



FUTURE FARM
INDUSTRIES CRC

'Four questions answered about saltland grazing systems'

Path to adoption workshop - Katanning

Ed Barrett-Lennard

What are the technologies?

Technology 1. Dense stands of saltbush

- Old man, river saltbush



Technology 1. Dense stands of saltbush

- Old man, river saltbush
- **1000 stems/ha**



Technology 1. Dense stands of saltbush



- Old man, river saltbush
- 1000 stems/ha
- **Feed off with good quality hay**

Technology 1. Dense stands of saltbush



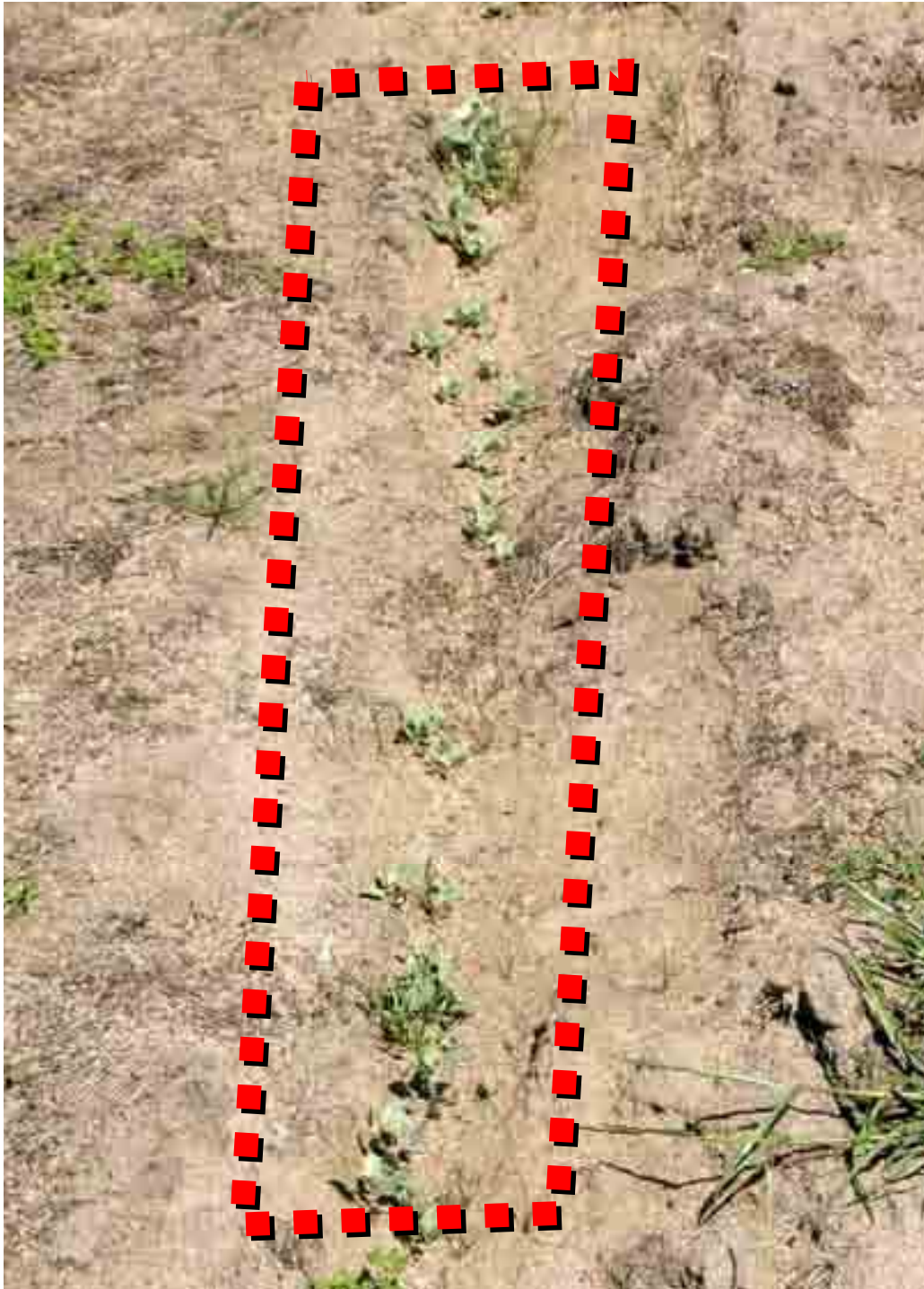
- Old man, river saltbush
- 1000 stems/ha
- Feed off with good quality hay
- **Nursery-raised seedlings (~\$300+ /ha)**

Technology 1. Dense stands of saltbush



Niche seeder – invented ~1980

- Old man, river saltbush
- 1000 stems/ha
- Feed off with good quality hay
- Nursery-raised seedlings (~\$300+ /ha)
- **Direct seeding (~\$100+ /ha)**



Last week

Duplex soil

Weed control

Cone seeder

1 cm depth

Treated seed

- + bracts
- + priming
- + Salicylic Acid
- + Gibberellic Acid
- + Kinetin

Technology 1. Dense stands of saltbush



- Old man, river saltbush
- 1000 stems/ha
- Feed off with good quality hay
- Nursery-raised seedlings (~ \$300+ /ha)
- Direct seeding (~ \$100+ /ha)
- **Profits ~ \$6/ha**

