

Stocking rate decisions for future systems



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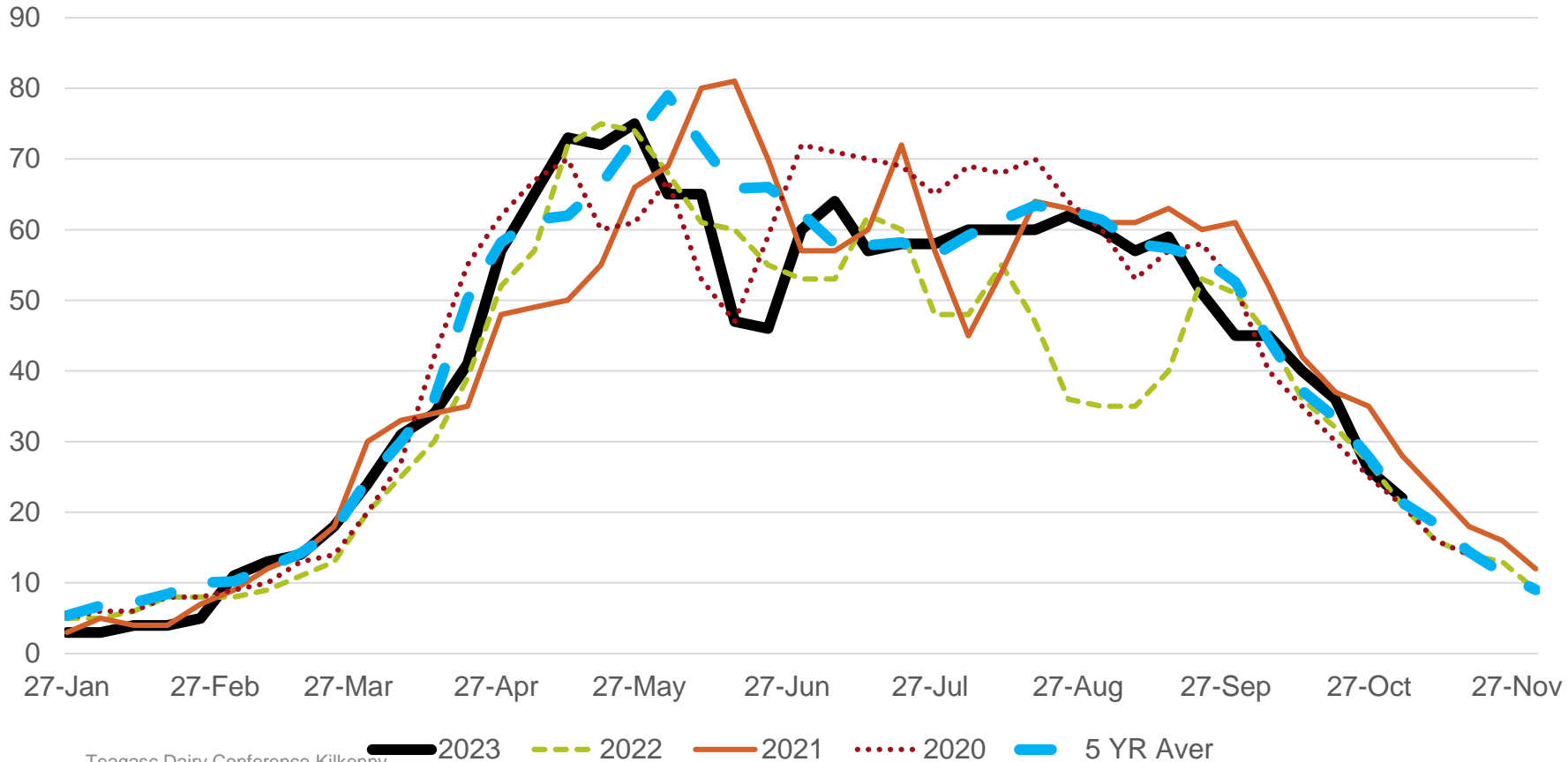
Managing outblocks to supply feed into dairy systems

