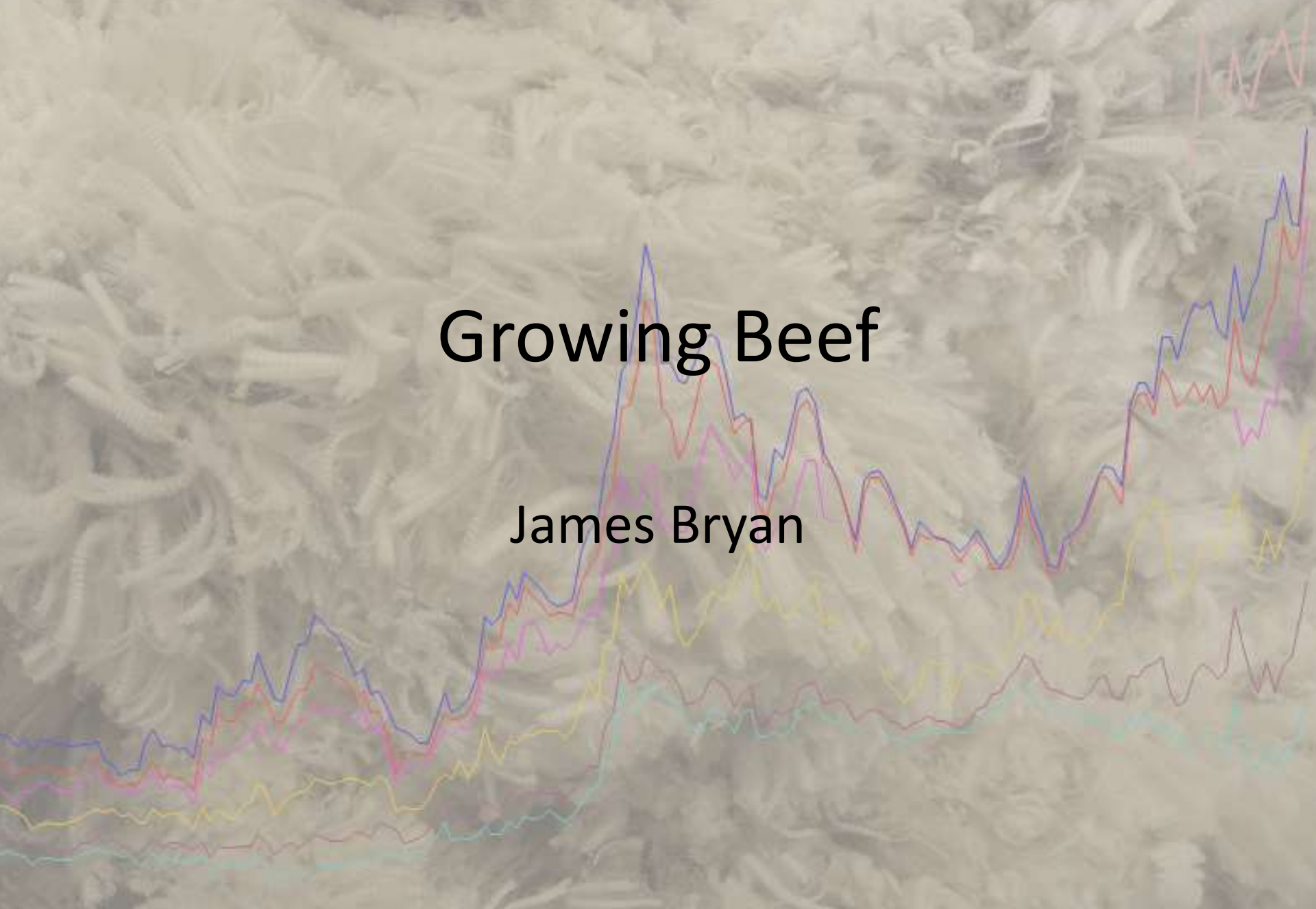


Growing Beef

James Bryan



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- This requires a LW of >410kg
 - Based on a 54% yield

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- Should you wish to finish by age 30 months (24 months post weaning)
 - Need to average 383g/day

