# Perfect Grazing Cow

Mike Murphy

# Lessons from Ireland

- Blunder: Don't put the cart before the horse!
- We selected cows based on milk production and then changed the system to suit these animals
- Results appalling
- The natural progression must be to identify the highest profit systems and then use genetics that suit that system

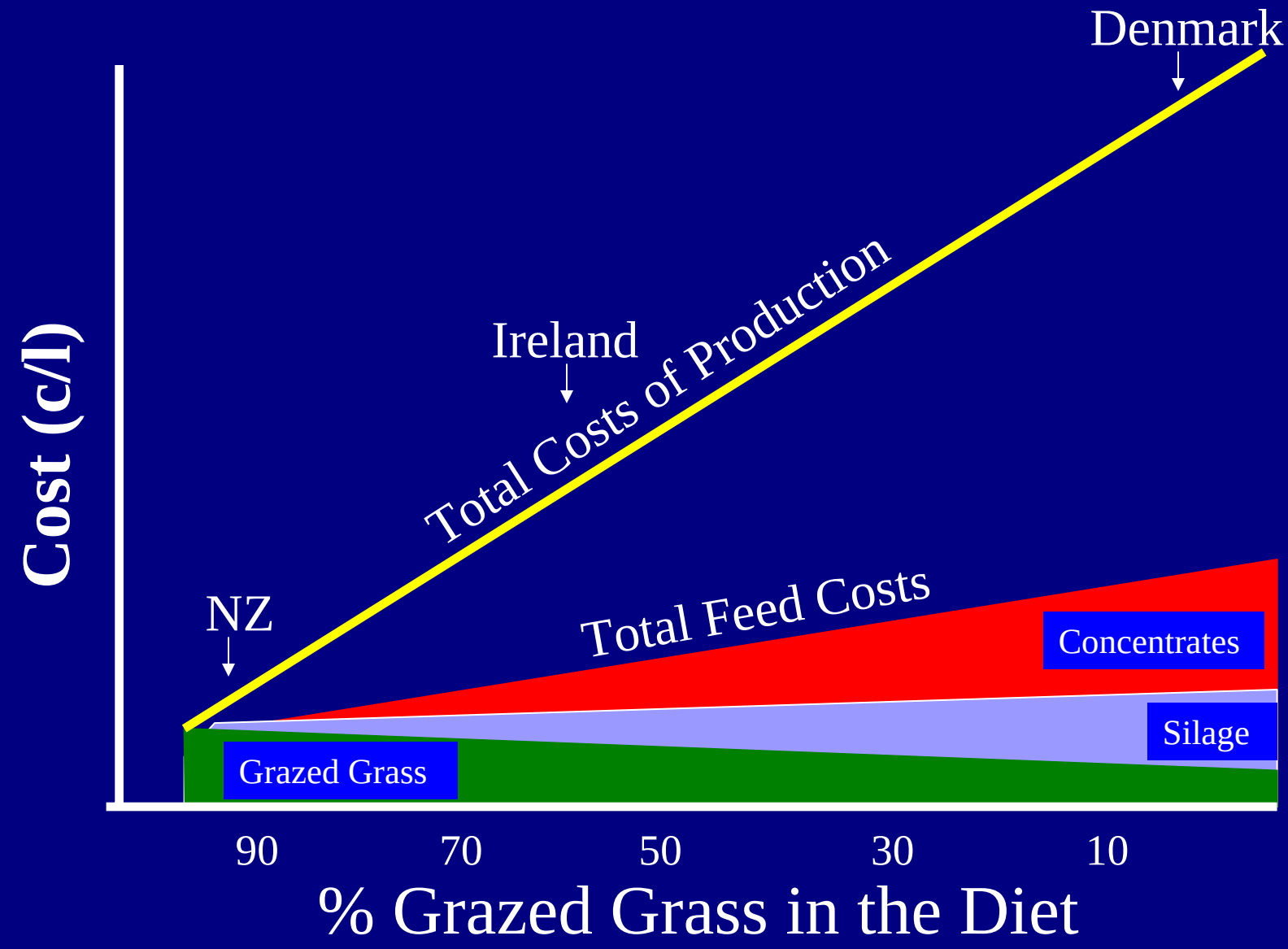
# Critical Factors to our Approach

- Quota – Within a quota based system, maximum profitability is achieved by producing milk at lowest cost
- Cost of alternative feeds:

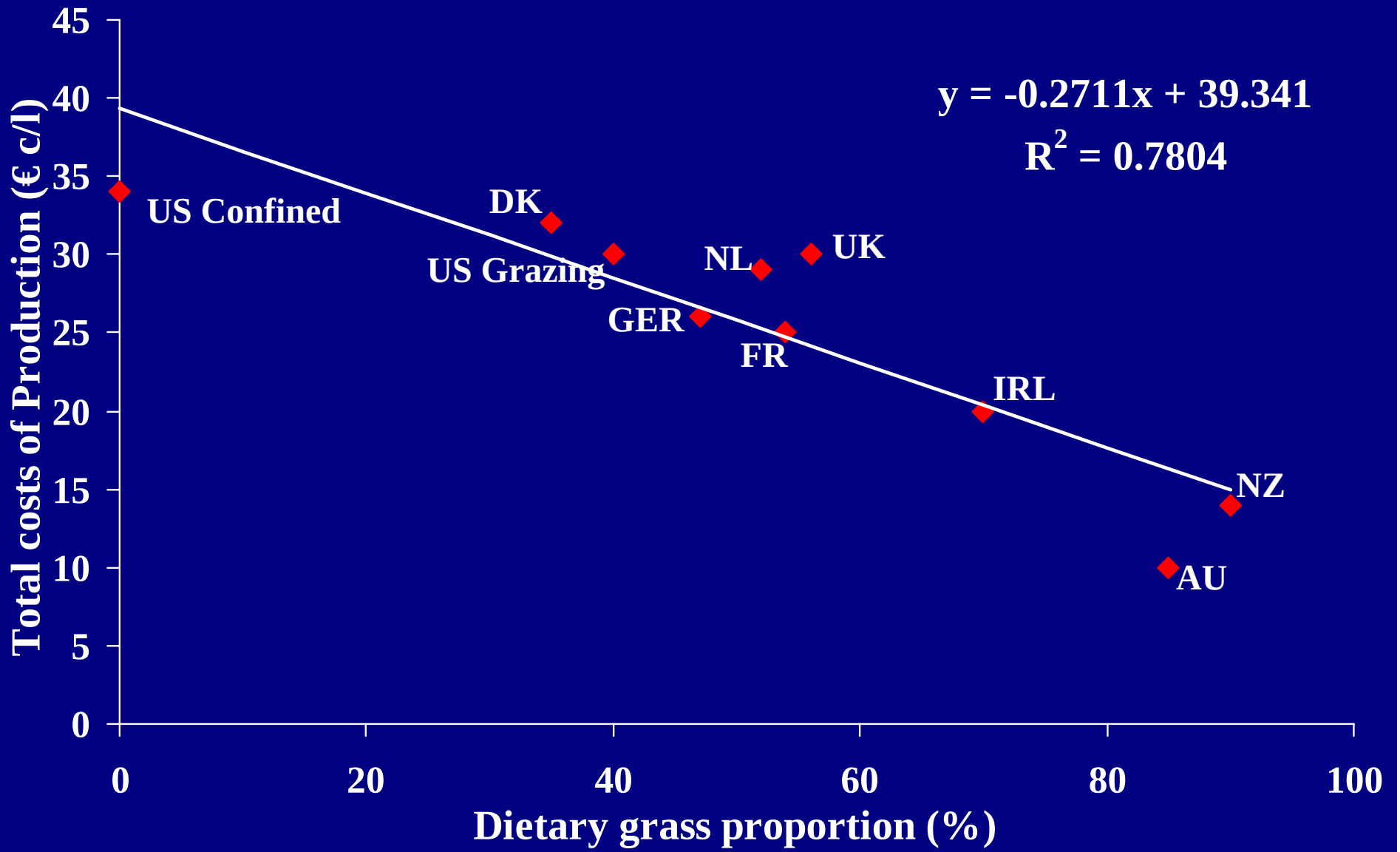
| | c/kg DM | Relative |
|---|---|---|
| Grazed grass | 3 (5.8) | 1 |
| Grass silage | 12.5 | 4.2 |
| Concentrates | 21.0 | 7 |
| Forage crops | 6.5 | 2.2 |