Technology 2. Strips of saltbush with alleys of under-storey

- Old man, river saltbush



Technology 2. Strips of saltbush with alleys of under-storey

- Old man, river saltbush
- **Under-storey legumes**

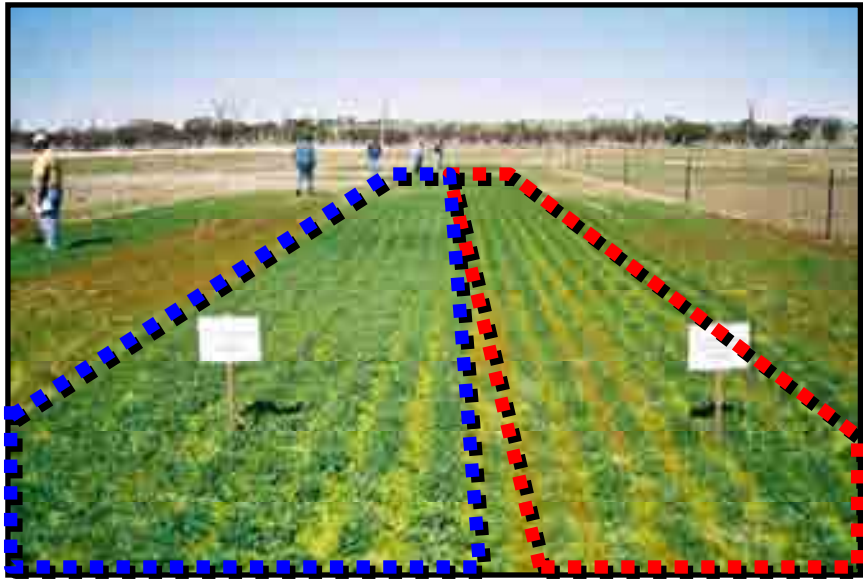


Technology 2. Strips of saltbush with alleys of under-storey



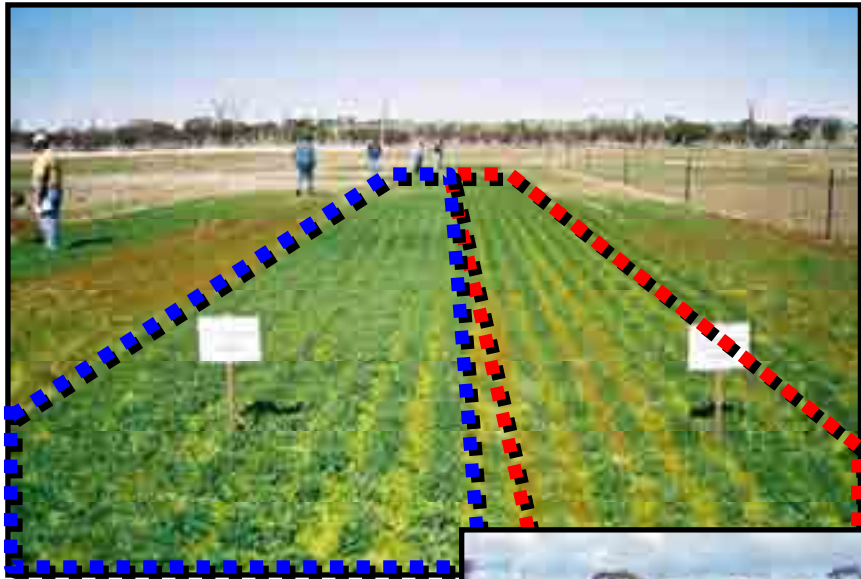
- Old man, river saltbush
- Under-storey legumes
 - ✓ **Balansa clover**

Technology 2. Strips of saltbush with alleys of under-storey



- Old man, river saltbush
- Under-storey legumes
 - ✓ Balansa clover
 - ✓ **Burr medic**

Technology 2. Strips of saltbush with alleys of under-storey



- Old man, river saltbush
- Under-storey legumes
 - ✓ Balansa clover
 - ✓ Burr medic
 - ✓ **Melilotus**



Technology 2. Strips of saltbush with alleys of under-storey



- Old man, river saltbush
- Under-storey legumes
 - ✓ Burr medic
 - ✓ Balansa clover
 - ✓ Melilotus
- **3–4 rows saltbush,
12–15 m under-storey**

Technology 2. Strips of saltbush with alleys of under-storey



- Old man, river saltbush
- Under-storey legumes
 - ✓ Burr medic
 - ✓ Balansa clover
 - ✓ Melilotus
- 3–4 rows saltbush,
12–15 m under-storey
- **Nursery-raised seedlings or direct seeding**