Michael O'Donovan, James Dunne, Pat Moylan and
Donal Patton

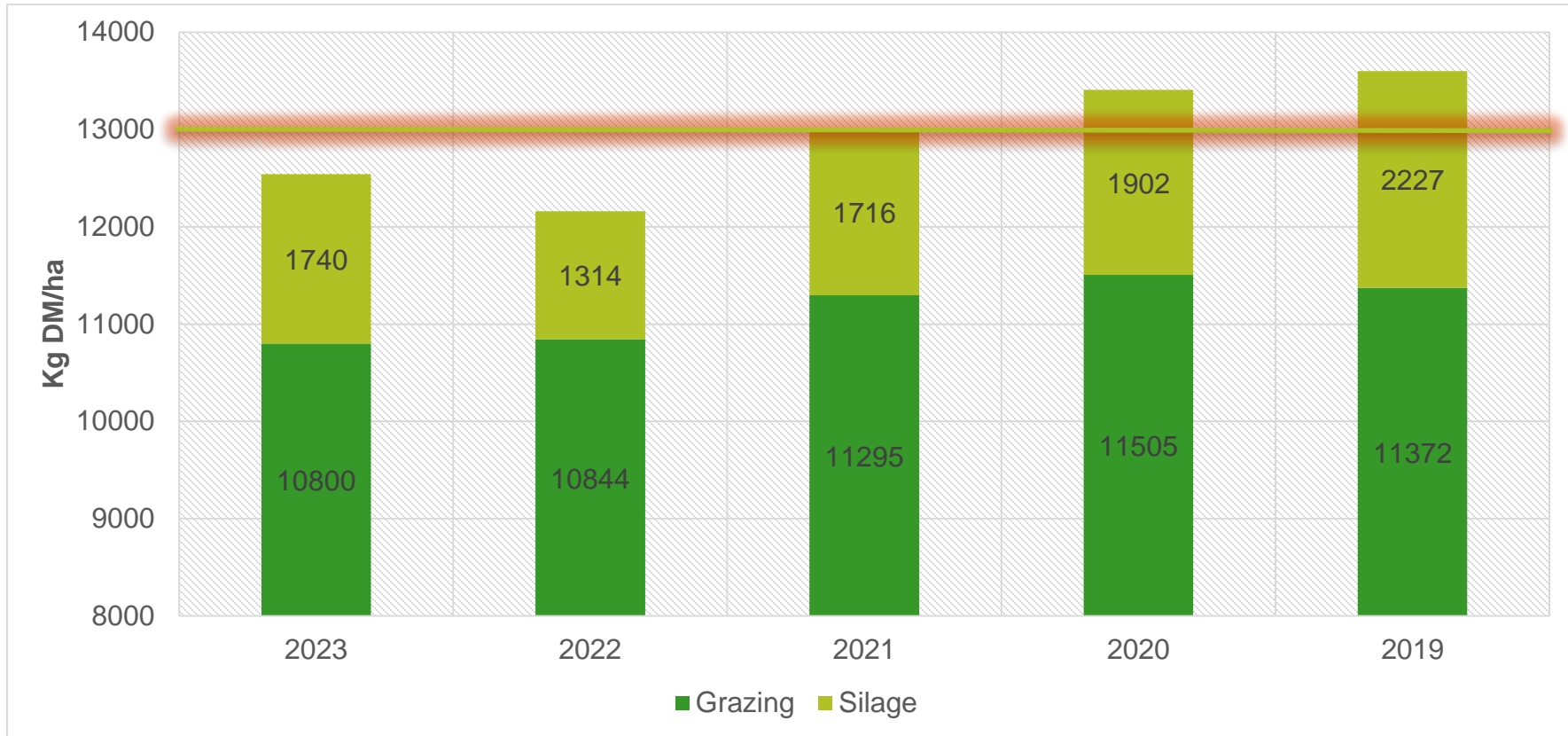
Feed Costs 2023

| | Grazed grass | Grass+ white clover | Zero-grazing grass all year | First + second cut pit silage | First + second cut bale silage | 3-cut red clover silage | Maize silage (open) | Fodder beet |
|---|--------------|---------------------|-----------------------------|-------------------------------|--------------------------------|-------------------------|---------------------|-------------|
| DM yield (t/ha) | 13 | 13 | 13 | 6 + 4 | 6 + 4 | 5.6 + 4.0 + 3.5 | 13 | 15 |
| UFL/kg DM | 1.03 | 1.02 | 1.03 | 0.82 | 0.82 | 0.82 | 0.8 | 1.12 |
| | | | | | | | | |
| Total costs/ha (incl. land charge) (€) | 1427 | 1283 | 2785 | 2161 | 2431 | 2823 | 3135 | 3644 |
| Total costs/ha (excl. land charge) (€) | 563 | 418 | 1921 | 1577 | 1848 | 2071 | 2271 | 2780 |
| Total costs/t DM grown (incl. land charge) (€) | 110 | 99 | 214 | 216 | 243 | 215 | 245 | 243 |
| Total costs/t DM grown (excl. land charge) (€) | 43 | 32 | 148 | 158 | 185 | 158 | 177 | 185 |

Pasturebase Ireland Grass Growth 2020 - 2023



PBI Farms Grass DM Production 2019 -2023



Grass Production On Grazing Platform @13t Grown – 40ha, 100 cow unit

| Grazing Platform (Stocking Rate) | 2.5 | 2.5 | 3.0 | 3.3 | 3.6 | 3.9 |
|----------------------------------|------|------|------|------|------|------|
| Grass Growth required (t DM/ha) | 10.9 | 10.9 | 12.3 | 13.6 | 14.8 | 16.0 |
| Grass Growth (t DM/ha) | 14.8 | 13 | 13t | 13t | 13t | 13t |
| Deficit/Surplus | +4.0 | +1.1 | +0.7 | -0.6 | -1.8 | -3.3 |

@ Grass Consumption 3.5t DM/cow

Area requirement to balance the System

| Grazing Platform | 2.5 | 2.5 | 3.0 | 3.3 | 3.6 | 3.9 |