- Pricing System complementary to seasonal production and adjusted for constituents

# % Grazed grass in the Diet



# The Relationship between total costs of milk production and grass proportion of the diet



# The Grazing Cow

***The cow for pasture systems must have the following characteristics:***

- Productivity from pasture (13-15,000 lbs per cow)
- Calve every 12 months
- Withstand a fluctuating feed supply
- Achieve high pasture DM intakes (35 – 40 lbs)
- Survive in a larger herd scenario (18 hr/cow/yr)
- Average 5 lactations – healthy resilient animal

***Hybrid Vigour?***

# Target Performance

| | Targets | Achieved |
|---|---|---|
| Submission rate (%) | 95 | 98 |
| Preg. rate to 1 service (%) | 65-70 | 65 |
| Infertile rate (%) | 4 | 3-6 |
| Calving in 12 days (%) | 50 | 50-60 |
| Calving in 6 weeks (%) | 95 | 88-95 |

***Unless we achieve a submission rate above 90% and pregnancy rate to 1 service above 60% we cannot achieve block calving***

# Labour Efficiency

| | Hours/cow |
|---|---|
| **Wisconsin (600 cows)** | 61 |
| **New Zealand (447 cows)** | 19 |
| **Ireland (149 cows)** | 27 |
| **Mike Murphy (440 cows)** | 18 |

# Strains of Holstein-Friesian

**Genetic Potential:**

| | Milk (kg) | Fat (kg) | Prot. (kg) | Calving Interval |
|---|---|---|---|---|
| HP | 253 | 12.1 | 10.2 | 385 |
| NZ | 30 | 9.7 | 5.0 | 357 |

