Farm Innovation For Profitable Sugarcane Production

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5th Nov 2014

DAVCO FARMING

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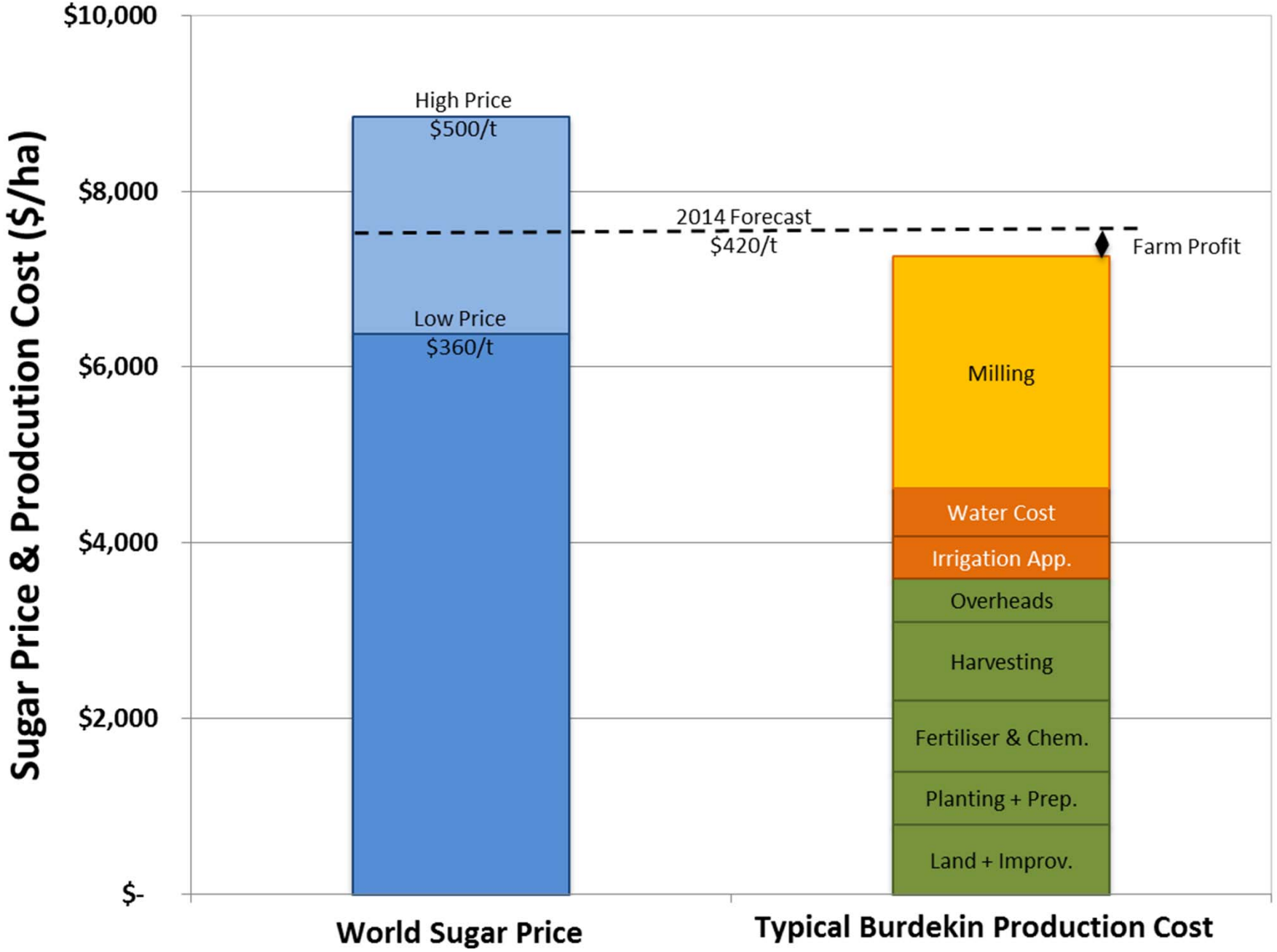
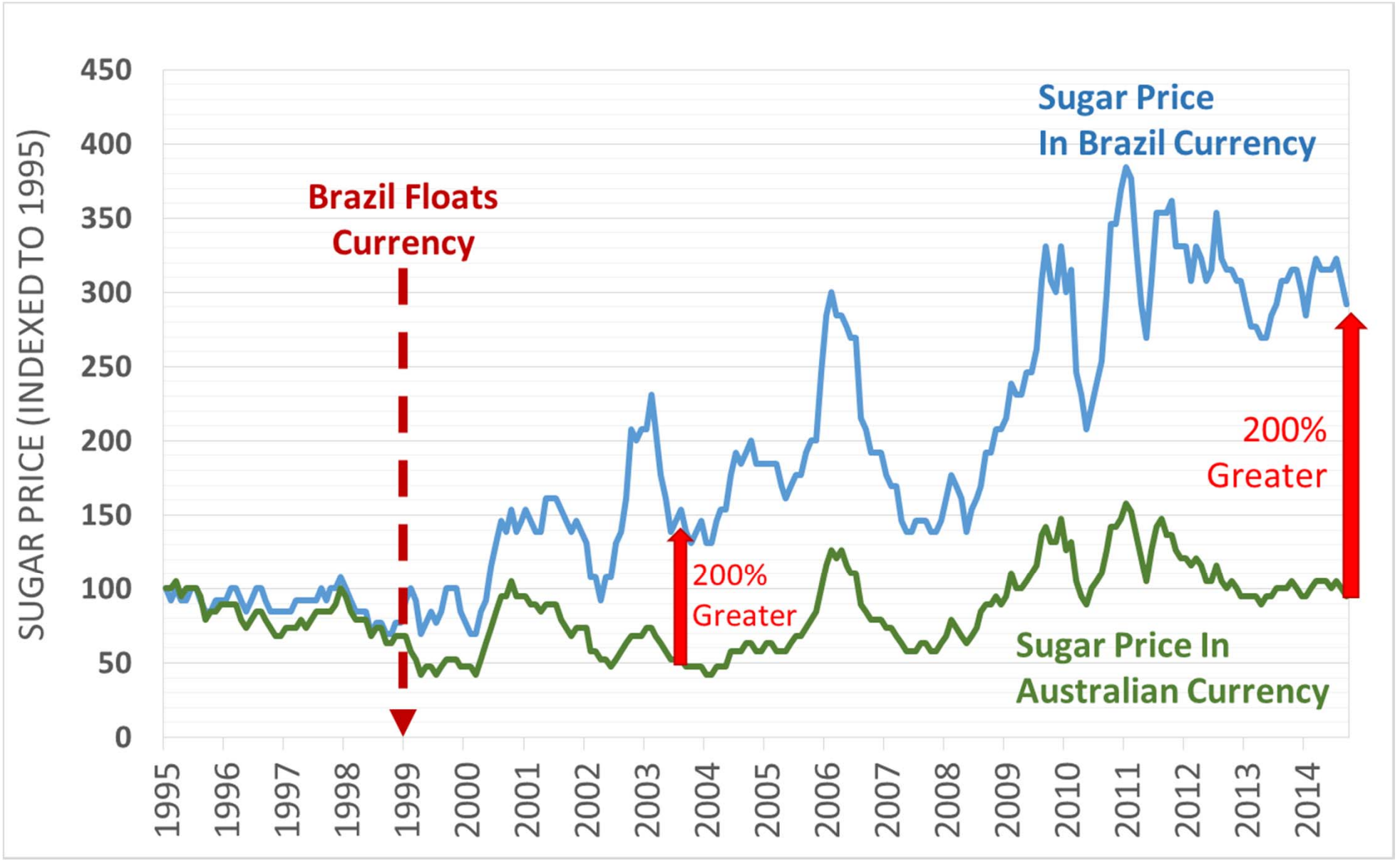
- **Sugarcane Enterprise in Burdekin River Irrigation Area**
- **Annual rainfall 900mm (80% Dec-March)**
- **2800 hectare cultivated - fully irrigated by furrow**
- **Irrigation of 750 to 1000 mm/year**