Technology 2. Strips of saltbush with alleys of under-storey

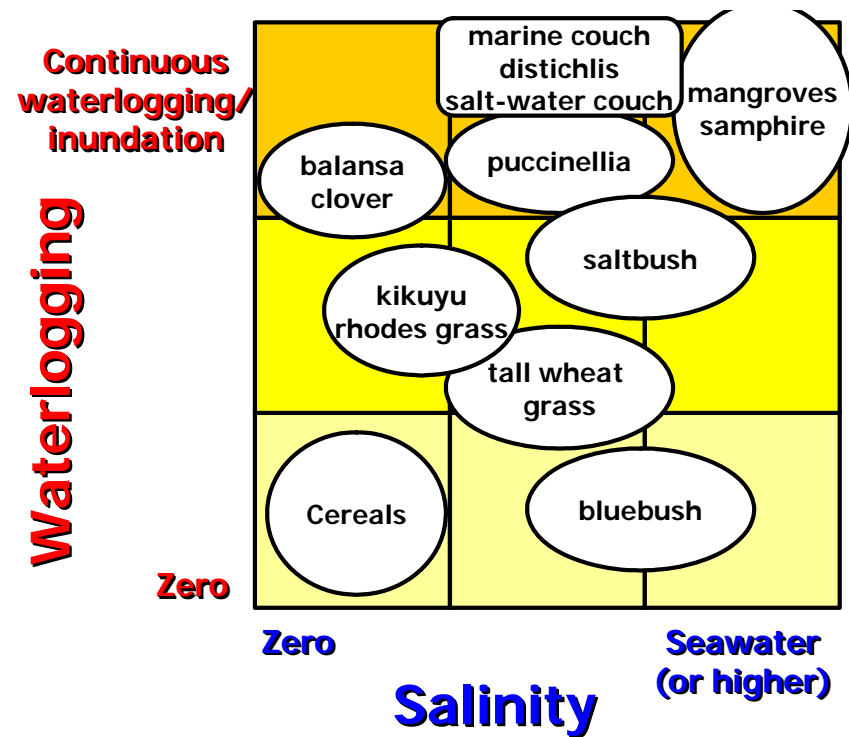


- Old man, river saltbush
- Under-storey legumes
 - ✓ Burr medic
 - ✓ Balansa clover
 - ✓ Melilotus
- 3–4 rows saltbush, 12–15 m under-storey
- Nursery-raised seedlings or direct seeding
- **Profits ~\$60/ha**

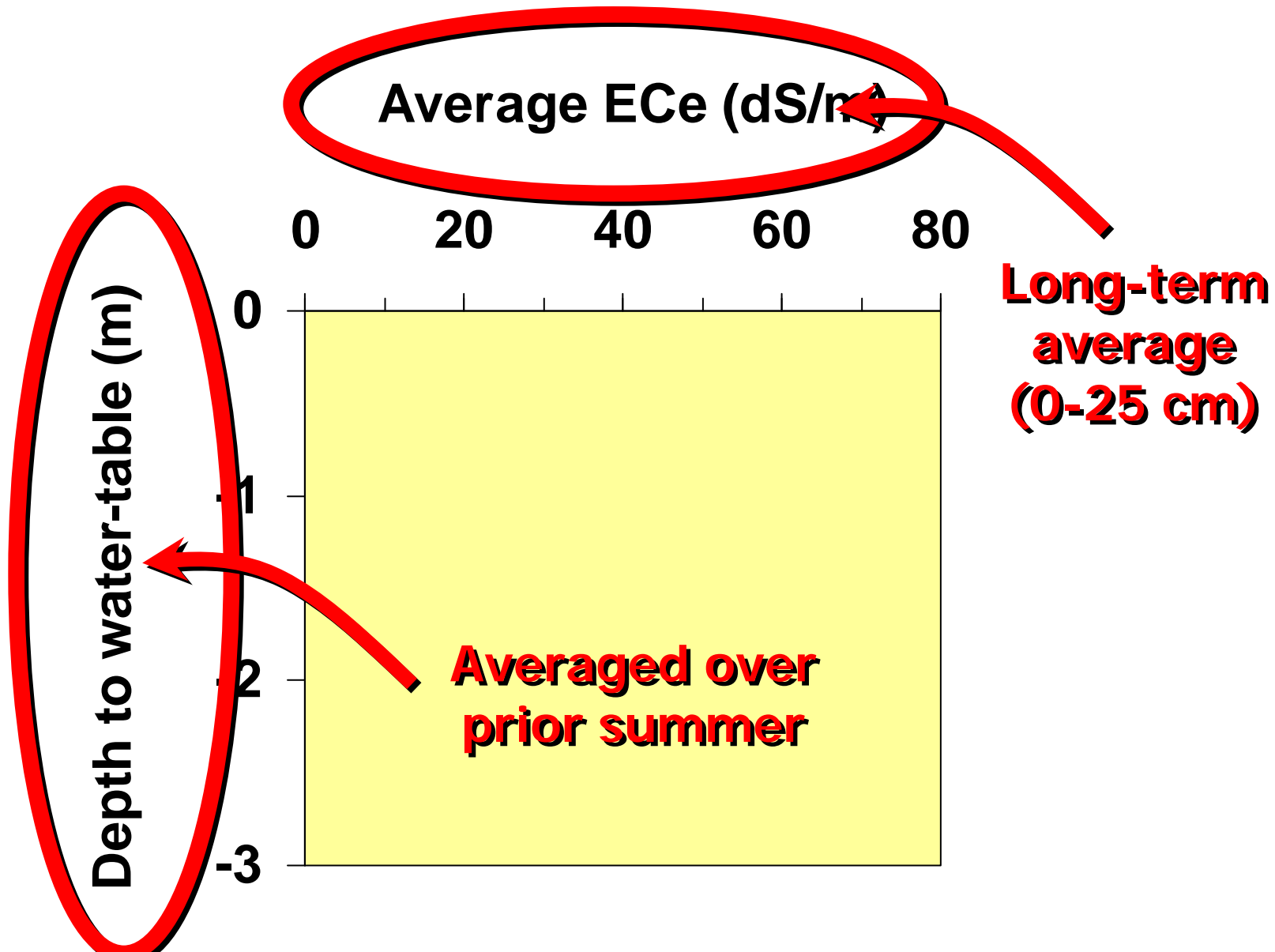
Where (in what location) are the technologies most suited

On saltland...

