



# Challenges in development and use of PF mixes for professional growers

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# Poinsettia being successfully grown in Peat free mixes – Nov 2023

➤ Peat free plants





# Materials currently available for mixes

- ▶ Wood/timber residues
  - ▶ Coir
  - ▶ Barks
  - ▶ Composted GW
  - ▶ AD
  - ▶ Bracken
  - ▶ Cork
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- ▶ Details around the materials can be found in the guidance doc for the RSS





# What made peat so different:

- ▶ Was it the 5-10,000 years in the bog soup
  - ▶ Did the plant material become a fossil
  - ▶ Was the process one of tannerlisation
    - ▶ Preservation of the cellular structures
- ▶ The result was relatively stabilised OM
  - ▶ With good moisture retention properties
  - ▶ Relatively low available nutrients –
  - ▶ Extremely good long term shelf life





# Fresh organic materials

- ▶ All newer organic materials are more susceptible to microbial breakdown, i.e. more easily composted- but note some young peats also show this tendency
- ▶ Therefore the available 'N' can rapidly be immobilised by microbial action
  - ▶ Therefore extra 'N' is needed in mixes and additionally in WS feeds



# Nutrient loading:

- ▶ Fresh organic materials generally have high of specific elements:
  - ▶ Such as Potassium, chloride and sulphates, but are often low in available Calcium, Magnesium and Phosphorus,
- ▶ Therefore feeding needs to reflect the available nutrients and certainly high Potassium feeds are unnecessary and may limit the uptake of Calcium and Magnesium



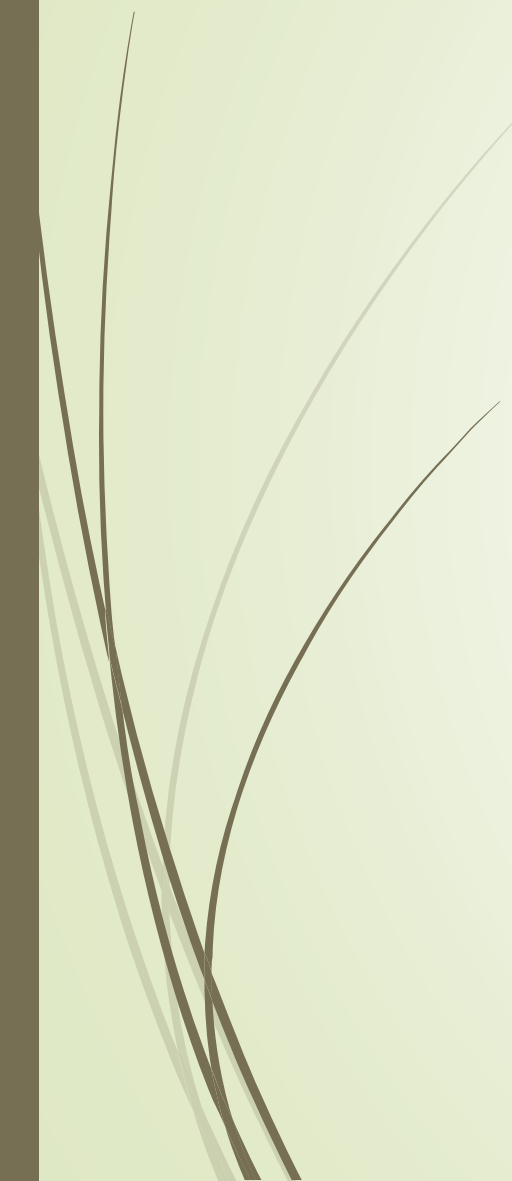


# Leachability and Water holding


- ▶ Many of the mixes of new ingredients have good AFP's
  - ▶ However this may also mean that they do not retain soluble nutrients as well and excess overhead watering can lead to leaching of nutrients,
- ▶ The retention of water may well be less than peat based mixes and so the use of wetter and or swell gels may be desirable,
- ▶ The factors above may well reflect shorter shelf life of products



# So what are the challenges

- ▶ Get to know the new materials and mixes
  - ▶ Run trials of the new mixes but to optimise their use
  - ▶ Have regular analysis of the fresh mixes to become familiar with the available nutrients,
  - ▶ Select a regular feeding program to avoid deficiency creeping in,
  - ▶ Look at the watering of the new mixes very carefully.
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# Thank you for listening

➤ Any Questions?

