Managing sweetpotato crops during wet weather

Sweetpotato and wet weather

Prolonged wet weather can have serious adverse affects on sweetpotato crops. Issues occur with:

- Harvesting
- Postharvest shelf life
- Pest and disease management
- Nutrition
- Physiological disorders

Sweetpotatoes need well drained soils, preferably with good all weather access. In wet weather make a note of wet areas in your fields with a view to drainage and/or levelling before planting your next crop.

Harvesting

Wet soils make harvesting with heavy machinery very difficult and at times hazardous, take care.

Sweetpotatoes in waterlogged soils are easily marked and damaged. Skin loss or other damage allows entry of breakdown organisms, e.g. bacteria and fungi. Handle sweetpotatoes carefully to prevent damage as much as possible and reduce the risk of breakdown occurring in the market chain.

Postharvest hygiene

Sweetpotatoes dug from wet soil will need to be washed to remove soil. Recycled wash water can quickly become contaminated with breakdown organisms which are then spread to other roots, particularly if they have been damaged during harvest.

Treating washed roots with a postharvest sanitiser will reduce the risk of breakdown in the market or retail outlets. There is a range of sanitisers registered for postharvest application on sweetpotatoes, including Nylate, Hypochlor, Active 8, Adoxysan and Tsunami on Farm.

It is also important to ensure harvesting and grading equipment, storage bins and cool rooms are kept clean and sanitised to reduce the spread of bacteria and fungal spores.

Storage root infections that occur in the shed will probably go unnoticed until they are already in the market chain where they can have a detrimental effect on the reputation of your product.

Pest and disease management

Heavy rainfall and inundation can leach chemicals applied to manage soil borne pests out of the root zone. The main soil borne problems are caused by nematodes, sweetpotato weevil and wireworms. In practice only chemicals for sweetpotato weevil management can be applied once the crop is established.

Nematode management chemicals must be applied either at planting (fenamiphos) or through drip

irrigation within 7 days of planting (Vydate L). All chemicals to manage wireworm must be applied at or before planting. Always check the APVMA website and product labels to confirm products are registered for crop use.

You can use Agrisense pheromone traps and lures to monitor for sweetpotato weevil. If sweetpotato weevil are present bifenthrin and chlorpyrifos can be applied. Bifenthrin (100 g/L) is sprayed on to the foliage at 40 – 60 mL/100 L or 600 mL/ha, it has a one day withholding period.

Chlorpyrifos (500 g/L) is sprayed on at 200 mL/100 L (600 – 4000 mL/ha) in 300-2000 L/ha of water. Increase the rate as the crop grows, apply the high rate once the crop has covered the ground, it has a 14 day withholding period.

Thorough coverage is essential, use sufficient liquid and pressure to penetrate the foliage. A complete list of pesticides with registrations or permits is available on the APVMA website at www.apvma.gov.au

Nutrition

Heavy rains will rapidly leach nitrogen, potassium and some trace elements out the root zone. Waterlogged roots are not very efficient at taking up nutrients, so a foliar application is a quicker way of replacing nutrients in the plants until the root system is fully functional.

Nitrogen can be applied as urea, calcium nitrate or potassium nitrate which also applies potassium.

There are several soluble products which will supply a range of major nutrients and trace elements in one spray. Whilst these products often do not apply much of any individual nutrient they are useful for ‘kick starting’ a waterlogged crop.

When the soil has dried out enough to require irrigation, a range of soluble products can be applied through the drip irrigation system. Split fertiliser applications to apply small amounts at a time.

Irrigation

Waterlogging can result in the death of plant roots making it difficult for the plant to recover.

When the soil starts to dry out, it may be necessary to make frequent, light irrigations until the plant has re-established its root system.

Physiological disorders

Storage roots developing in wet soils may develop enlarged lenticels which give the sweetpotatoes a rough, unattractive appearance.

Preparing land for new crops

It is important to plan cropping on your farm well ahead of planting. Some things to consider when planning your planting schedule include:

- Plant crops that will be ready for harvest in the wetter months on higher, dryer ground, not in low areas.

- Deep rip to break hard pans and allow better drainage through the soil profile.
- Plant on well-formed hills that will help drain water away.
- By marking wet areas during wet conditions you can level blocks to remove low spots.
- Ensure adequate drainage, try to prevent run-off water getting into your crop, and plant so that water flows out of the crop without leaving the ends of rows and headlands wet.
- Try to ensure all weather access to your crop, e.g. use permanent, well-formed headlands.

More information

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For essential information on important diseases affecting vegetable crops grown across Australia, pick up a copy of Diseases of vegetable crops in Australia, available for purchase from CSIRO at www.publish.csiro.au