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 - Cattle need 8% of their daily intake as Protein for maintenance
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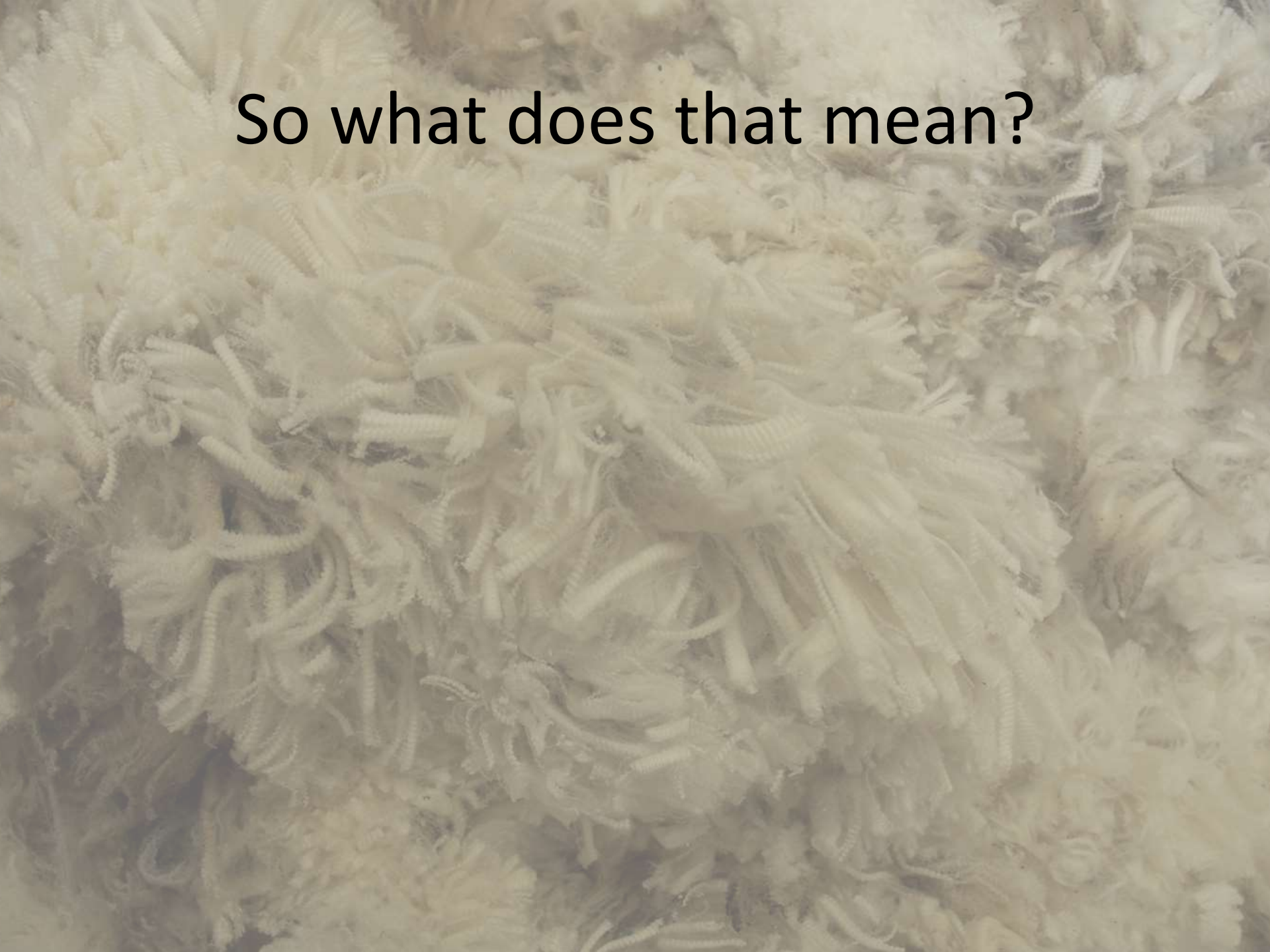
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- Protein %
 - Cattle need 8% of their daily intake as Protein for maintenance
 - Minimum of 10% required for growth
- Amount they can physically eat – Fibre.
 - The higher the fibre, the less they can eat!
 - NDF
 - ADF

