Grasses to Overcome Urban Salinity - Project TU06006

Know-how for Horticulture™

More work on using salt-tolerant turf grasses for the revegetation of salt affected urban sites has begun.

Earlier research successfully identified and used salt-tolerant turfgrasses in the revegetation of a site in coastal southern Queensland. This project will improve the establishment and management of medium and highly salt-tolerant turf grasses in different climates, soils, levels of associated waterlogging and uses.

Trial site for grass selection located on the Surfers Paradise Esplanade

Urban salinity can arise for different reasons. With dryland salinity in inland areas, it is often rising groundwater bringing salt to the surface; while in coastal sites, salt spray or tidal inundation are often the causes.

Field sites in both situations have been established to trial different grasses and establishment methods and soil fertility investigations have finished.

Investigations will cover seven broad topics:

- Salinity tolerance – turfgrass species and cultivars will be screened hydroponically for salt tolerance, providing a wider range of options at different salinity levels.

- Grass selection – salt-tolerant grasses with potential for special-use situations such as shade and wear will be trialled more widely.

- Establishment methods – cheaper alternatives to laying full turf such as (e.g. sprigging and seeding) and techniques to enhance establishment, (hydromulching), will be investigated for large-scale plantings, as well as different topsoil options.

- Soil de-compaction – subject to the availability of commercial-scale equipment various techniques for de-compaction (e.g. slicing, Verti-Draining and air blasting) will be investigated.

- Soil fertility – A long-term, replicated experiment looking at the effect of six nitrogen fertiliser treatments on six turf grasses (kikuyu, seashore paspalum, buffalograss, blue couch, and two green couches) has been completed.

- Salinity measurement – the effectiveness and accuracy of inexpensive salinity measuring devices as possible field aids for diagnosis will be investigated.

- Integration and demonstration of best management practices (BMPs). The individual experimental studies will be integrated through a systems approach in which turf will be established, managed and remediated on larger demonstration areas based on BMPs.

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