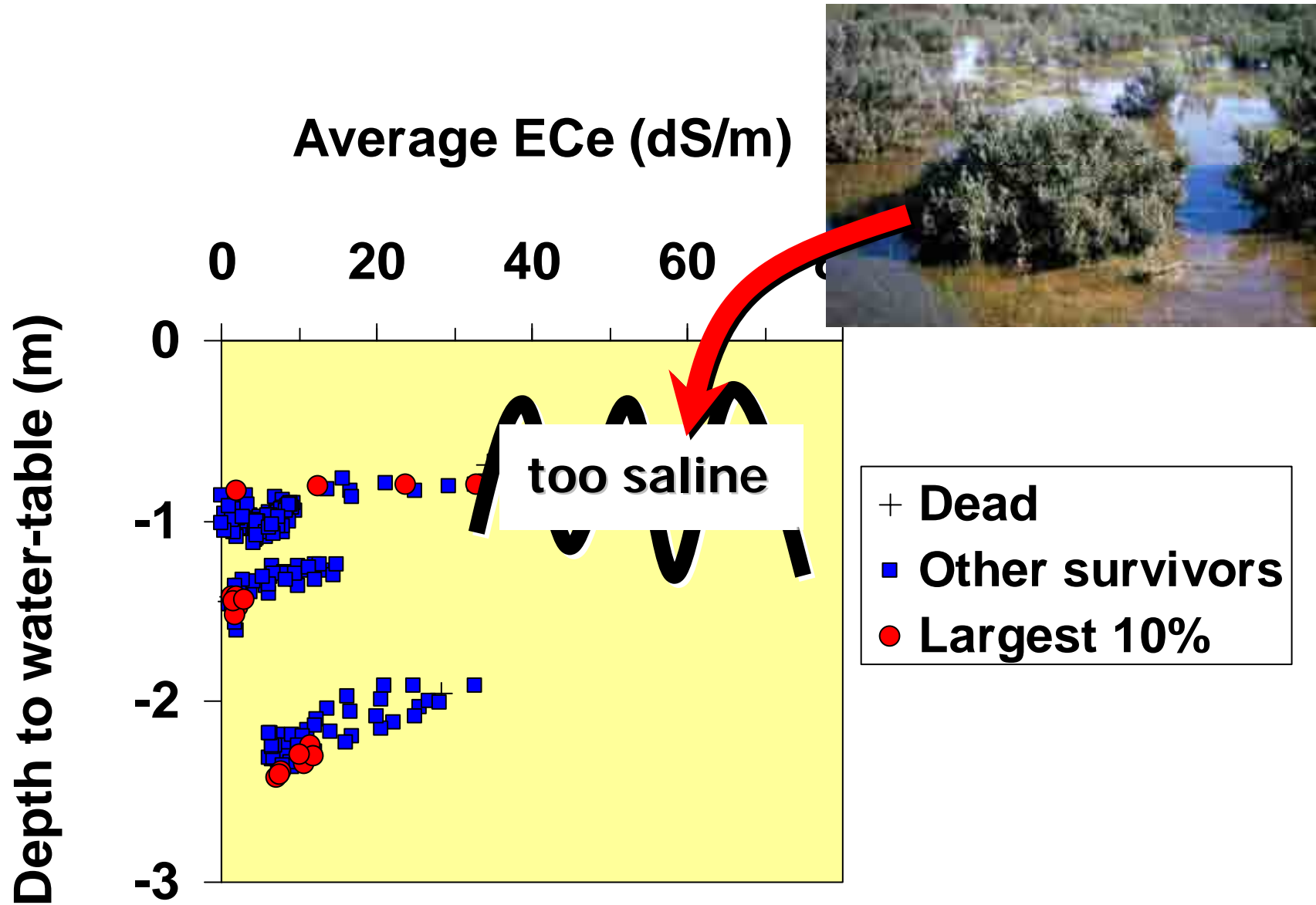
Plant survival & growth affected by salinity and waterlogging...



