Using pits to assess soil suitability and limitations. Riverine Plains soils

Sam North – NSW DPI, Deniliquin

Pat Hulme – Sustainable Soils Management, Warren

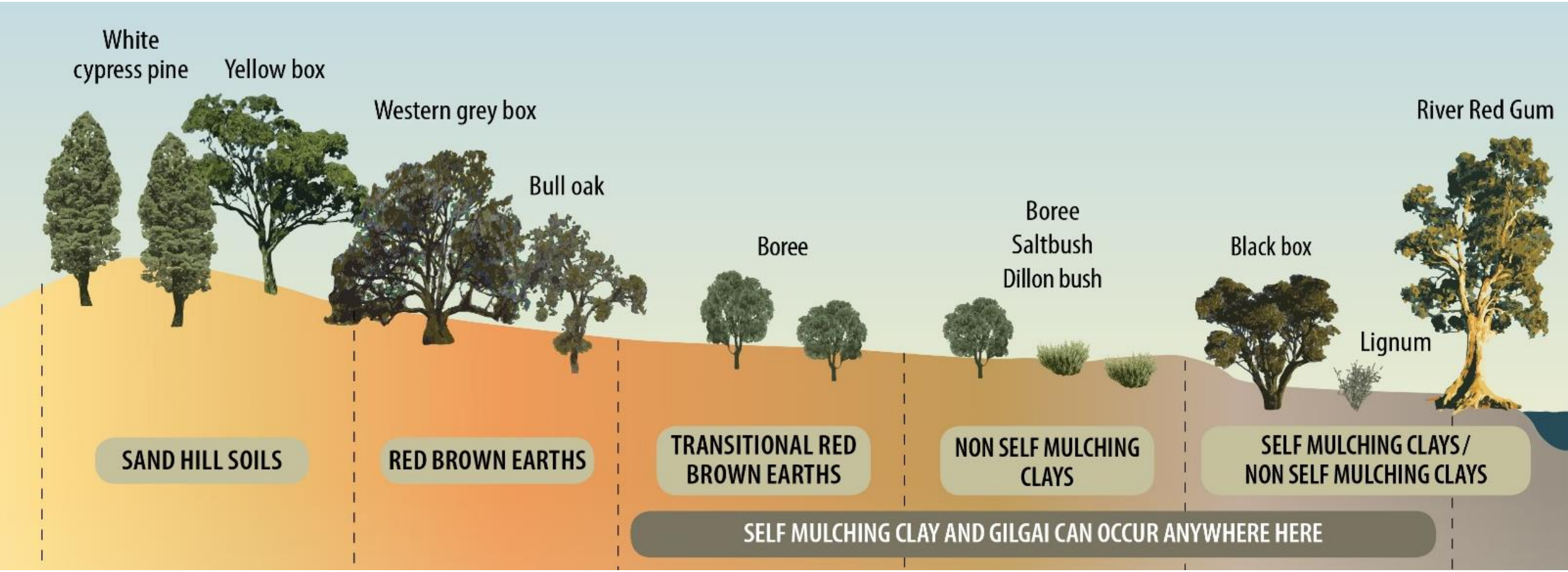
Thanks to Iva Quarisa (IREC), Mel Mann (ICC), Steph Chappell (SGG) and Alex Schultz (DPI) for video footage

