Inputs – Soil, water, fertiliser and composts

If you're a grower or primary processor of berries, leafy vegetables or melons, make sure the inputs you use do not make your produce unsafe to eat.

Horticulture InfoBite

What are inputs?

Inputs are things you put into growing your produce and include water, fertiliser, soil and soil amendments (e.g. manure, compost, blood and bone).

What are the requirements?

Primary producers and primary processors of berries, leafy vegetables and melons must do what they reasonably can to make sure inputs do not make their produce unacceptable to eat.

This means the soil, soil amendments, fertiliser and water you use do not contaminate your produce with harmful microorganisms, chemicals or physical hazards.

If you grow leafy vegetables, you must also ensure the seeds and seedlings you use are not contaminated.

These requirements are under primary production and processing standards for berries, leafy vegetables and melons.

There are also requirements for chemicals and pesticides under Standard 1.4.2.

Does this apply to me?

In the horticulture standards:

- **A primary producer** is a business that grows and/or harvests berries, leafy vegetables or melons.
- **A primary processor** is a business that does any of the following with berries, leafy vegetables or melons: washing, trimming, sorting, sanitising, storing, combining, packing, and transporting between packhouses.

Getting it right – reducing your risk

Things you can do to reduce the risk of inputs contaminating your produce are listed below:

Soil, soil amendments and fertilisers

- Minimise contact between soil and the edible part of your crops, for example by using plastic mulch under plants
- Do not use untreated animal manures or human waste.
- If you purchase treated soil amendments make sure they are certified, compliant with Australian Standard AS 4454-2012: Composts, soil conditioners and mulches.
- If you make your own treated soil amendments, follow an approved, verified process to be sure microorganisms are reduced to safe levels (e.g. through appropriate heat, aeration and time).
- Check the recommended time to wait between applying any soil amendment and harvest (e.g. 90 days for a soil amendment used for produce grown close to the ground).
- Protect stored treated soil amendments from contamination (e.g. covered, away from chemicals, waste and animals).

Water

- For growing crops, water used for irrigation and for applying fertilisers, pesticides and other agricultural chemicals should not contain levels of microorganisms that would make the produce unsafe.

- Regularly assess risks of your water sources, including:
    - the potential for cross-contamination from water sources in normal and high rainfall or flooding (for more information on flooding, refer to the Weather Events InfoBite)
    - to ensure microbial quality of water is safe for its intended use (see below).
- Regularly test your water sources and:
    - apply appropriate treatments if required (e.g. chlorine, UV, filtration) and monitor levels of chemicals used in the water
    - increase testing if animals, weather (e.g. dust storms, heavy rain, drought) or other events could have affected your water sources
    - keep appropriate testing records.
- Prevent water contamination (e.g. fence around dams to keep animals away).
- Record water sources used for irrigation and the site of irrigation.
- Post-harvest water used to cool, wash or sanitise produce must be clean and safe (town water or similar quality) so it will not contaminate your produce.
- Water used for cleaning food contact surfaces must also be safe – town water or similar.

Seeds and seedlings

- If you buy leafy vegetable seedlings for planting, only buy from suppliers that have managed their inputs so the seedlings have not been contaminated with harmful bacteria, and the seeds have not been contaminated with weed seeds. Ensure your supplier tells you about any chemicals that may have been used to treat seeds or control pests and diseases.
- If you grow your own seedlings, purchase your seed from suppliers that have taken steps to prevent contamination of the seed. Once you have received the seed, make sure it is stored to protect it from rodents or other sources of contamination (e.g. dirty water or chemicals).
- Suppliers of seeds or seedlings may operate according to a food safety scheme or provide some other assurance about how they have prevented contamination of the seed and seedlings.

Need more information?

- Contact your state/territory food regulatory authority
- Refer to the Primary Production and Processing Standards (Chapter 4)
- Fresh Produce Safety Centre – Guidelines for Fresh Produce Food Safety 2022