IRRIGATED SUGARCANE ECONOMICS



* All Costs Annualised Including Capital Costs

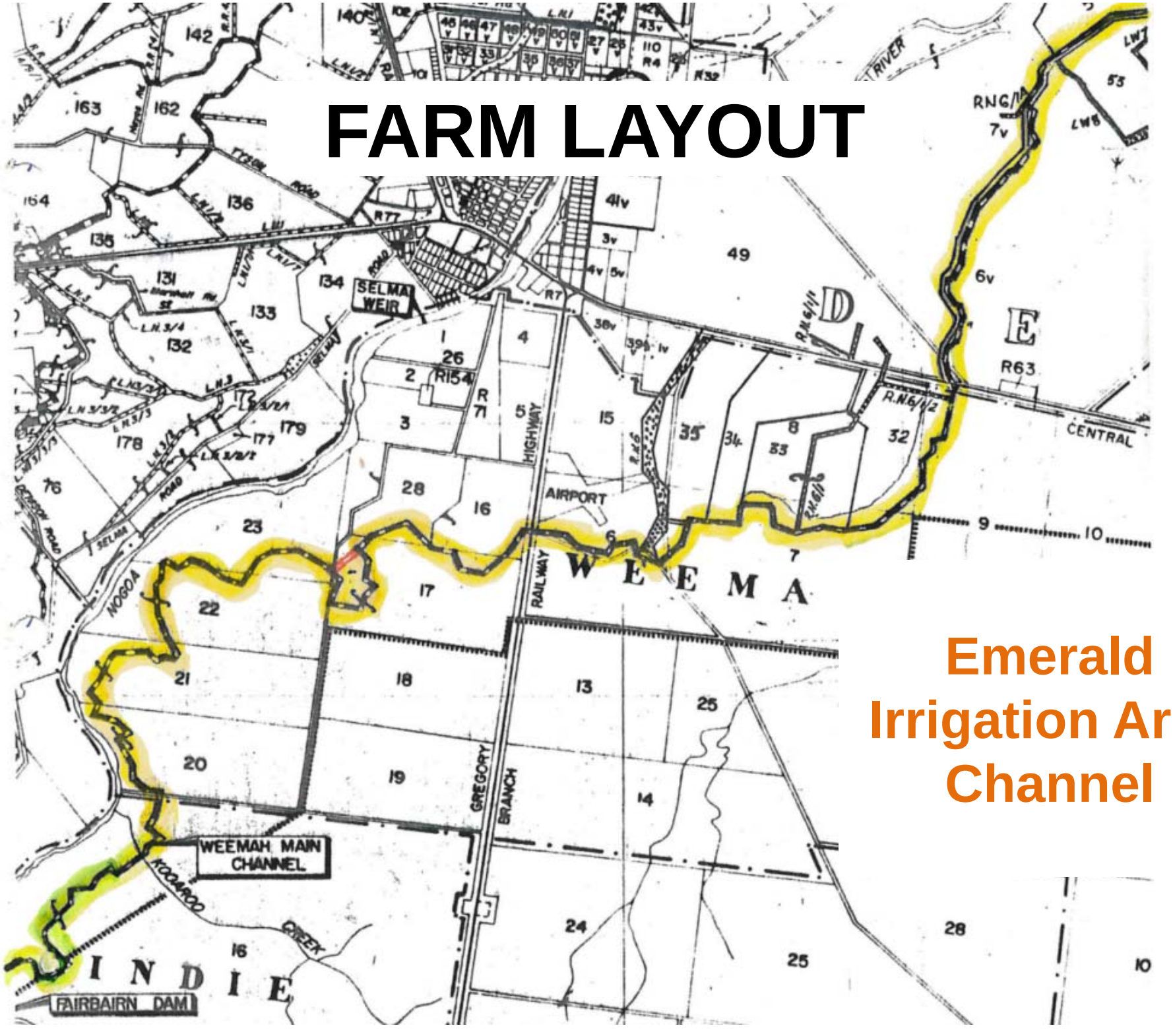
BRAZIL CURRENCY IMPACT



FARM LAYOUT

You only get once chance to design a field layout that will either lock-in OR lock-out the ability to maximise machinery & labour productivity

