Peat-free progress in ornamental substrates

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Bulrush - introduction

- Long “non-peat” history
  - 1990’s - “Improving” peat based mixes (barks etc)
  - Coir (begun using in early 2000’s)
  - Making our own woodfibre since ~2004
  - AD since 2016, current supplier since 2017

Peat context

- Long history (1930's, Lawrence and Newell)
- 90+ years of research (today)
- Peat Variability (plant type, geography, humification
- 90+ years of industry development and investment (business model)
- As a substrate constituent, it is flexible and forgiving
- Peat-free overnight?
  - Do we know what mix we'll be using??

Technical v commercial

- Many organic materials out there, technically you could grow a plant in most of these

- You cannot do this commercially
- We need large volumes of any one material from any one source
- Commercial production is predicated on efficiency
- The more recipes we change, the more we stop mixing lines running, the higher the cost

Non-peat materials

- Wood fibre(s)
- Coir(s)
- Bark(s)
- AD fibre(s)
- Others

- Availability?
  - Volume?
  - Timing?
  - Competition?

Quality control

- Not like for like replacements for peat (or each other)
- Raw material consistency (temporal and source to source)
- Product consistency (one litre to the next, every batch, every day, etc.
- Customers customer (retailer) specification.
- Traceability
- Chemical, physical and biological characterization:
- More complex than peat (less “stable”)

Learning curve

- Learning to get the best out of the current peat-free mixes
- 10 years of learning?
- Have we recipes we'll still be using in 5 or 10 years time?
- Costs, availability and material development may lead to yet more change

- Remember… 90+ years of peat learning!

Trials, trials and more trials

- Extensive in-house R&D before working on-nursery
- Often crop by crop (demand, value to the business)
- Also considering the nursery growing system(s)
- Green skills

- Illustration – Poinsettia
- Valuable crop
- Grown in several systems

Poinsettia Trials

- potting wk 29, photo wk 49, one litre, capillary matting
- Astro Red

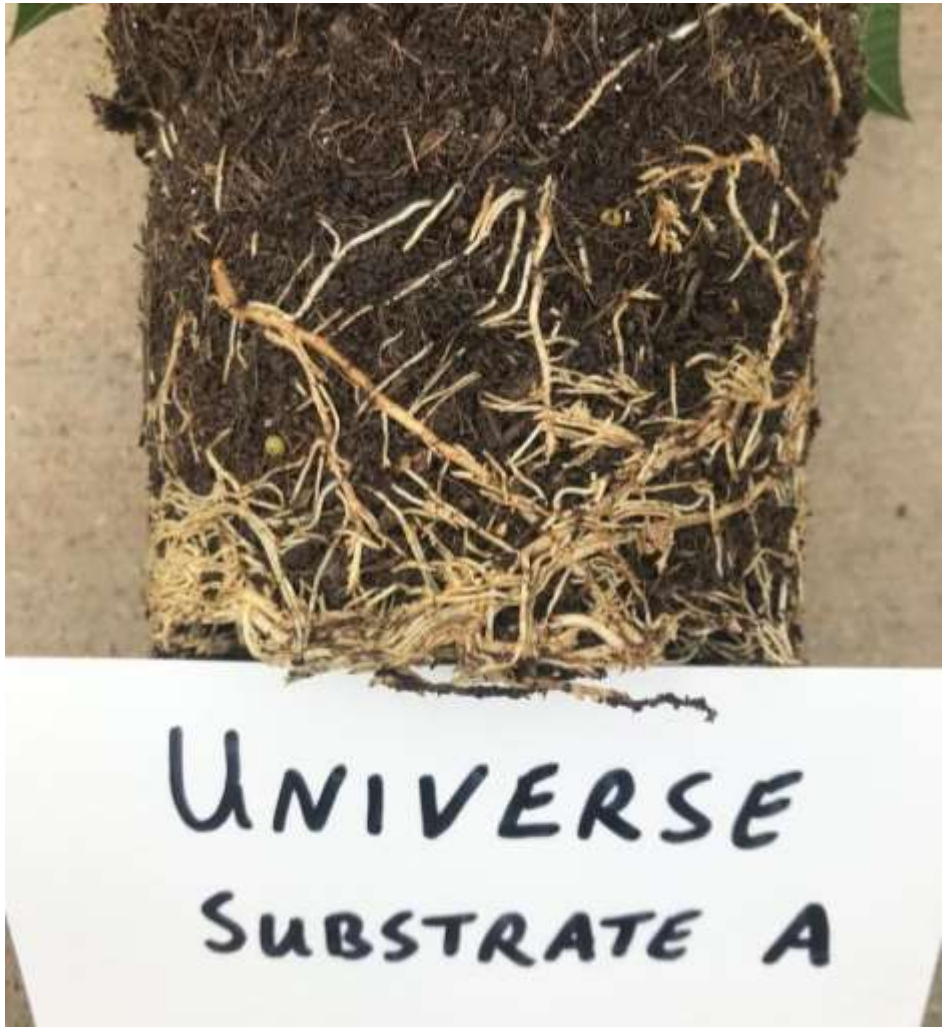
STD (80 Peat : 20 Perlite) Peat-Free 1 Peat-Free 2 Peat-Free 3