# Feed Systems

- **Grass based system (GB)**

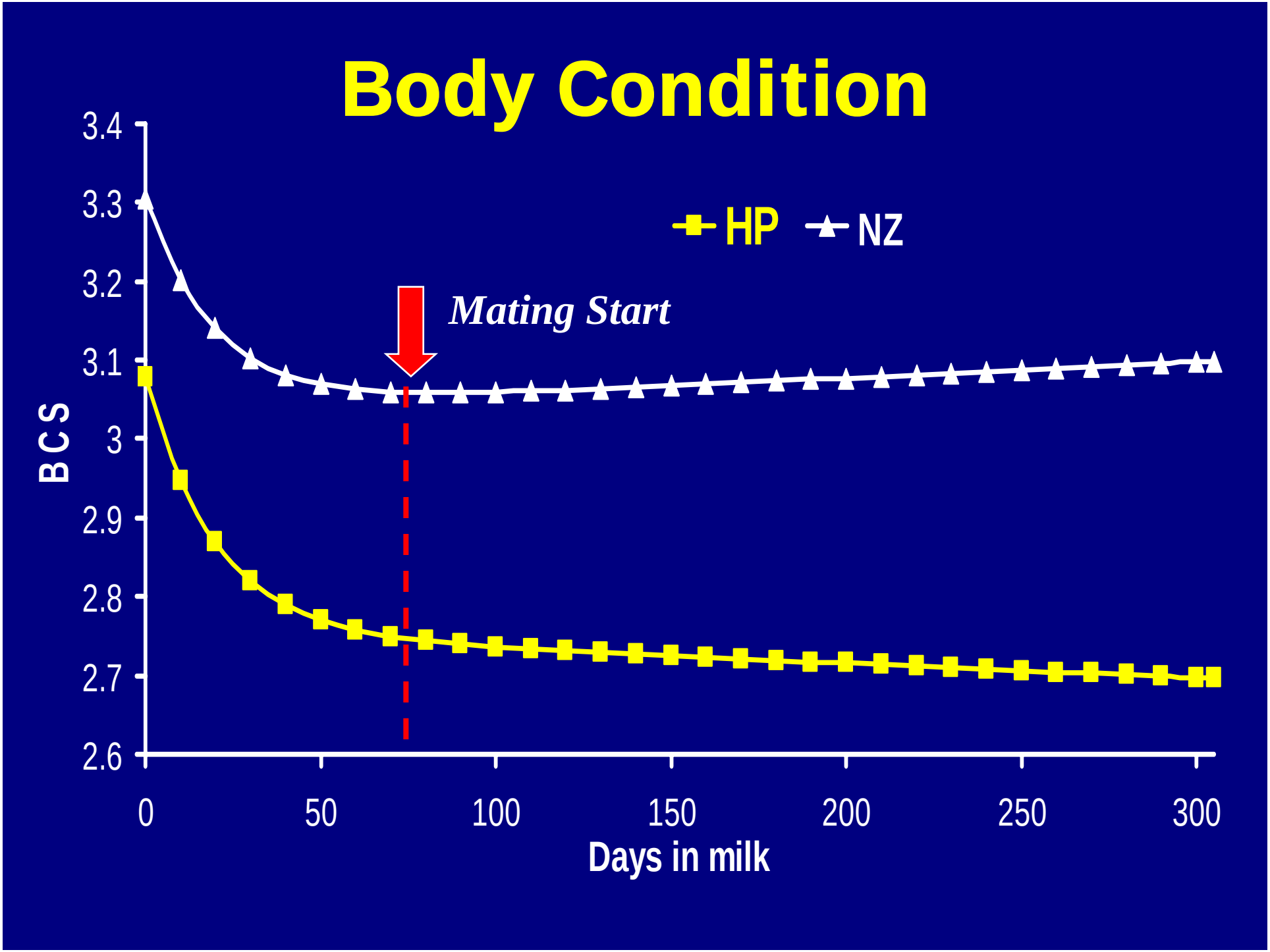
  **- 660 lbs conc./ cow**

- **High Concentrate system (HC)**

  **- 3300 lbs conc./ cow**

# Fertility Results

| 2001-2005 | Strain of HF | |
|---|---|---|
| | HP | NZ |
| Preg to 1st service (%) | 47 | 60 |
| Empty rate (%) | 26 | 9 |
| Replacement Rate (%) | 33 | 18 |
| Herd Age (Lactations) | 2.5 | 6 |


Body Condition
HP
NZ
Mating Start
BCS
3.4
3.3
3.2
3.1
3
2.9
2.8
2.7
2.6
0
50
100
150
200
250
300
Days in milk

# Fertility Results

| 2001-2005 | Feed system GB | HC |
|---|---|---|
| Preg to 1st service (%) | 53 | 56 |
| Empty rate (%) | 14 | 15 |

**Feeding extra meal did not improve fertility performance**

# Realised vs Potential Production

| Feed system | GB | | HC | |
|---|---|---|---|---|
| Strain | HP | NZ | HP | NZ |
| Potential Yield (lbs) | 15,200 | 13,400 | 17,400 | 14,000 |
| Actual Yield (lbs) | 14,900 | 13,900 | 17,000 | 14,400 |