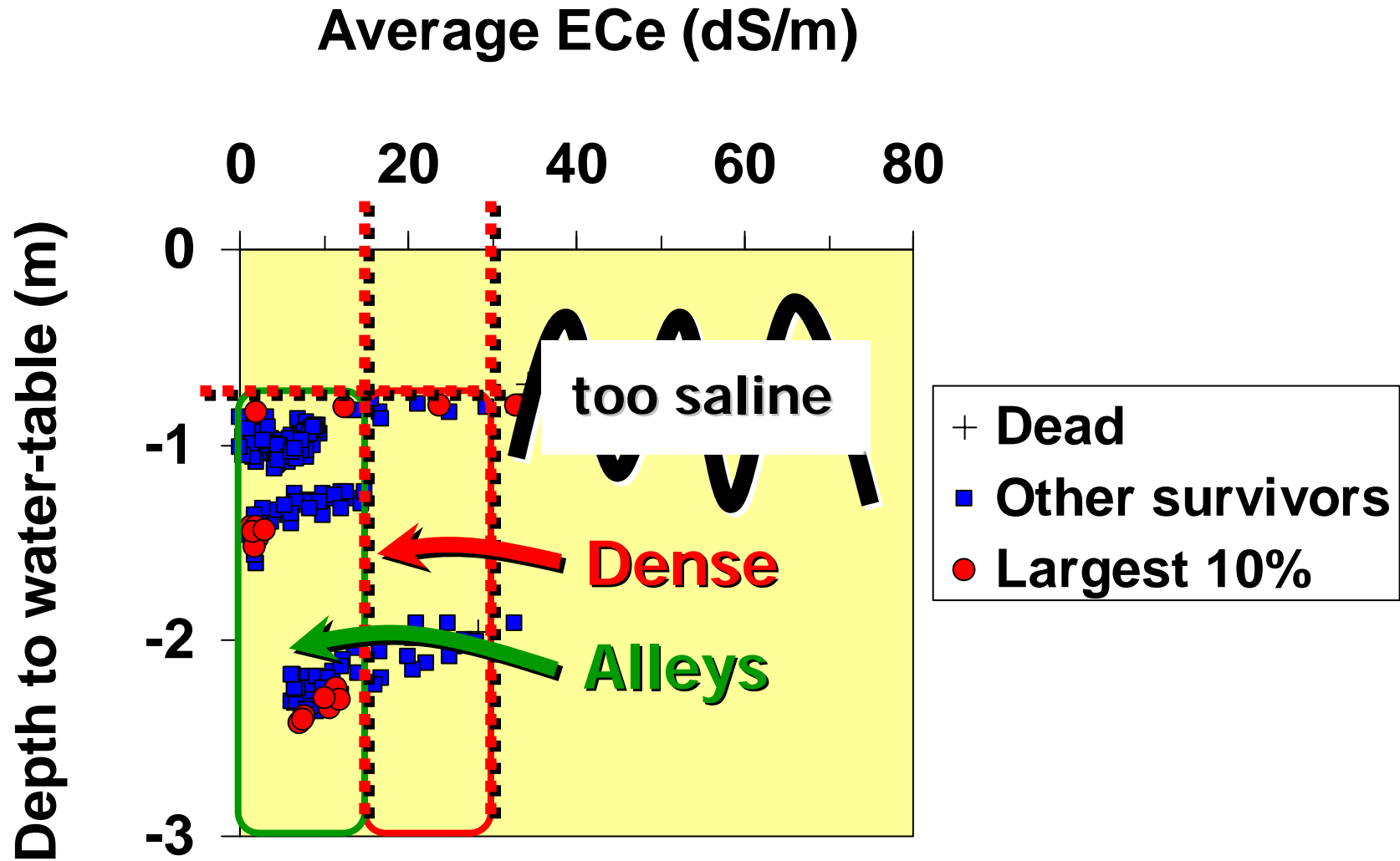
Matrix of sorts...