Poinsettia Trialing

- Now medium scale trials
- Alongside peat grown for comparison
- Different management required
- Learning curve / experience

Watering

- Checking levels very important
- More frequent application & less applied
- Roots establishing to the top of the pot

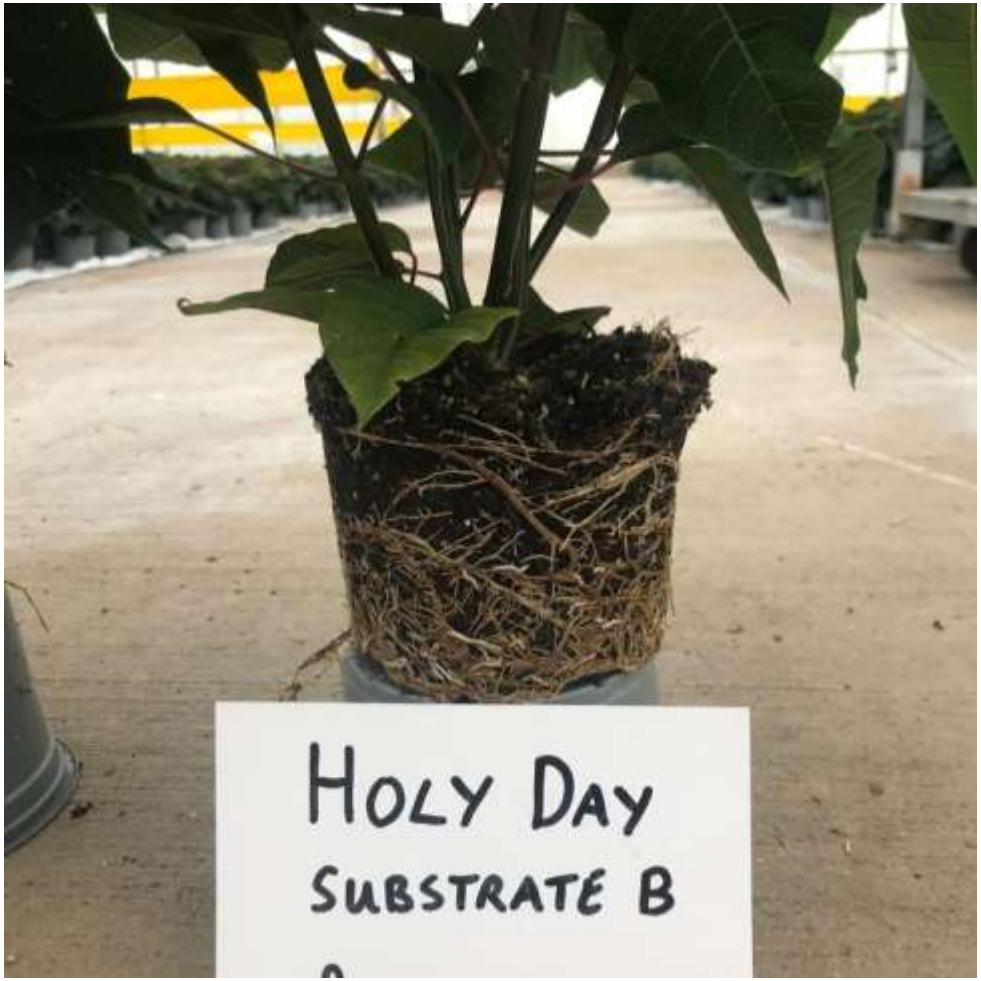


Nutrition

- Accurate base level feed important
- Regular monitoring of substrate and leaf required