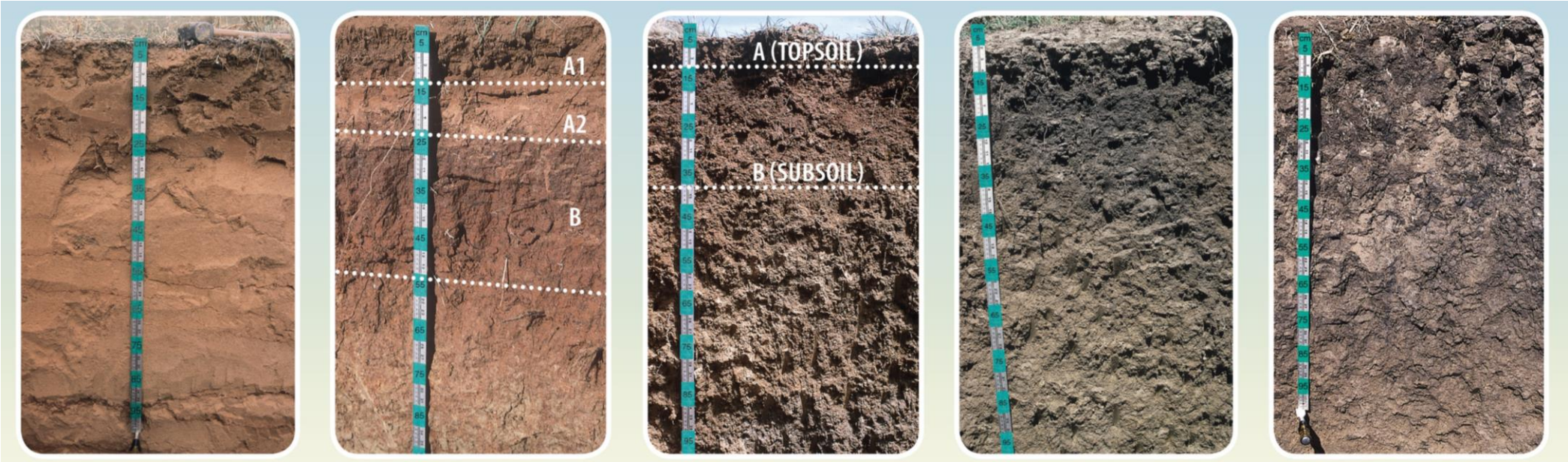
Five key field diagnostic features

- Colour
- Texture = clay %
- Structure
- Organic matter
- Simple tests
  - pH
  - Slaking & dispersion
  - EC

Riverine plains

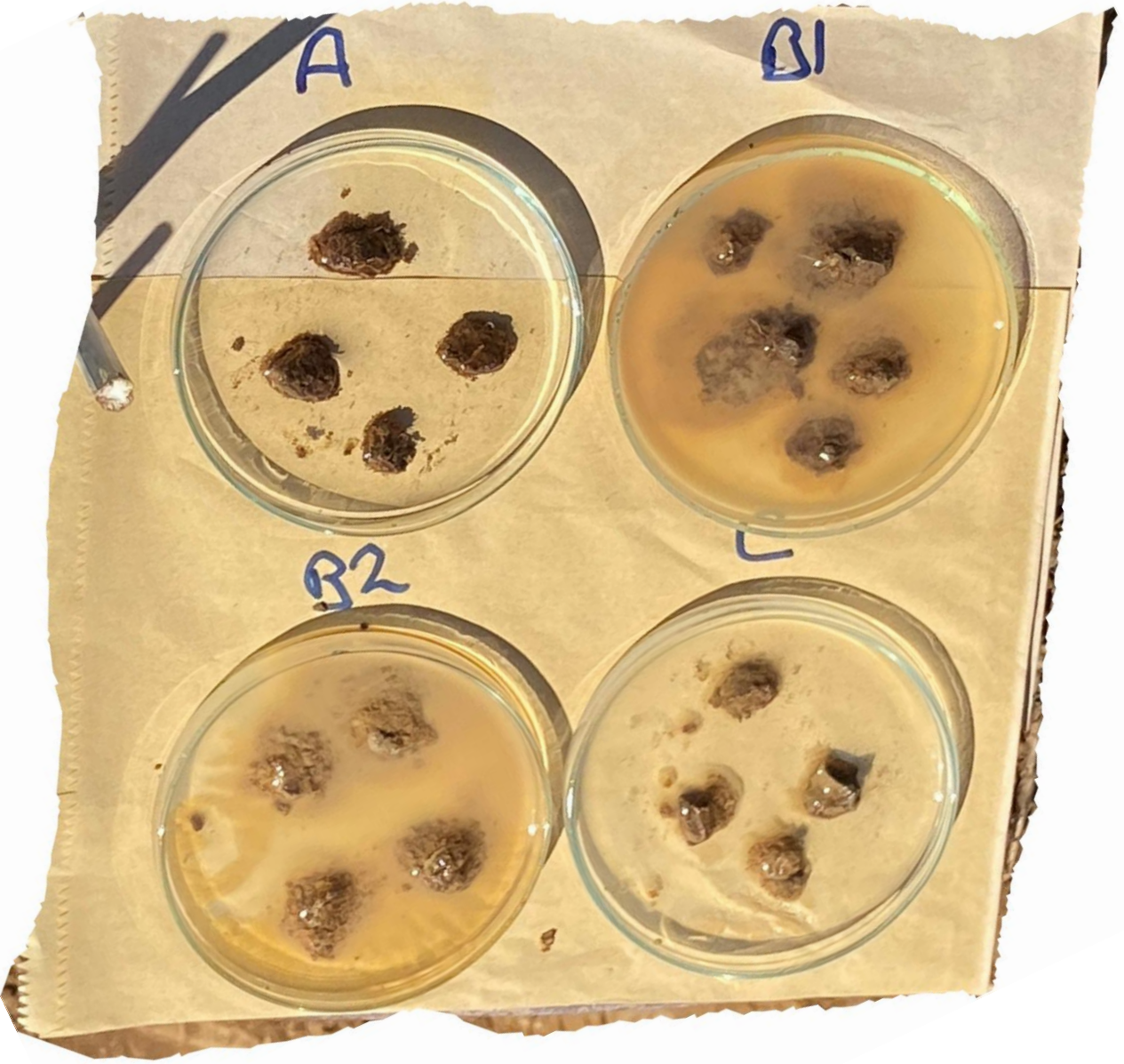
Topography – vegetation – soil type association