For saltbush

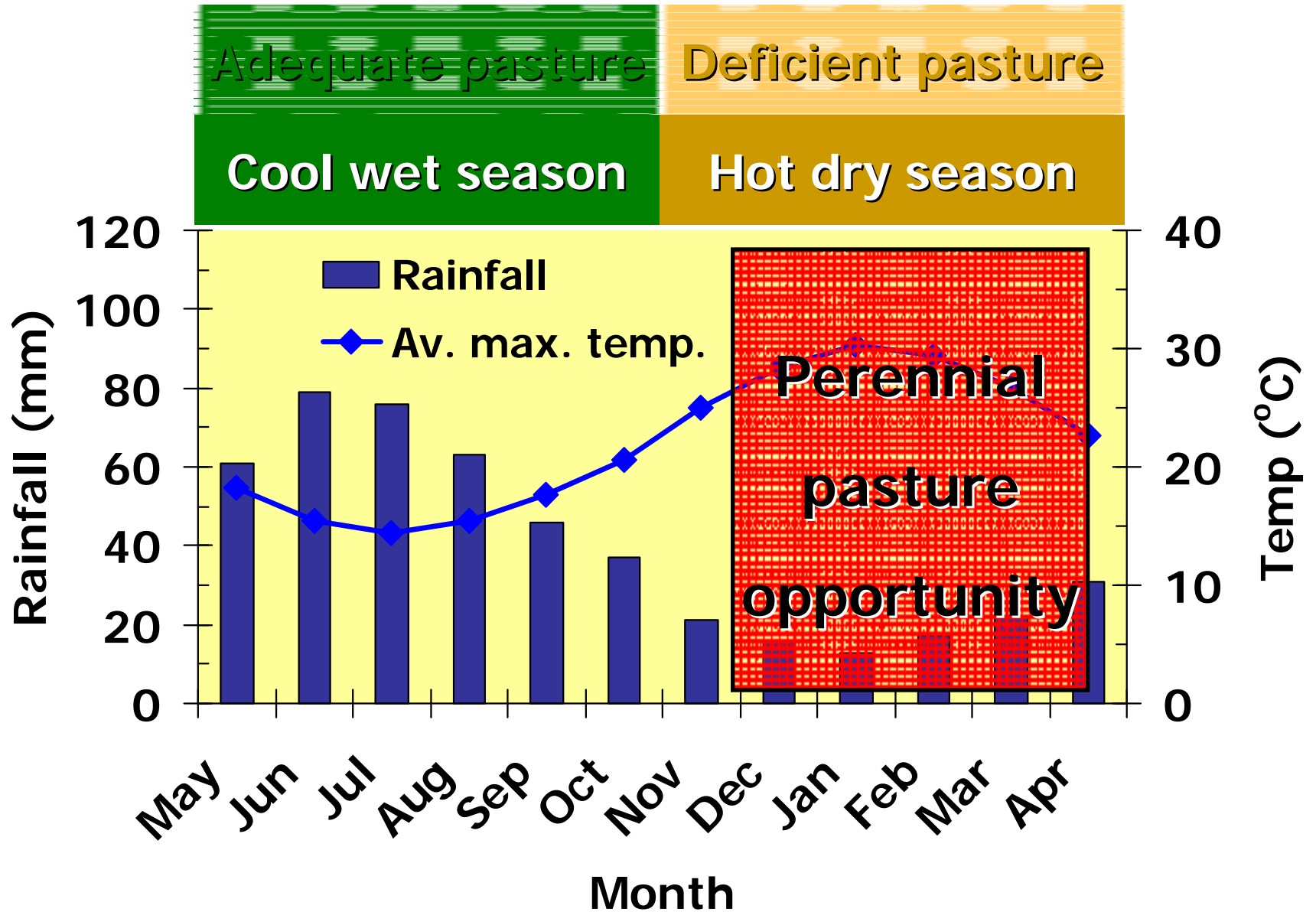


For saltbush



**What is the whole farm (system)
fit for the technologies**

Climate



Perennial pasture options



Saltbush's strengths



- **Land of low opportunity cost**



Saltbush's strengths



- Land of low opportunity cost
- **Profitable**

Saltbush's strengths



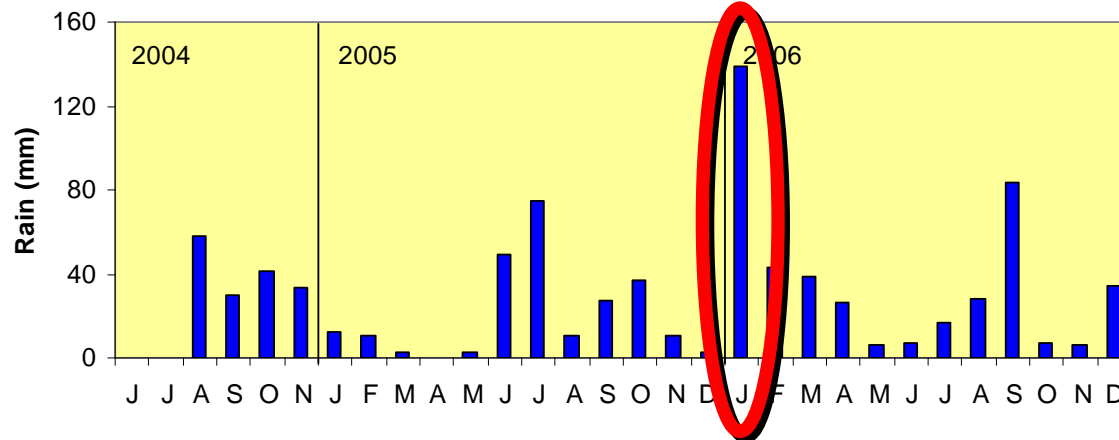
- Land of low opportunity cost
- Profitable
- **Better handling of tough years**