|---|-----------------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| | @14.8t Grown | @13t Grown | @13t Grown | @13t Grown | @13t Grown | @13t Grown |
| Size of owned Out block | N/a | N/a | 6ha | 10ha | 12 | 15 |
| | | | | | | |
| Require further land – Grow 14 t DM/ha | Feed Supply Neutral system | Extra 6ha | Extra 5ha | Extra 7ha | Extra 7ha | Extra 9ha |
| Total Extra feed costs (€/ha) | 0 | €12966 €324/ha | €10805 €270/ha | €15127 €378/ha | €15127 €378/ha | €19499 €488/ha |

Summary

- Evaluate what ALL your farm is producing
- Grass growth is reducing on farms
- Reduced grass growth has hidden costs –leasing costs & associated forage costs (€270 - €488/ha)
- All hectares need to be producing grass – 14+t DM/ha
- Stock the farm to what it can grow
- Out blocks need to perform equally or at a higher level than the grazing platform

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Stocking Rate Decisions for Future Dairy Systems

Farm Case Study



Background

- Case Study Farmer Example – Feed Budget in Deficit
- Compare two scenarios to current situation
 - Reduce stocking rate
 - Rent additional land
- What are the physical and financial implications of both?

This is an individual case study example

| | Current Situation |
|-----------------------------------|--------------------------|
| Land Area (Ha) | 61.5 |
| Dairy cows | 130 |
| Repl Units | 32 |
| Farm SR (Lu / Ha) | 2.70 |
| Milking Platform (Lu / Ha) | 3.33 |
| Nitrates (Kgs Org N / Ha) | 237 |
| Milk Output (Kg Ms / Cow) | 528 |
| Meal feeding (Kg / Cow) | 1300 |
| Silage (Kg DM / Cow) | 500 |
| Grass Utilised (T DM / Ha) | 11.1 |
| Grass Grown (T DM / Ha) | 13.9 |
| Feed costs (€ / Cow) | 545 |