Feeding Growing Cattle Principles

| LW of Animal | Daily energy req. (MJME) Maintenance | Gain 0.3kg/day | Gain 0.5kg/day | Gain 1.0kg/day |
|--------------|--------------------------------------|----------------|----------------|----------------|
| 150kg | 20 | 30.5 (+10.5) | 37.5 (+17.5) | 55 (+35) |
| | | | | |
| 200 | 25 | 35.5 (+10.5) | 42.5 (+17.5) | 66.42 (+35) |
| | | | | |
| 300 | 35 | 45.5 (+10.5) | 52.5 (+17.5) | 87.38 (+35) |
| | | | | |
| 400 | 45 | 55.5 (+10.5) | 62.5 (+17.5) | 106.23(+35) |
| | | | | |
| 450 | 50 | 60.5 (+10.5) | 67.5 (+17.5) | 114.87(+35) |

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- We know that every plant has a different energy level within it
- So this means, depending on the feed the cattle are on, will dictate how much you need to feed them.

Values of Different Feeds

| Feed | Energy (MJME) | Protein % | NDF |
|----------------|---------------|-----------|-------|
| Tussac | 8.5 | 12.2 | 66 |
| Cinnamon Grass | 8.12 | 8.3 | 72 |
| Valley Greens | 9 | 15 | 58 |
| Reseeds | 8-11.5 | 10-25 | 20-30 |
| Swedes | 12+ | 13 | 15-20 |
| Oats | 10.5 | 15 | 35-45 |
| Whitegrass | 6.7 | 8 | 75 |

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- If I wanted to graze my weaners on tussac, how fast will they grow?
- Simply put, 150kg animal, needs **20** MJME to maintain weight,
- Tussac has an average ME of **8.5**
- So it needs to eat **2.35kg** to maintain weight
 - To grow at **0.5kg/day** they require **4.41kg** (37.5 MJME)

However, how much can they Physically Eat?

- To work this out
 - 120/NDF of the feed = % of body weight used to determine the dry matter intake of that feed
 - $120/66 = \underline{1.82\%}$ of their live weight
 - $150\text{kg Steer} \times 1.82\% = \underline{2.73\text{Kg Tussac}}$
 - Bear in mind this is average!

Swedes

- Swedes are higher Energy and lower NDF

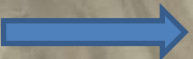
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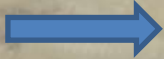
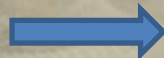
Swedes

- Swedes are higher Energy and lower NDF
- 150kg Steer needs **20ME** to maintain weight, @ME of **12.5** would have to eat **1.6kg**
 - Of swedes it *could* physically eat
 - $120/20 = 6\%$ of its body weight
 - $150 \times 6\% = \underline{\mathbf{9kg}}$ or an **ME of 112** (>1kg/day weight gain)
 - (in reality we know the steer would self regulate and eat approx. 60-70% of its diet as swedes)
 - Even at 4kg of swedes/day it is growing at >1kg/day


How much could you make from swedes

- 5000kgDM/ha swede crop
 - @80% utilisation = 4000kgDM/ha
 - Steer @ 300kgLW eats 8.2kgDM/day
 - » 70% swede (5.74kgDM) 71.75 ME
 - » 30% whitegrass (2.46kgDM) 14.76 ME
 - 86.51 ME total for growth
 - Maintenance = 35MJME  Leaves 51 MJME
 - Potential weight gain of 1.5kg/hd/day

How much could you make from Swedes

- 4000kg of Swedes available to eat
 - @ 5.74kg/hd/d  696.86 animal grazing days/ha
 - 696.86 AGD @ 1.5kg LWG  1045.3kg Potential Liveweight gain/ha
 - 1045.3kg @ 54% Yield 564.5kg Carcass/ha
=£1383/ha
 - Less growing costs of £414/ha
=£969/ha gross profit.

*Worth noting is the average opportunity cost is <£5/ha



Beef Q & A session