2001/02 drought – every saltbush paid for itself

Saltbush's strengths

Pingaring

Fell in 1 day



- Land of low opportunity cost
- Profitable
- **Better handling of tough years**

2006 – all summer feed destroyed

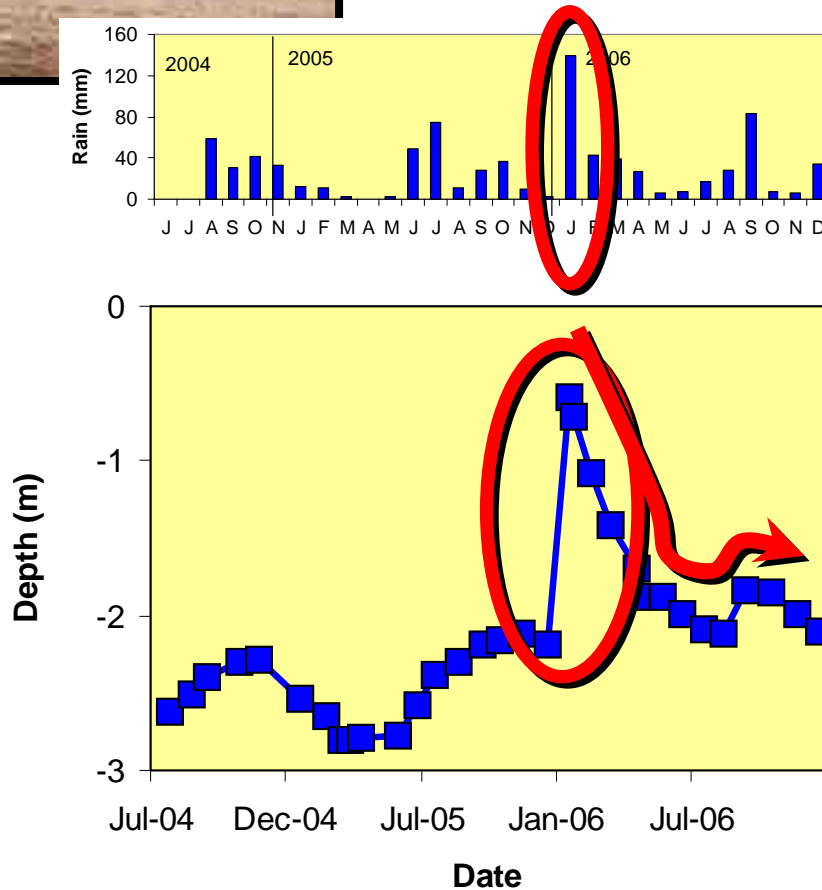
...every saltbush paid for itself... Again

Saltbush's strengths



- Land of low opportunity cost
- Profitable
- Better handling of tough years
- **Biological drainage**

Saltbush's strengths



- Land of low opportunity cost
- Profitable
- Better handling of tough years
- **Biological drainage**

Saltbush's strengths



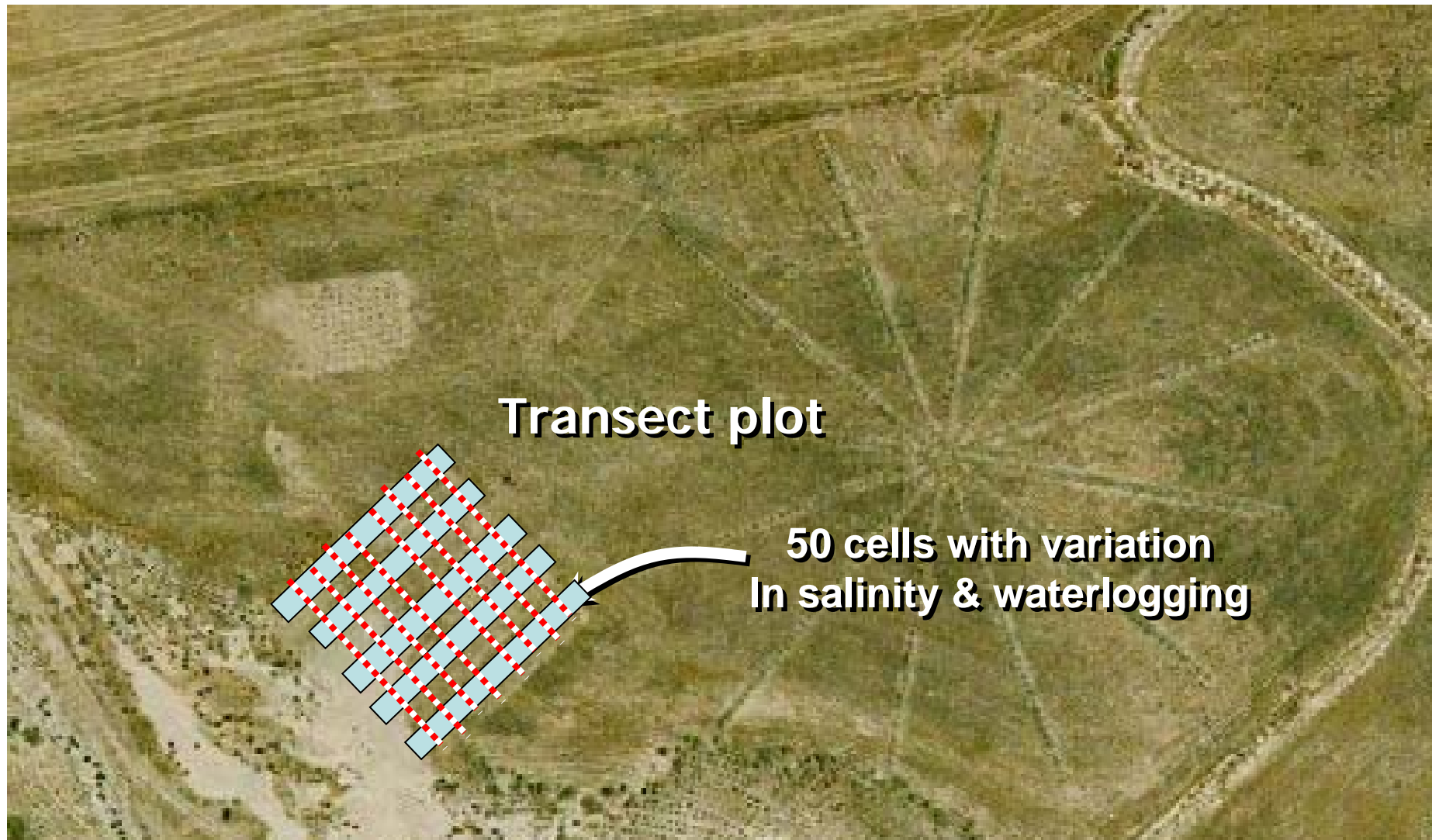
- Land of low opportunity cost
- Profitable
- Better handling of tough years
- Biological drainage
- **Special benefits for sheep**