| | Current Situation | Reduce Stocking Rate | Diff |
|-----------------------------|-------------------|----------------------|--------|
| Land Area (Ha) | 61.5 | 61.5 | - |
| Dairy cows | 130 | 115 | - 15 |
| Repl Units | 32 | 25 | - 7 |
| Farm SR (Lu / Ha) | 2.70 | 2.30 | - 0.4 |
| Milking Platform (Lu / Ha) | 3.33 | 2.95 | - 0.38 |
| Nitrates (Kgs Org N / Ha) | 237 | 205 | - 32 |
| Milk Output (Kg Ms / Cow) | 528 | 528 | - |
| Meal feeding (Kg / Cow) | 1300 | 1000 | - 300 |
| Bought Silage (Kg DM / Cow) | 500 | - | - 500 |
| Grass Utilised (T DM / Ha) | 11.1 | 11.1 | - |
| Grass Grown (T DM / Ha) | 13.9 | 13.9 | - |
| Feed costs (€ / Cow) | 545 | 350 | - 195 |

Scenario 1 – Reduce S.R.

- Feed budget in deficit
- High feed costs




- Reduced stocking rate
- Reduced feed costs
- S.R. matches grass utilised

Financial Implications?

| | Current Situation |
|-----------------------------------|--------------------------|
| Land Area (Ha) | 61.5 |
| Dairy cows | 130 |
| Repl Units | 32 |
| Farm SR (Lu / Ha) | 2.70 |
| Milking Platform (Lu / Ha) | 3.33 |
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| Grass Utilised (T DM / Ha) | 11.1 |
| Grass Grown (T DM / Ha) | 13.9 |
| Feed costs (€ / Cow) | 545 |

Scenario 2 – Rent Land

- Feed budget in deficit
 - High feed costs
- 
- Reduced stocking rate
 - Reduced feed costs
 - S.R. matches grass utilised

Financial Implications?

| | Current Situation | Rent Land | Diff |
|----------------------------|-------------------|-----------|-------|
| Land Area (Ha) | 61.5 | 70.5 | 9.0 |
| Dairy cows | 130 | 130 | - |
| Repl Units | 32 | 32 | - |
| Farm SR (Lu / Ha) | 2.70 | 2.30 | - 0.4 |
| Milking Platform (Lu / Ha) | 3.33 | 3.33 | - |
| Nitrates (Kgs Org N / Ha) | 237 | 206 | - 31 |
| Milk Output (Kg Ms / Cow) | 528 | 528 | - |
| Meal feeding (Kg / Cow) | 1300 | 1000 | - 300 |
| Bought Silage (Kg DM/ Cow) | 500 | - | - 500 |
| Grass Utilised (T DM / Ha) | 11.1 | 11.1 | - |
| Grass Grown (T DM / Ha) | 13.9 | 13.9 | - |
| Feed costs (€ / Cow) | 545 | 350 | - 195 |

Physical Implications ?

Scenario 1: Reducing Stocking Rate

Scenario 2: Rent Additional Land

Physical Implications ?

Current situation

- Not sustainable – heavily reliant on outside feed
- Higher costs / more marginal system

Scenario 1: Reducing Stocking Rate

- Balanced feed budget – security
- Reduced workload
- Ease on facilities / slurry storage etc.

Scenario 2: Rent additional land

- Balanced feed budget – security
- More exposed – land cost & availability ?
- Labour availability ? Distance of land from home farm ?
- Fertility & grass quality status of land

Financial
Implications of
Changes ?

Financial Implications

| Current Situation | |
|----------------------|---------|
| | € |
| Milk Sales | 343,200 |
| Concentrate | 59,150 |
| Purchased forage | 11,700 |
| Other variable costs | 85,150 |
| Land Rental Charge | - |
| Cropping Cost | - |
| Fixed Costs | 109,726 |
| Net Profit | 77,474 |

Considerations

- Step 1: Are you in a situation where there is a deficit in the feed budget?
- Step 2: What are you going to do?
 - Rent additional land
 - Reduce stocking rate
- Step 3: Review Current Situation
 - Grass Utilised per Cow
 - Cow Performance
 - Farmyard Facilities
 - Labour
- Step 4: Review financial implications – complete and review an e – Profit Monitor