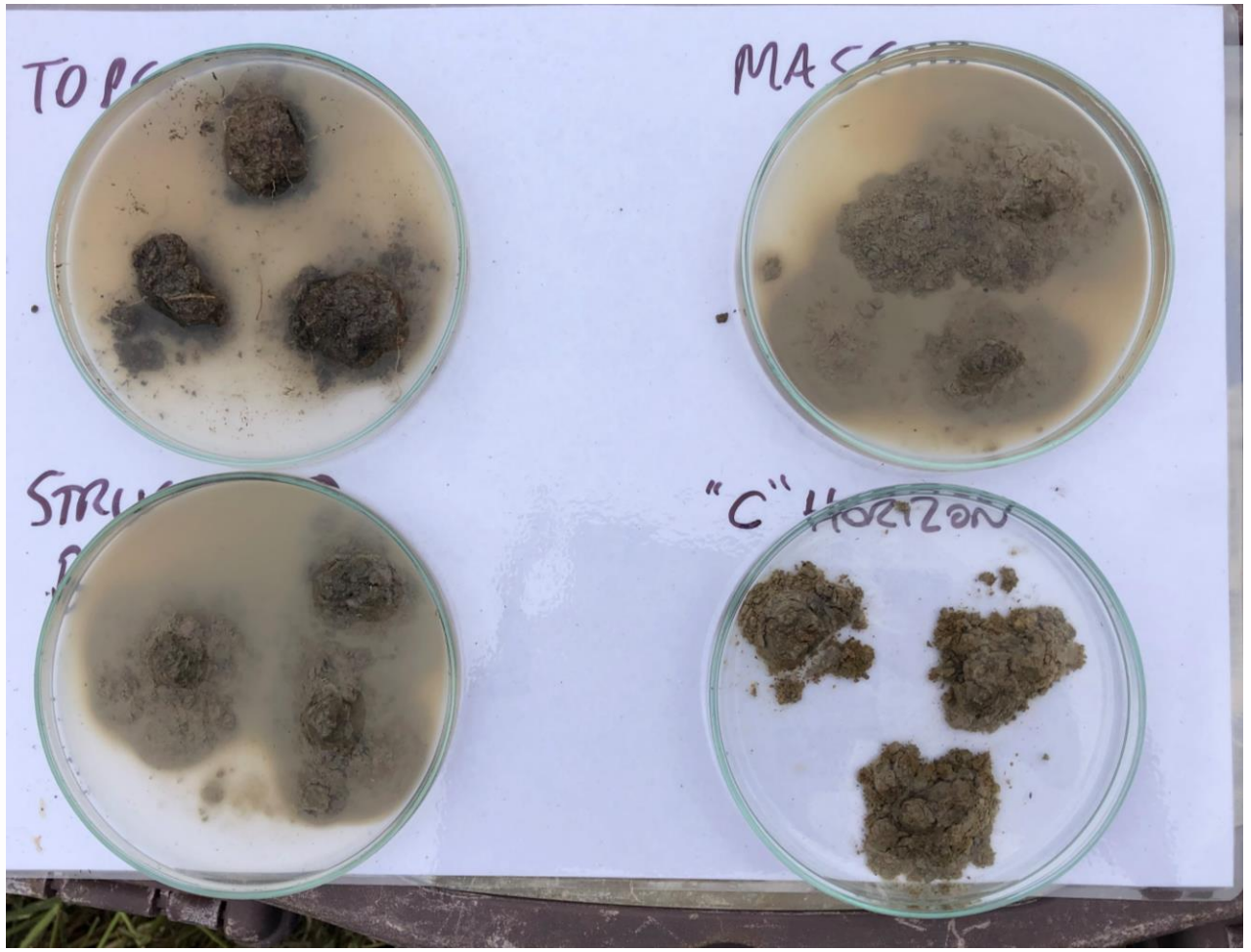

A1
A2
B
A (TOPSOIL)
B (SUBSOIL)


1m

TRBE - Finley



NSMC - Tullakool



Major issues & management – Riverine Plains cropping soils

Problem	Soil & system	Management
1. Machinery compaction	Cotton systems • All soils (all systems)	Control traffic • make 'roadways'
2. Slaking & hard-setting 1. Water entry 2. Crop establishment	Loam top-soils • Duplex = RBE & TRBE • Cropping systems	Increase organic matter • Retain stubbles • Minimise till • Avoid bare fallows
3. Sub-soil sodicity 1. Waterlogging 2. Water stress	TRBE & NSMC • Rice systems	Gypsum – not rice Irrigation system • Surface drainage (beds) • Schedule irrigations