FARM LAYOUT



Emerald Irrigation Area Channel

FARM LAYOUT

FARM LAYOUT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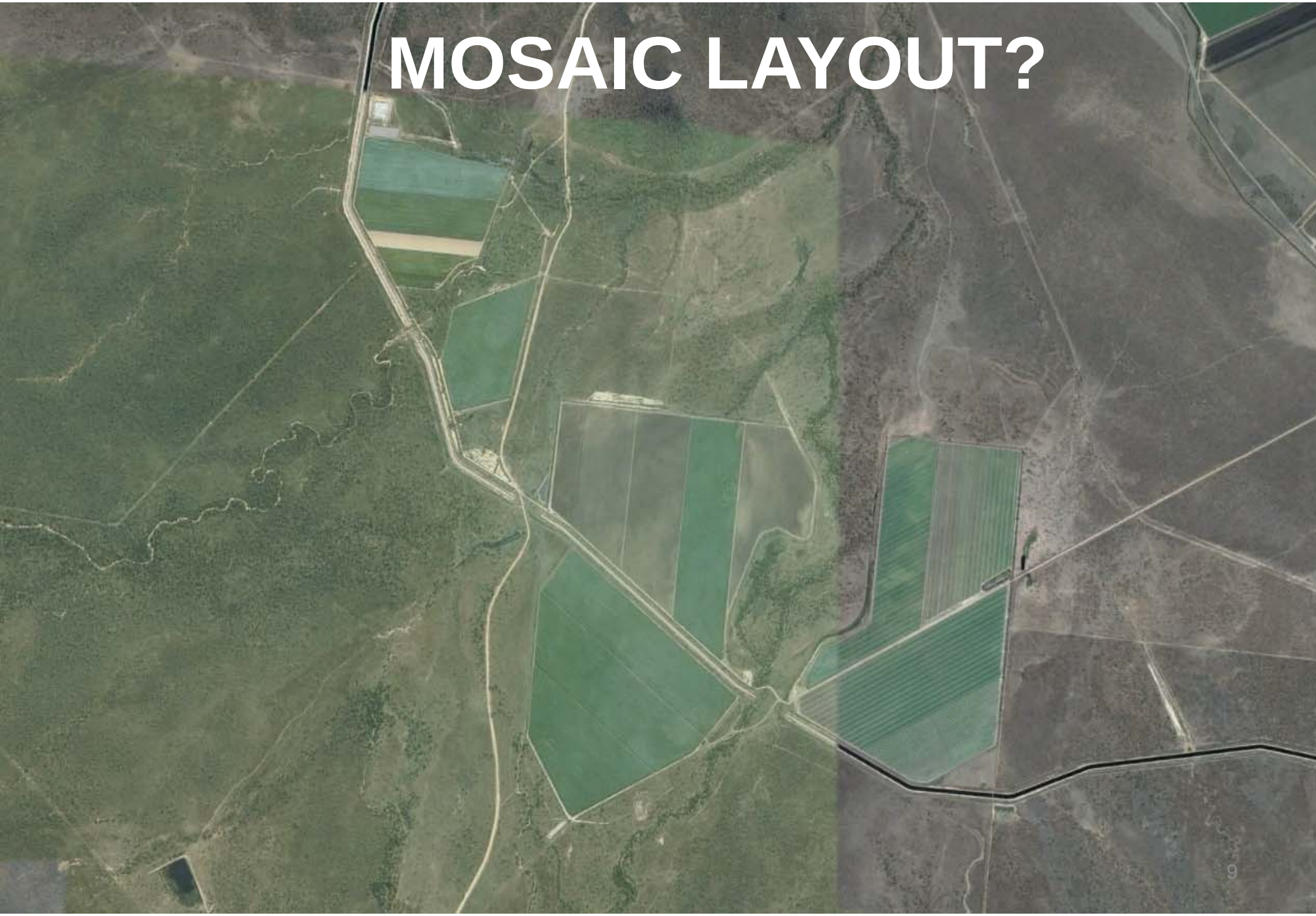
MOSAIC LAYOUT?

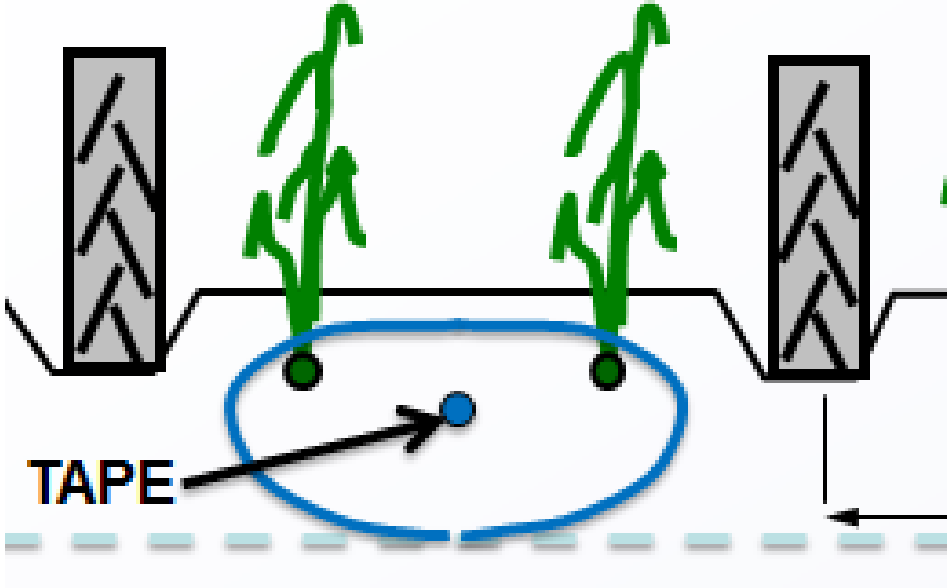


MOSAIC LAYOUT PROBLEMS

- **Dramatic Increase In Pests** on a very large perimeter Eg Wild pigs, Kangaroos, Parrots
- **Larger Capital Costs –** eg longer roads, railway & electricity transmission lines Significant for low value/tonne crop
- **Larger Operating Costs –** Equipment service labour travel times & Service vehicle travel costs

