

TOPIC: PARTNERING WITH FUNGI - BENEFITS AND COSTS

GUEST SPEAKER: FRANCES GUARD

MALENY GARDEN CLUB MEETING: 26 APRIL, 2017 AT OLD WITTA SCHOOL

- Fungi is a separate kingdom - not animal or plant - doesn't photosynthesise but complimentary with things in the environment
- Yeast is a fungi and required in bread, beer soft cheeses i.e. blue vein, camembert
- Cocoa beans require fungi and have to be fermented to make chocolate - no fungi/no chocolate
- Costs: (non friendly) Food spoilage - mould in bread, oranges etc.
- Positive: Mould makes penicillin
- New discoveries with the use of fungi: Mycelium and agricultural waste (i.e.straw) can be used to grow a shape required in packaging which will break down easily instead of polystyrene packaging etc. This packaging is being used already by companies like Dell and Ikea
- Costs: Crop loss from powdery mildew (i.e. zucchini) or Myrtle rust which is also a fungi
- Partnerships - forest and garden. Lichen in the forest is formed from 2 fungi and 1 algae - not harmful - fixes nitrogen - rain trickles down and fertilises the tree
- Lichen is sensitive to pollution - death of lichen indicates pollution
- Lichen used by birds in nest - good camouflage
- Fungi partners with dead wood helping decompose dead wood by producing cellulose and lignin which break down the timber - white rotters and brown rotters
- Takes 10 years to turn a large log into humus which fertilises new growth
- Mulch and leaf litter in your garden promotes stinkhorns (fungi)
- Partnership- fungi and tree roots - mycorrhizae
- Ectomycorrhizae (ECM) - eucalyptus, casuarinas, melaleucas, nothofagus - root fibre of fungi spreads and brings water and minerals from beyond roots of tree
- Endomycorrhizae - in garden plants, ferns, grasses, veges, rain forest trees, herbs, shrubs, vines.
- Orchids - Mycorrhizas - partner with all members of the orchid family. Fungus provides nutrients to germinate seeds of orchids
- Endophytic Fungi - lives in plant tissue - provides protection against plant being eaten/ increases plant growth/increases disease resistance/increases tolerance to abiotic stress (drought and heat). Has been added to airport grasses to discourage birds
- Truffles from Australia are not edible. More varieties in Australia than anywhere else
- Truffles need a 3 way partnership - tree-truffle-mammal - 95% of food for potoroos and bandicoots is fungi
- Partnership with parasites - unexpected benefit - fungi can cause heart rot which creates animal habitat
- Nature doesn't like monocultures
- Brochures available for \$10 (for 2 brochures) - Mushrooms of the Sunshine Coast and Fungi of the Sunshine Coast
- Question time:
- Spore supplements are from overseas and the effectiveness is misrepresented
- Herbicides probably not good/ Fertilisers suppress fungi - which is why we don't see field mushrooms growing wild now
- Move by farmers to spread fungal spore on pastures
- Cultivation chops up soil breaking up fungi spores
- No Deathcap mushrooms in Australia - European species.
- Products like Troforte are being produced
- Good book - Hidden Life of Trees