Last summer
900 sheep,
15 ha saltbush,
10 days
(Adrian Richardson)

Advantages over alternatives

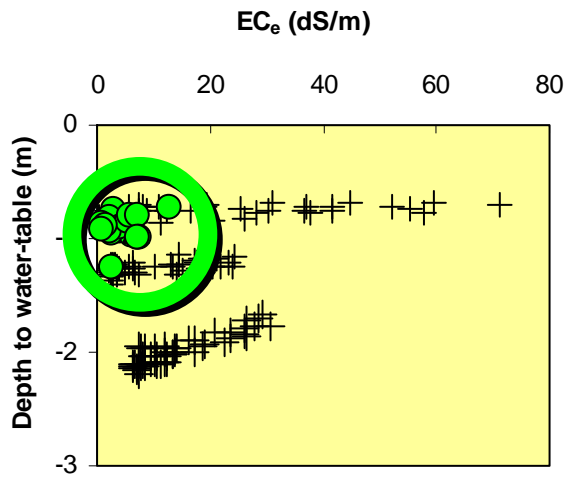
Transect experiments



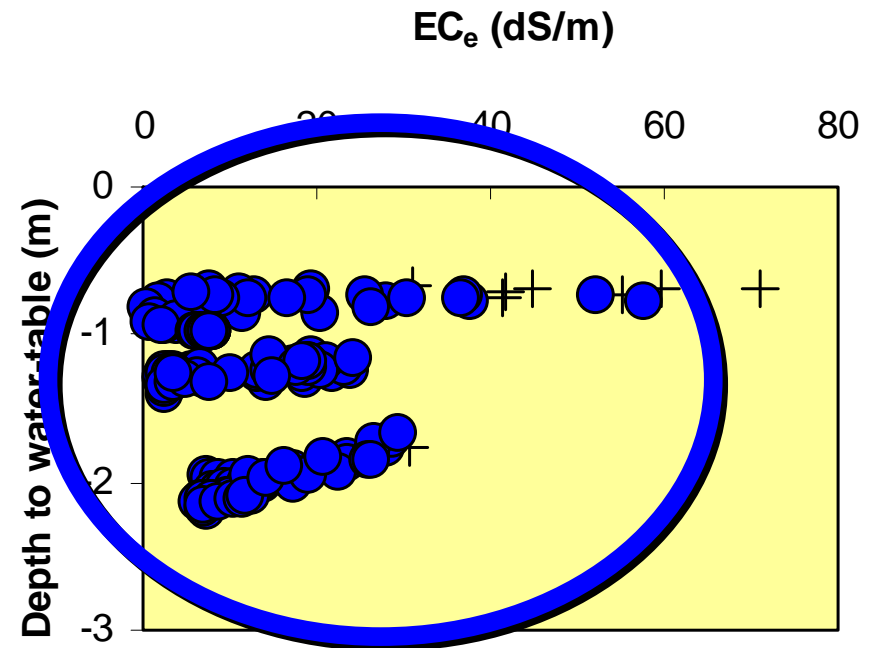
Resilience to salt & waterlogging



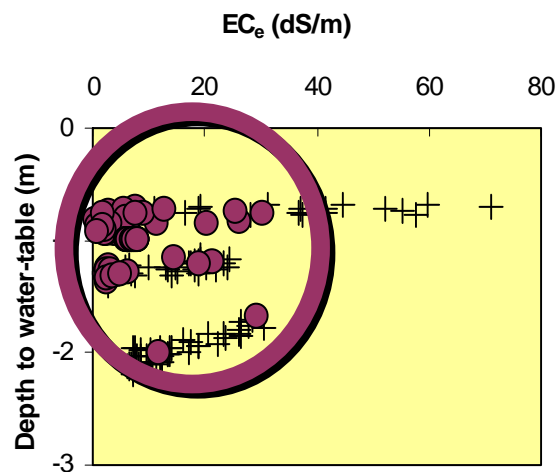
Lucerne



River saltbush



Rhodes grass



Caning the plants



Greg Tippett

**Uses saltbush
as feedlot**



Caning the plants



8 month old plant



Intensively grazed



Recovery - 3 months later



FUTURE FARM
INDUSTRIES CRC

Finally – two other slides on:

**'Farming Saline
Landscapes' program**

National Saltland Service

- Exchange for information about saltland solutions
- Different approaches for different learning styles
 - Web delivery ↔ field day delivery
 - Expert to farmer ↔ farmer to farmer
 - Training courses
- State of the art
 - Available everywhere
 - Participatory, attractive
 - Authoritative, quirky
- Who?
 - CRC catalyst
 - Open house for new participants



Ethos = NSS is an information 'wholesaler'

NSS must be a
partnership with
information 'retailers'

Everyone's logo
here...

Few partners
for piloting stuff

Workshop & steering
committee - early 2008

Rules of engagement

Identification of partners

Quick quirky stuff

National saltland
pastures competition

"Saltland genie" website

Teaching sites

Old and new plants

Training courses