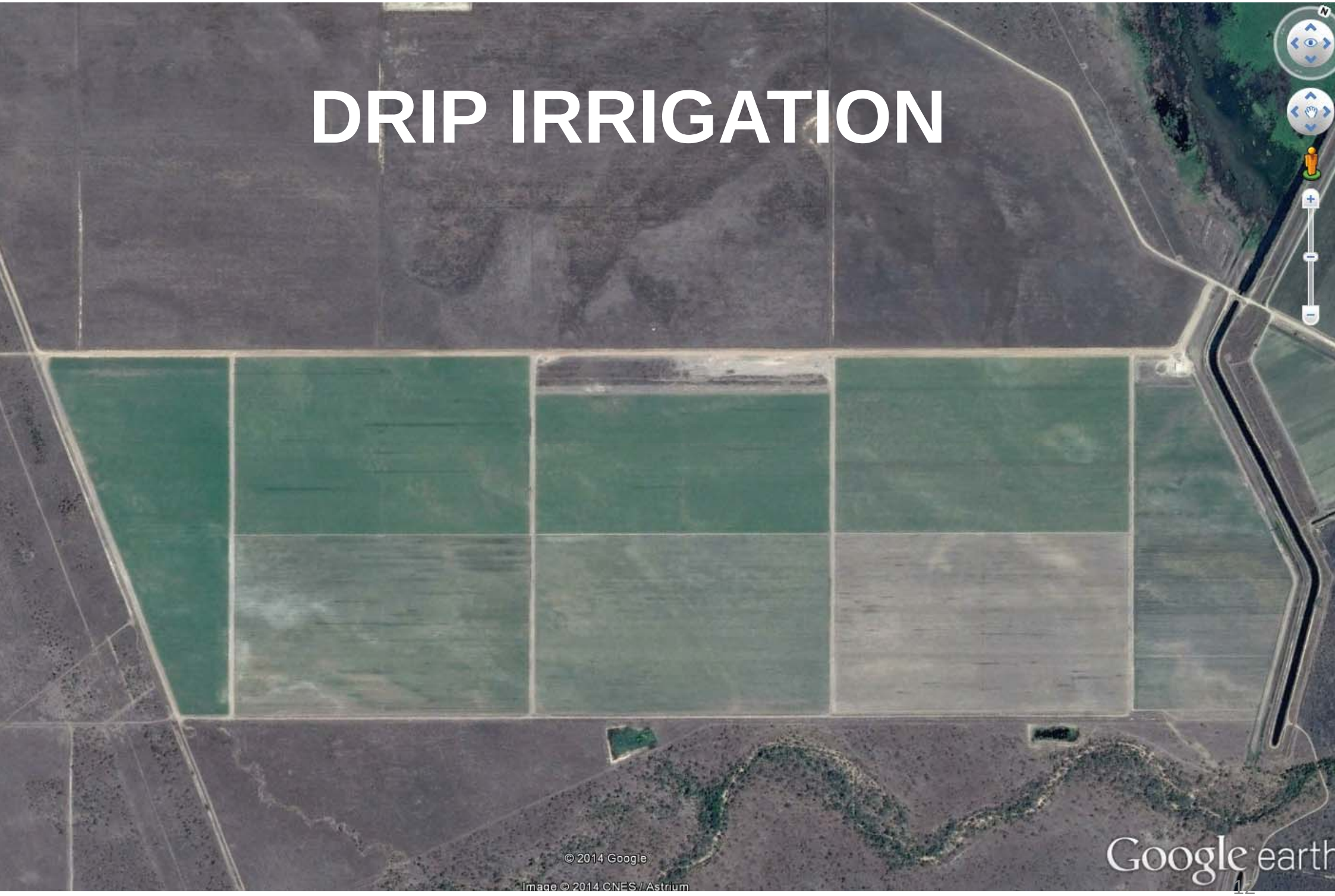
IRRIGATION

FURROW



SUBSURFACE DRIP

DRIP IRRIGATION



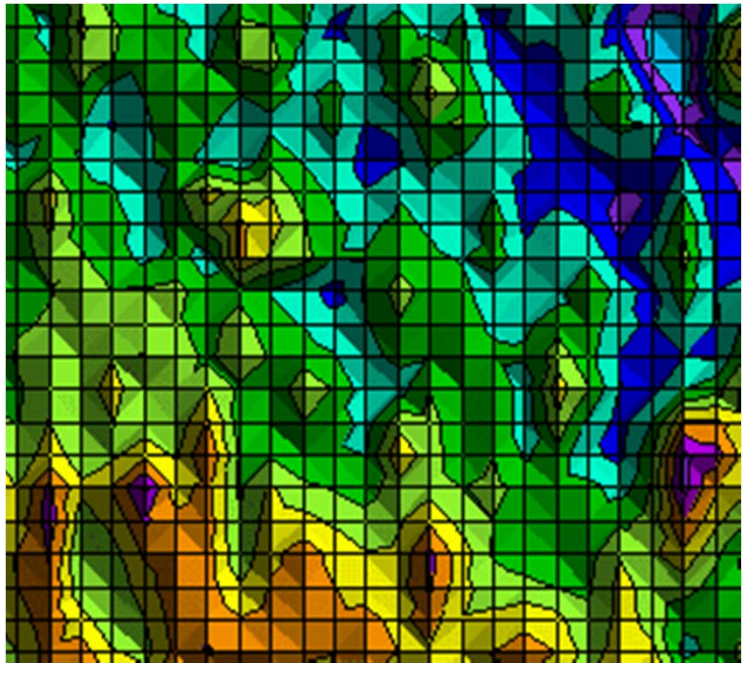
DRIP IRRIGATION

- Disadvantage
  - Capital Cost: $6600/ha vs $1200/ha for furrow
  - Pumping/Energy Cost: 300% higher than furrow
- Advantages
  - Lower labour
  - Lower fertilizer use
  - Some water savings
  - Some yield Increase
- Conclusion: ?????

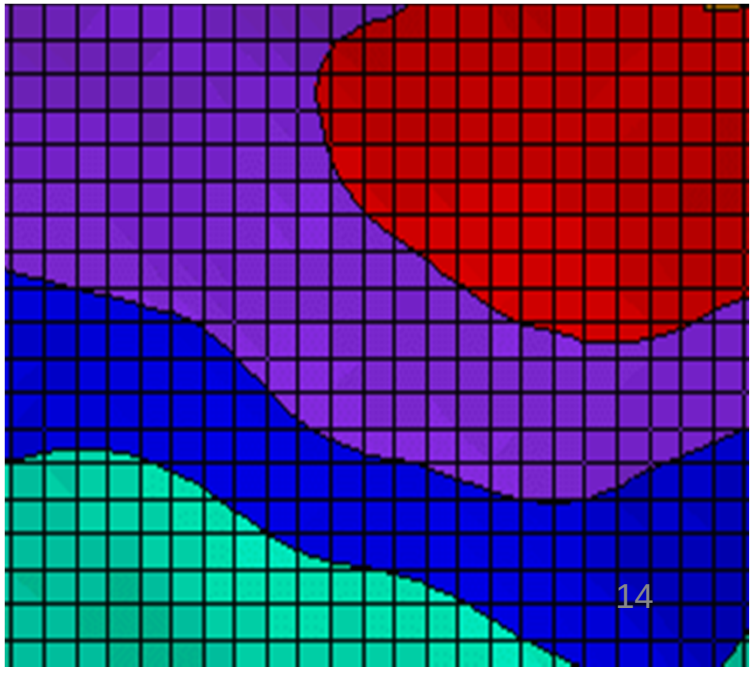
OPTIMUM SURFACE LANDFORMING

- Design software to calculate optimized 3D field topography
- Replaces Laser with GPS machine control
- Advantages over traditional laser grading:
  - Much Lower Earthworks (Aim: 70% Lower)
  - Much Lower Topsoil Movement
- See **OptiSurface.com** for more details