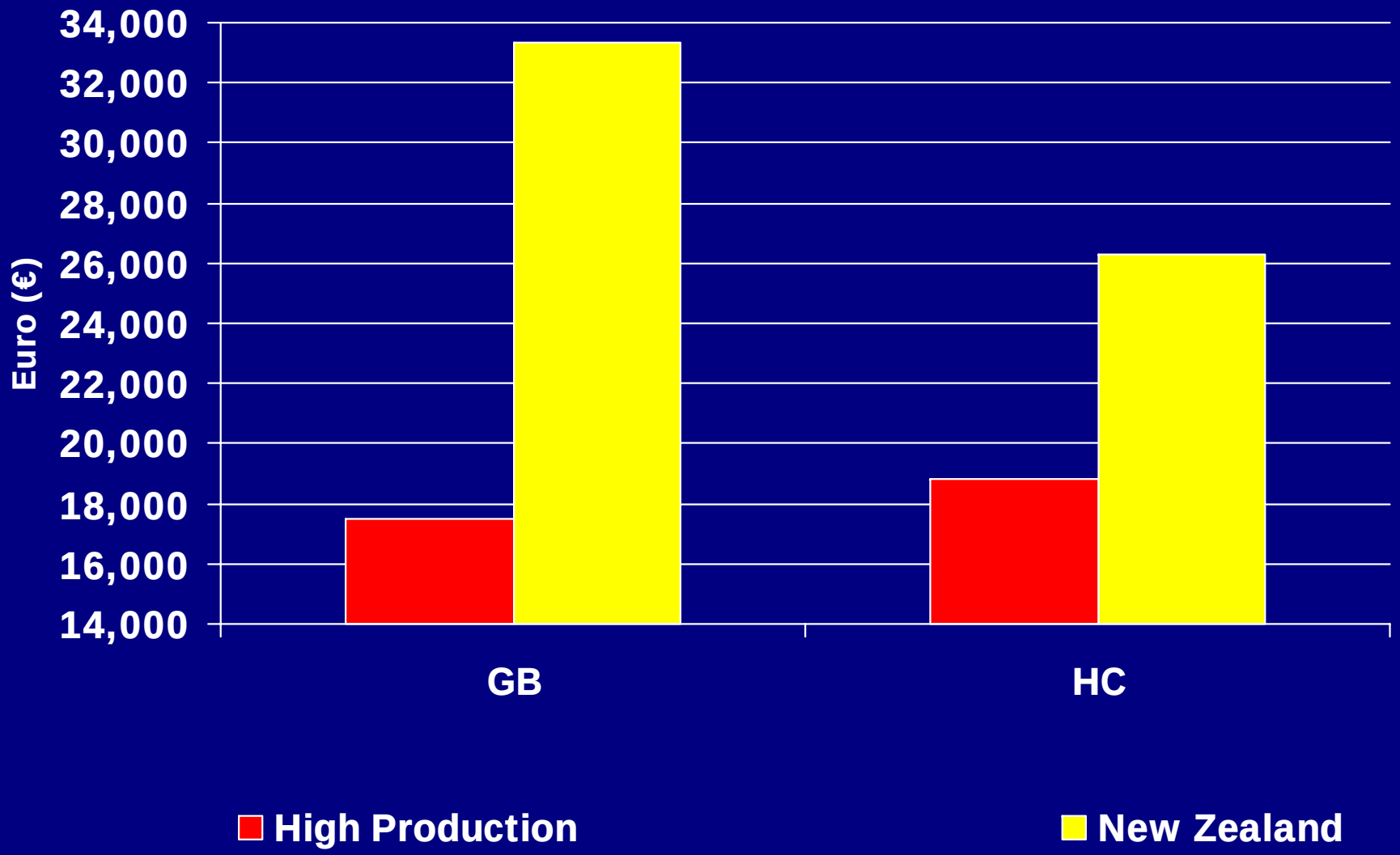
- **High Production Potential not realised in practice because of differences in:**

