risk bringing in diseases from outside your greenhouse.