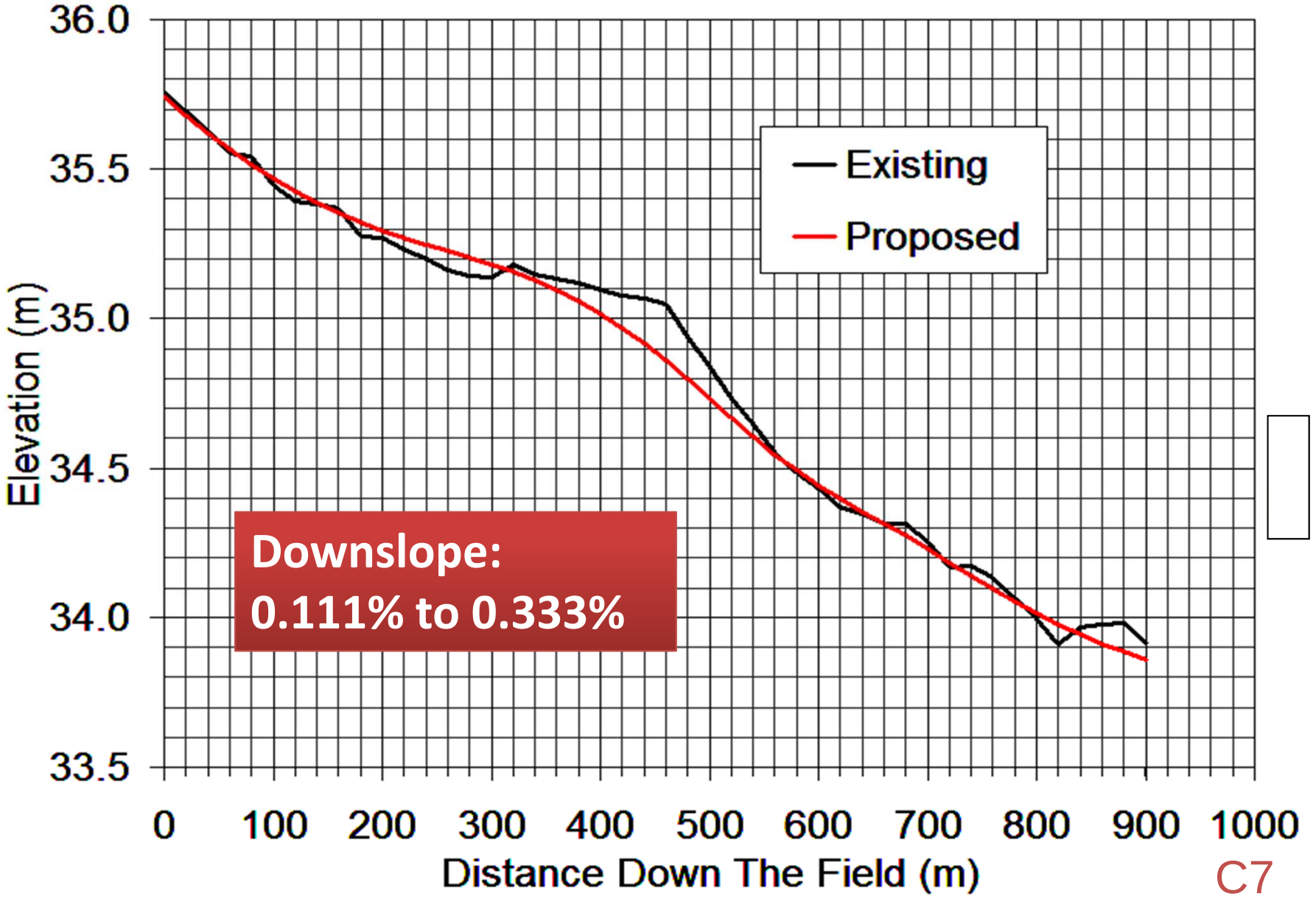
From This Land Surface



To This OptiSurface



OPTIMUM SURFACE LANDFORMING



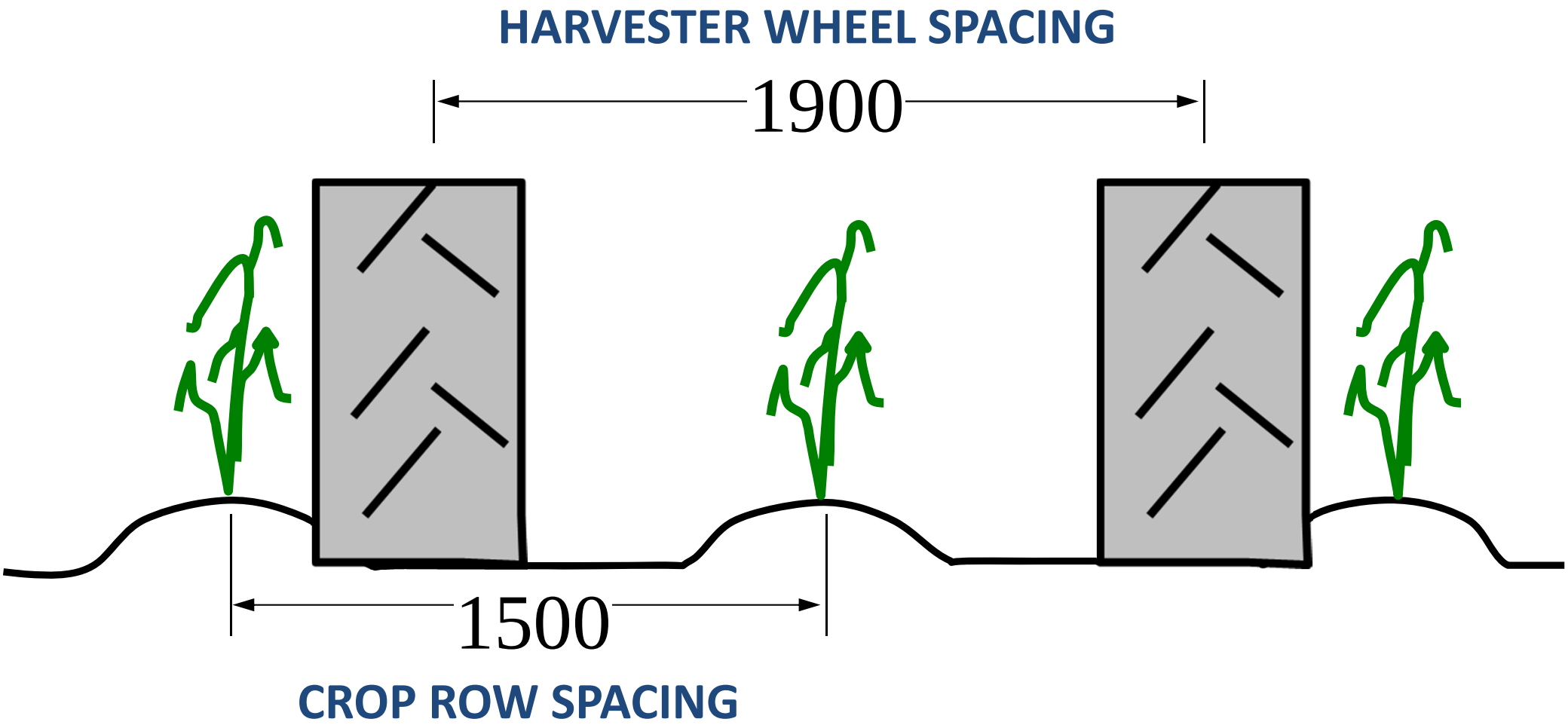
CONTROLLED TRAFFIC FARMING

DIFFICULT TO ACHIEVE IN SUGARCANE

World Standard Caneharvester

