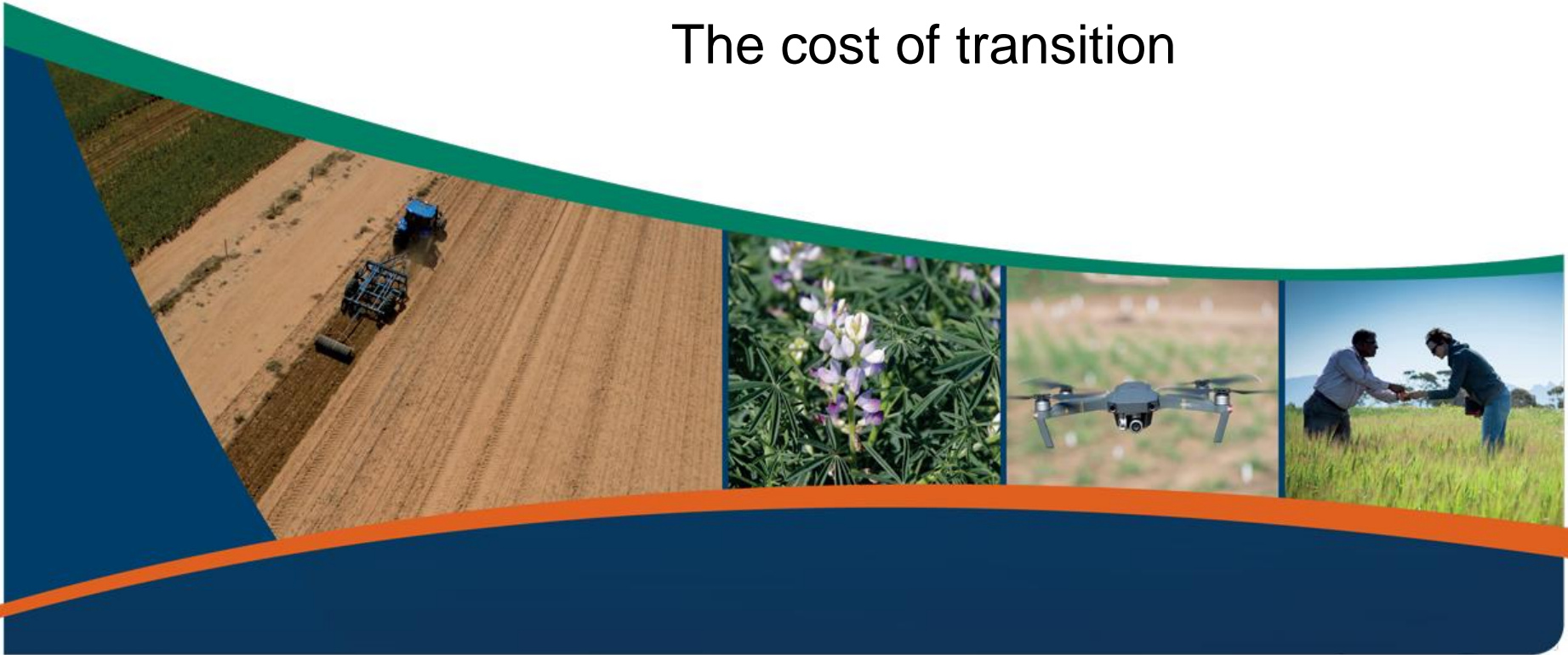




Department of
Primary Industries and
Regional Development

A Biological Regenerative Hybrid agriculture system

and
The cost of transition



Regenerative Hybrid Agriculture

Current state of play

- Regenerative Ag is multi faceted
- Biological hybrid system
- Currently not a lot of published work on the economics of transition in WA
- Unknown cost of transition is a potential barrier
- Much to learn but is opportunity knocking?



South east chapman

Regenerative Hybrid Agriculture

What do we mean by Regen Hybrid Ag?

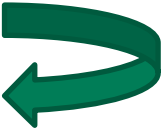
Components to Regen Ag: +

- No till
- Focus on healthy soils +
- No synthetic fertilizers
- Minimal herbicide/pesticide +
- Maintain vegetative cover all year round – preferably living
- Diverse species of cover
- Holistic grazing – crash grazing
- Water infiltration and retention

Regenerative Hybrid Agriculture

It was originally thought that to transition the soil from current status to being 'alive' + would take at least a decade – not the case +

Key components in more detail:

- **No till** – use of a single or twin Disc No Till Drill with press wheels +
- **Soil health** - introduction of bacteria, micro organisms that are discouraged by synthetics
 - PH levels @ depth
 - Soil temperature
 - Soil moisture
- **Herbicides/Pesticides** – only to be used in vegetative multi species cover (12+) manipulation
- **Vegetative cover all year round** – summer crop would be nice but 
- **Diverse/multi species cover** - +
- **Holistic crash grazing** - rotational grazing at around 10 + times the 'normal' stocking rate +
- **Water retention/infiltration** – The more microbial activity and vegetative matter in the soil, the better the water infiltration and retention of that soil +

Regenerative Hybrid Agriculture

Farm Strategy Comparison

System	N	P	K	WEOC ppm	OM %	INFIL
Farm 1	0.90	70.90	43.18	233	1.7	12.50
Farm 2	12.27	110.90	61.81	239	1.7	17.50
Farm 3	16.81	98.63	90.45	262	1.5	11.25
Farm 4	127.72	457.27	795.00	1095	6.9	300+

Regenerative Hybrid Agriculture

Key financial assumptions and indicators

Assumptions:

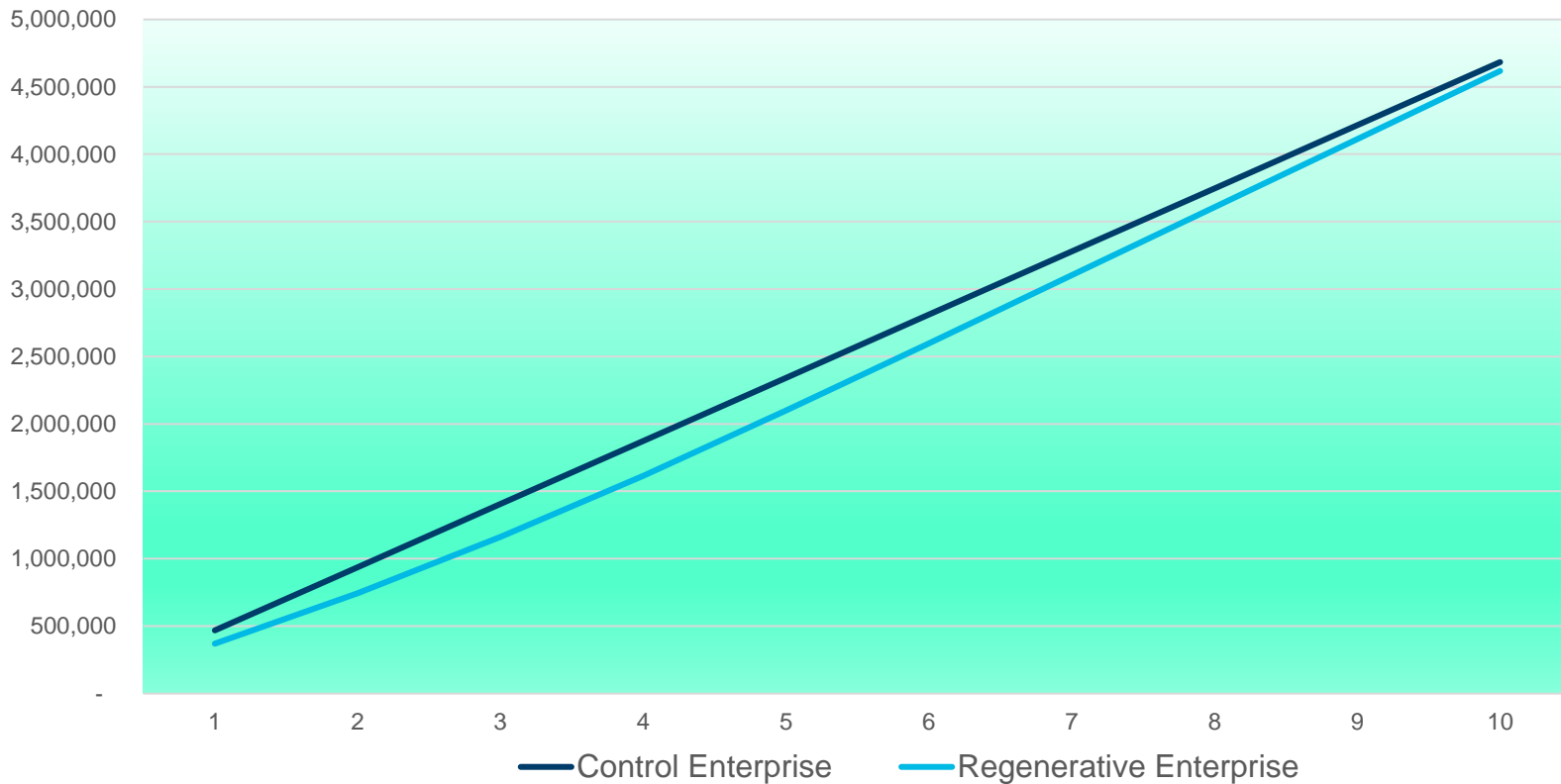
- Years 1 and 2 no income from 400 ha of total 4,000 ha
- All cost excluding fertiliser, 20% of chemical included and increased seed cost for pasture establishment
- Year 7 full response

Strategy / Year	1	2	3	4	5	6	7	YIYO	Cost
Control Op Surplus	468	468	468	468	468	468	468	117+	252
Cumulative Op Surplus	468	937	1400	1900	2300	2800	3300		
Regen Ag Op Surplus	370	374	419	453	484	499	505	209+	160
Cumulative Op Surplus	370	743	1200	1600	2100	2600	3100		
+			25/75	50/100	75/100	95/100	100/100		

Regenerative Hybrid Agriculture

Cumulative Operating Surplus over time

Cumulative Operating Surplus Comparison



Regenerative Hybrid Agriculture

Considerations

- ❑ Not a silver bullet
- ❑ Does lower initial OP surplus
- ❑ Can lower the COP
- ❑ Can increase your margin
- ❑ Can make your business more robust
- ❑ Does improve water infiltration and retention
- ❑ Does make better use of limited water resource
- ❑ Can increase stocking rate

Multi Species Cover



Carbon sequestration is the 'icing on the cake'

DPIRD would be pleased to speak with any producers currently adopting or considering adopting regenerative practices as a case study

Regenerative Hybrid Agriculture

Acknowledgements:

- **DPIRD** – Staff
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- **The Soil Will Save Us** - Kristin Ohlson
- **Kiss the Ground** – Josh Tickell
- **The Grazing Revolution** – Allan Savoury
- **For the Love of Soil** – Nicole Masters

Thank you

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Important disclaimer

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