Commerciality

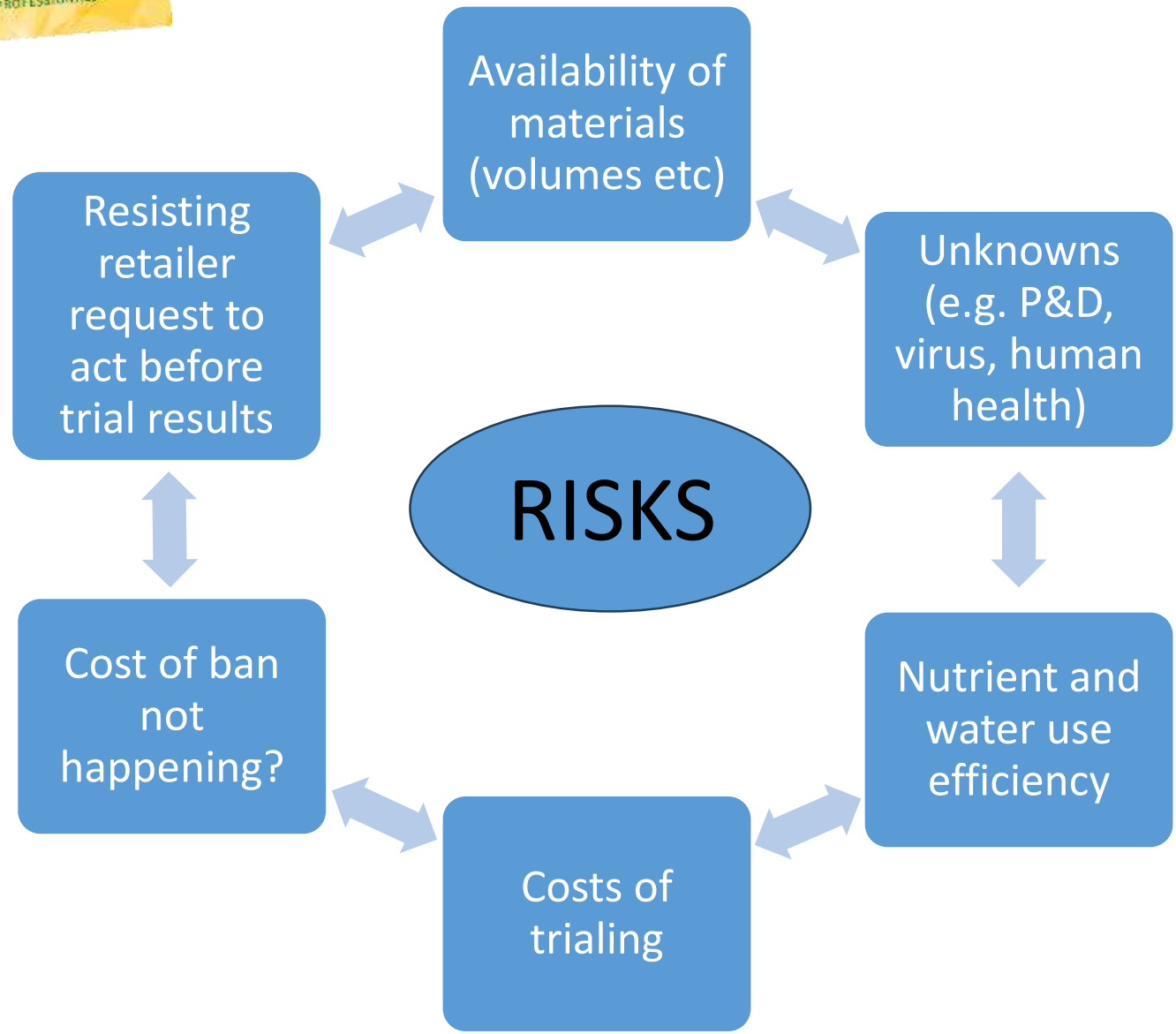
- 3-year process
- 10% of our crop now peat free
- Management easier
- Lot of demand but tempered with less willingness to pay more



Learning curve

Perennials

- Ongoing for 2 years
- Continual monitoring
- Keep trialing
- Less supply chain pressure than bedding crops


Availability of materials (volumes etc)
Unknowns (e.g. P&D, virus, human health)
Nutrient and water use efficiency
Costs of trialing
Cost of ban not happening?
Resisting retailer request to act before trial results
RISKS

Any Questions?