Source: http://www.abc.net.au

TRADITIONAL FARMING SYSTEM



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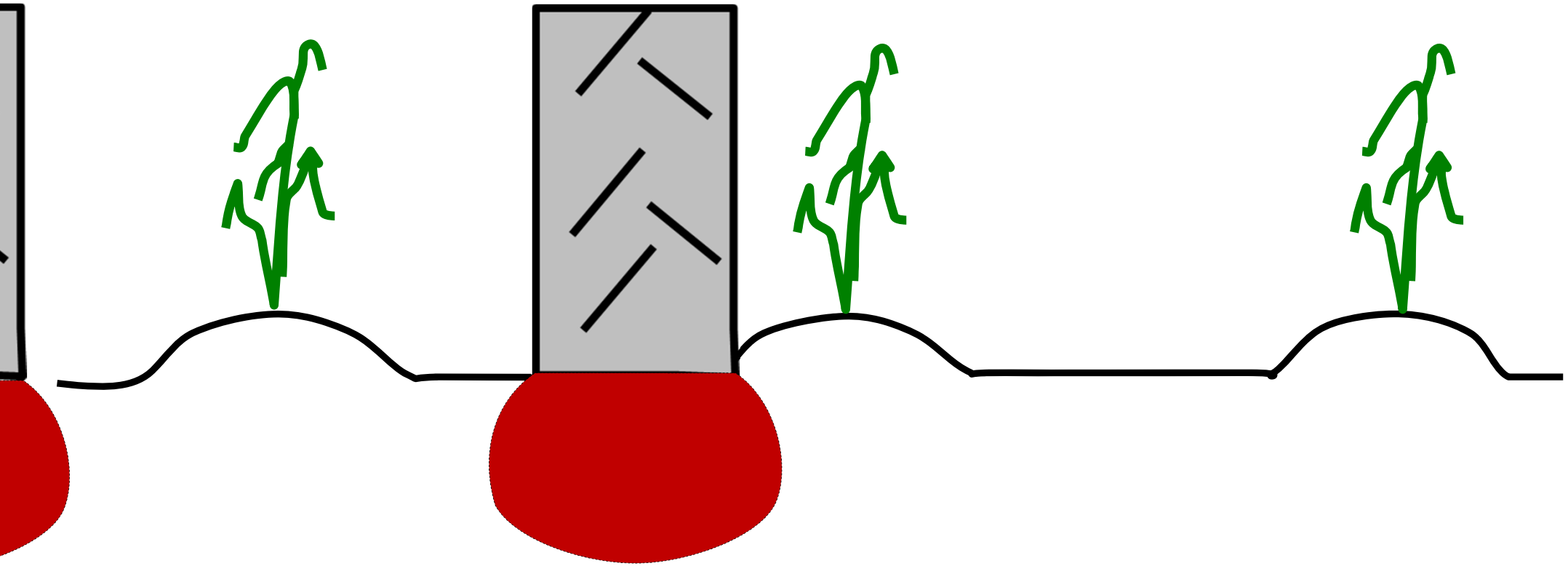

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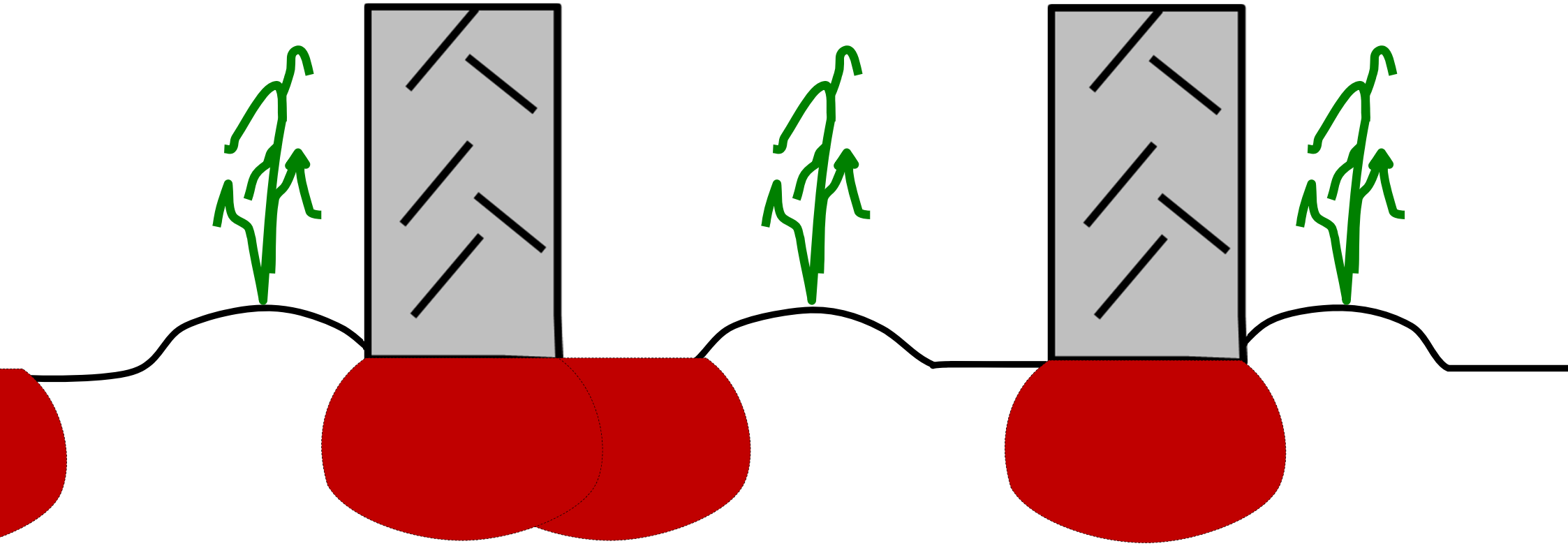

