







Lean Farming

Intensification?

- Economies of Scale
- Labour Efficiencies

- Capital Intensive
- Resource Hungry
- Increasingly Complex
- Difficult to manage well
- Wasteful

- Now in a prolonged cost:price squeeze

Lean Farming

Extensification – NZ style?

- Low Input/Output
- Large Numbers

- Ruthless Efficiency!

Lean Farming

Lean Production

Post War Toyota / Lean Economics

- Minimising Waste thru
 - Internalisation
 - Localisation
 - Simplification

Our preferred option. Sounds good, but....
Can we do it with some compassion?

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Farm - Current

Physical	
Dairy Cows - Ayr x SRB (x HFR)	90
Litres	7200
Concentrates	2T
Bred to Dairy Bull (AI)	50%
Bred to A.Angus Bull	50%
Finished or reared for replacements	ALL
Antibiotic usage – compared to 1998	-90%
Vaccines and anthelmintics since 1998	0
Labour	1

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Farm - Current

Herd Health	
BVD, IBR, Neospora	Negative
Lepto, Johnes, Parasitic Worms	Low
Milk Fevers, Acidosis, RDAs	<1%
SCCs	200 +/-50
Replacements	15%
Cows treated for Mastitis	10%
Calves treated for scour/pneumonia	<1%
Mortality rate (all cattle)	2%
Locomotion Scores (1,2,3,4)	92%, 6%, 3%, 1%

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Farm - Current

Financial (organic)

ppl	Milk Value	Gross Output	Variable Cost	Fixed Costs	Net Margin
Us	25.31	26.15	10.24	10.29	5.62
Average	25.56	26.29	10.67	14.83	0.79

This is pretty 'Lean' already.
So why change?

Lean Farming

Why Change?

PHYSICAL

- Old buildings unfit for purpose
- Environmental
- Unattractive working environment

CHALLENGES AHEAD

- Climate Change Commitments
- Resource Depletion
- EU Groundwater Directive
- Animal welfare considerations
- Social – fewer Brits willing to work on dairy farms

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The Plan

- Leave calves with mothers until calving again
- Use dual purpose crossbreds MontB x SRB x BFr
- Milk once a day
- Auto tandem parlour
- High welfare housing
- Pedometers for heat detection
- Micro Anaerobic Digester

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	Current	Proposed
Milk Sold/cow	6800	3500
Cow numbers	90	140
Lactations	5	8
Age at first calving	3	2
Cow live wt	575	615
Months to finish beef	30	22
Numbers of finished beef	54	99
Numbers of finished dairy	19	19
Finished cattle (dwt)	285	305
Carcass Grade (R/O+/O-) %	5/70/25	30/60/10
Concentrates /Cow (T/yr)	2	1
Concentrates /Calf (T/yr)	0.8	0.5
Livestock Units	230	280

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Outcomes

Financial	Current	Proposed	% Diff
Milk Sales (l)	612,000	490,000	-20
Cattle Sales (kg dwt)	20,800	36,000	+73
Concentrates Used (T)	250	208	-17
Milk Sales (£K) @32ppl	196	157	-20
Cattle Sales (£K) @350ppkg	68	121	+78
Concentrate Costs (£K) @ £315/T	79	66	-17
Margin over concentrates	185	212	+14

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Outcomes

A.D. (capex £200K, grants £80K, 25kWhe)

- Generate 160 MWh electricity + 175 MW hot water
- Enhance N. Fertiliser value of slurry by 20%
- Reduce BOD of slurry by 70%
- Reduce CO₂e/kg output by 20%
- Reduce energy consumption/kg by 15%

Animal Welfare

- Happier, healthier
- More productive, more profitable (?)

Social

- Highly desirable working conditions – 4-5hrs/day

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The downside....

- Cash flow – yrs 1-3
- A lot of unknowns – no one is doing it
- Lots of changes at the same time
- High risk

- But... surely worth a go?!