**Herd maturity – (fewer mature cows in HP herd)**

**Herd calving date – (shorter lactations)**

# In a No Quota Situation...

a 100 acre farm



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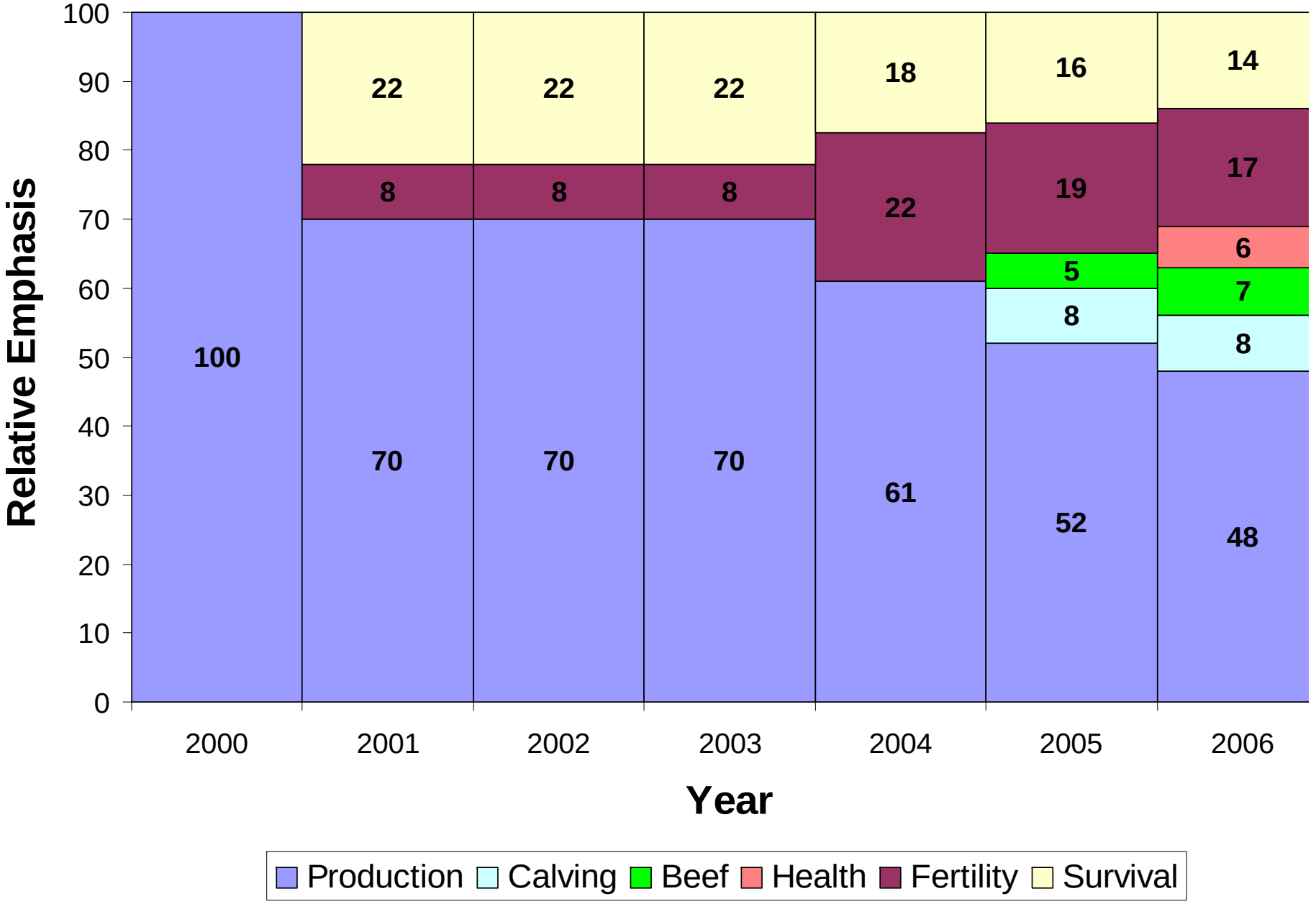
# In Conclusion

- Missouri needs to identify/define the optimal profit system
- Simple systems mean more free cash and more free time i.e. more choice in life
- Measure profit not production

"Profit is sanity, production is vanity"

- A well selected dairy cow is essential to maximise profits
- The collective industry must select on traits influencing profit – the development of an overall profit selection index (e.g. BW or EBI)


Relative Emphasis
100
90
80
70
60
50
40
30
20
10
0
2000
2001
2002
2003
2004
2005
2006
Year
100
22
8
70
22
8
70
22
8
70
18
22
61
16
19
5
8
52
14
17
6
7
8
48
Production
Calving
Beef
Health
Fertility
Survival