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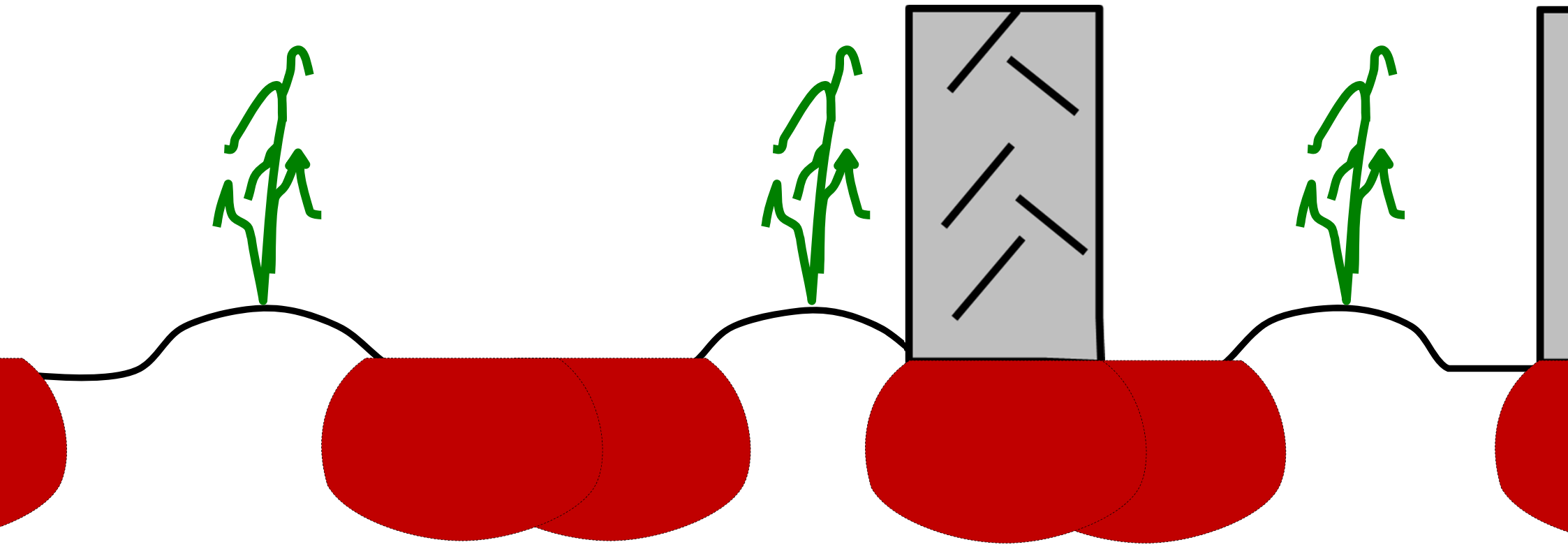
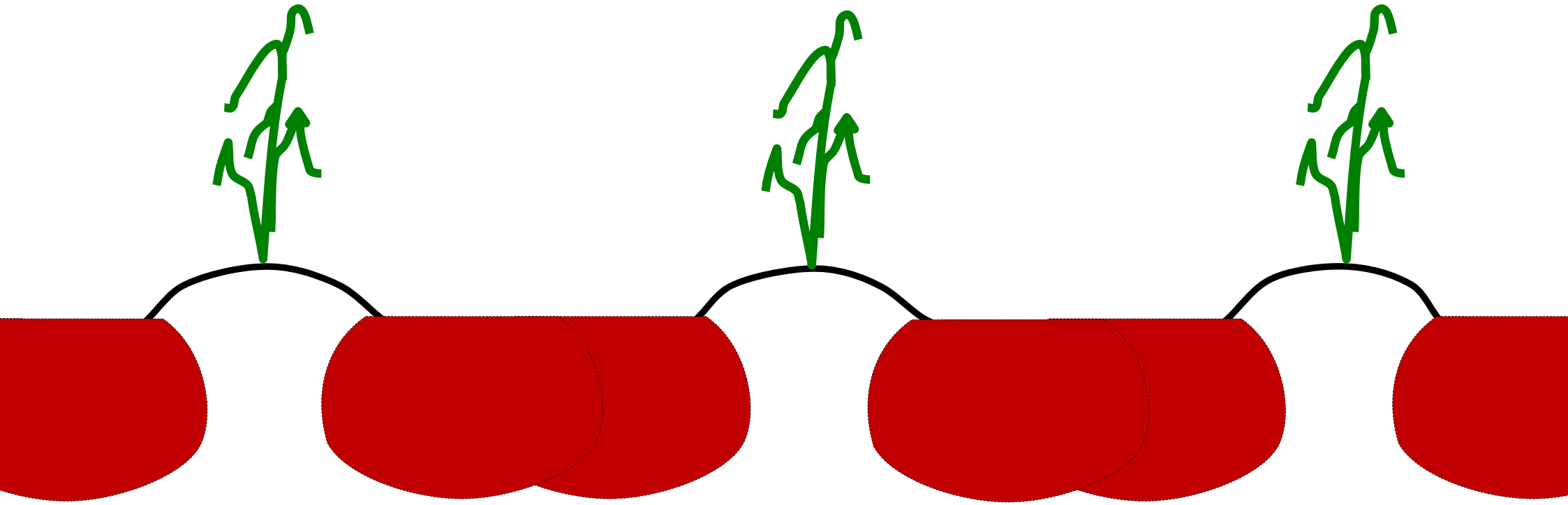
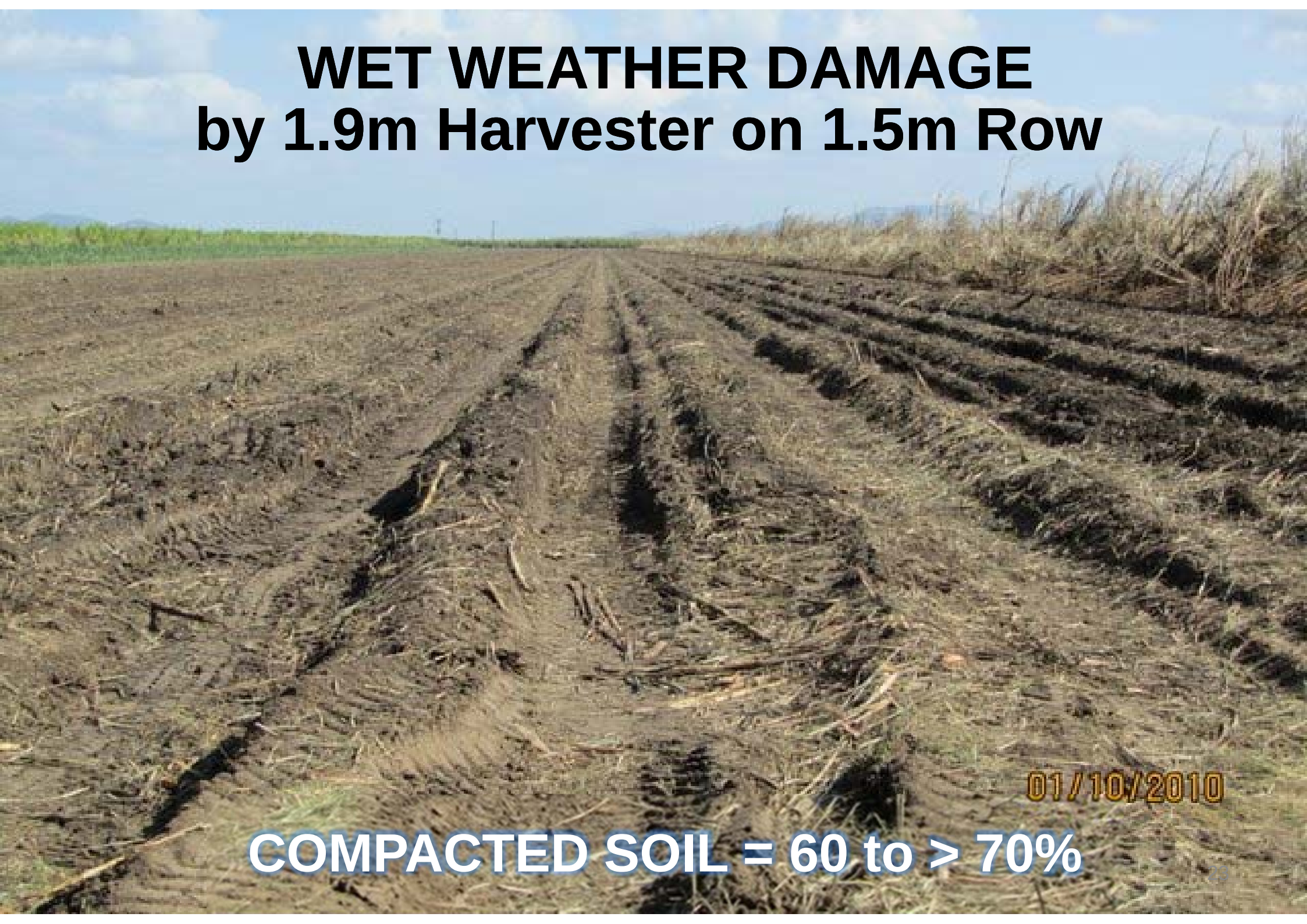


TRADITIONAL FARMING SYSTEM

COMPACTED AREA > 70%

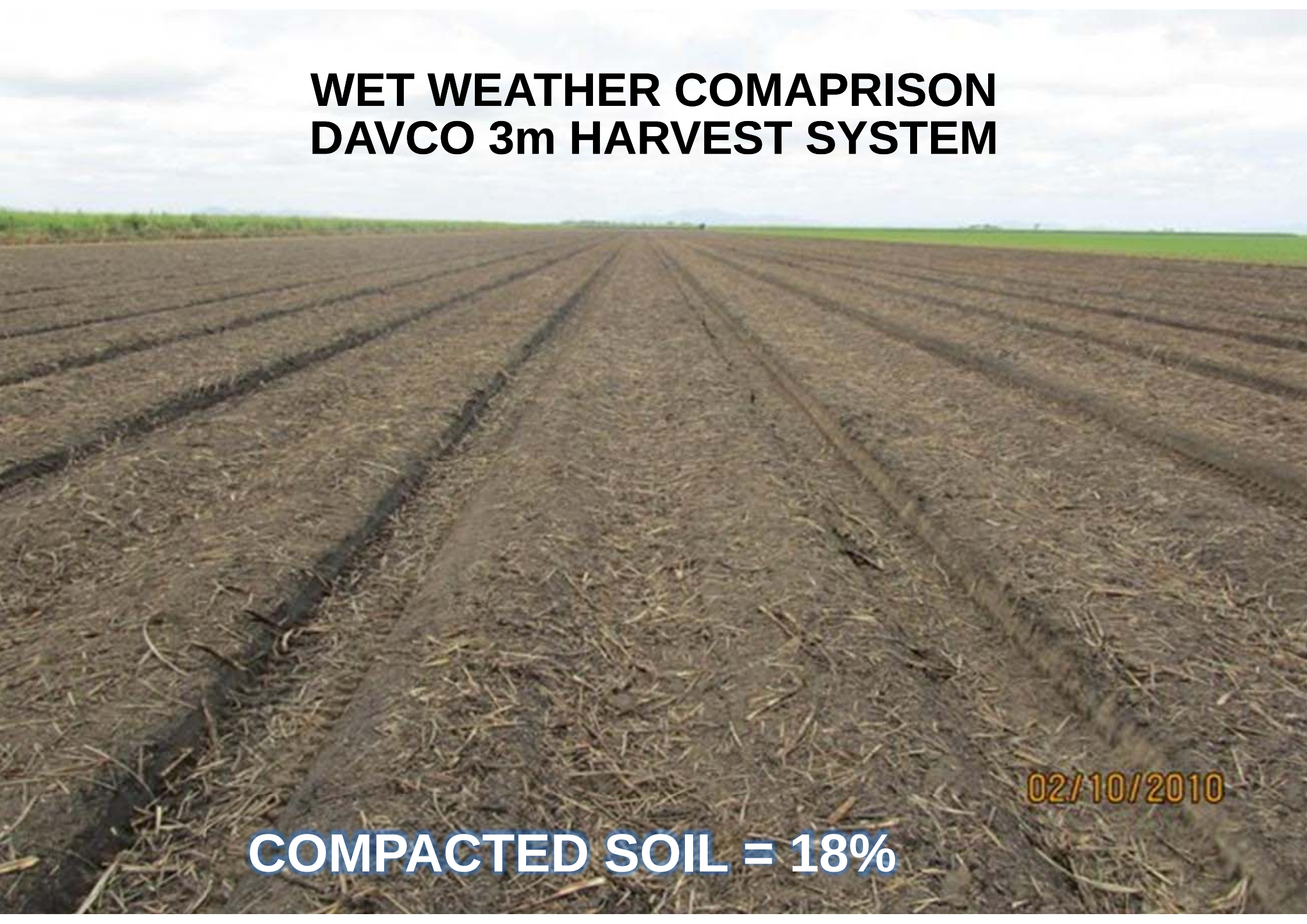


WET WEATHER DAMAGE
by 1.9m Harvester on 1.5m Row



DAVCO CT HARVEST SYSTEM

WET WEATHER COMAPRISON
DAVCO 3m HARVEST SYSTEM



THE DIFFERENCE IN COMPACTION

Without Controlled Traffic

With DAVCO 3m CTF

THE DIFFERENCE IN YIELD

Without Controlled Traffic

With DAVCO 3m CTF

ZONAL TILLAGE

6 ROW PLANTER

ALL THIS INNOVATION RELIES ON ACCESS TO TECHNOLOGY

Critical Mass Of Farmed Area Is Required

- Harvester Service & Support
- Tractor Service & Support
- GPS Technical Support

  Tractor Guidance, Implement Steer, Variable Rate Applications, Yield Mapping, Landforming, Weed Seeker Herbicide Applications

2012 Precision Farmer of the Year

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