Profitable Dairy Calf to Beef Production Systems

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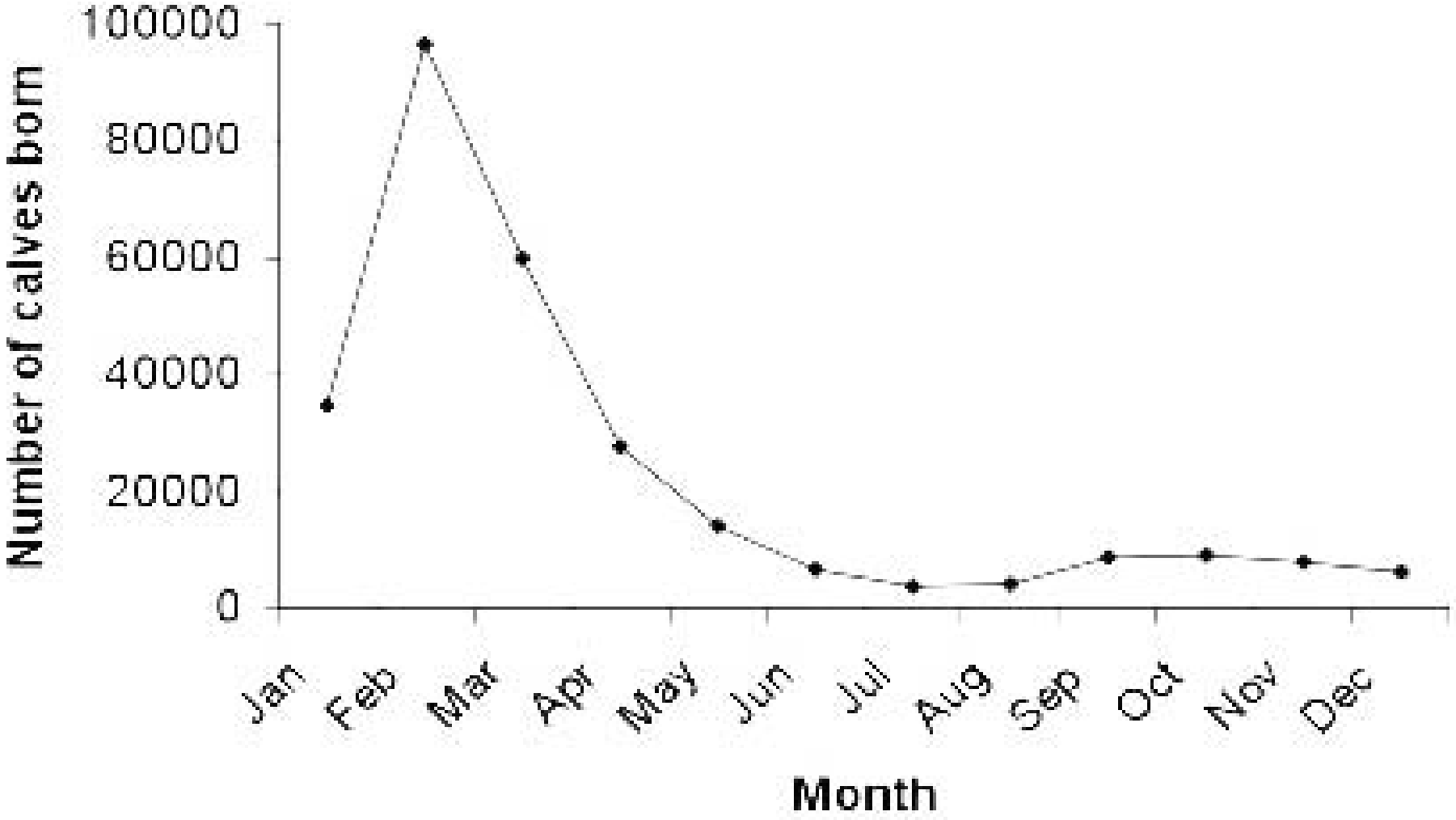
BACKGROUND

- **Dairy expansion**
  - **Abolishment of milk quotas**
  - **50% increase in milk production (Food Harvest 2020)**
  - **Increase in the proportion of dairy calves**

- **Dairy calf to beef blueprint systems**
  - **Traditionally 2 year old steer production systems**
  - **Early maturing heifer systems ➡ pasture finish**
  - **Late maturing heifer systems ➡ indoor finishing**
  - **Increasing interest in bull beef production (Bord Bia, 2014)**

Calving Profile of Dairy Cows



Profile of sire breeds used on the Irish dairy herd

Late maturing dairy cross (14%)

Early maturing dairy cross (21%)

Holstein-Friesian (65%)

AIM, 2013

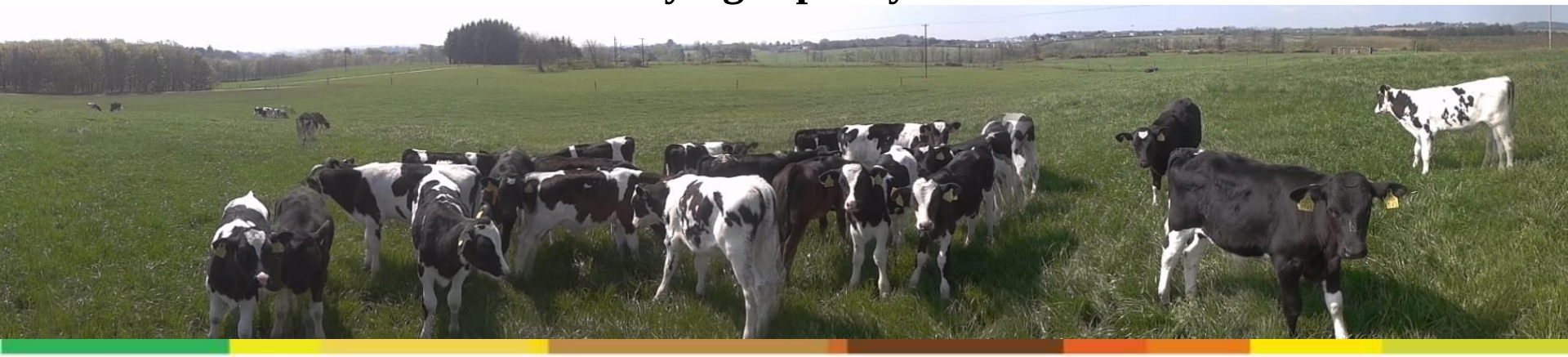
Establishing a production system(s)

1. What to buy?

a. Male dairy calves
b. Early maturing heifers or steers
c. Late maturing heifers and steers
d. Autumn born calves

2. How many to buy?

a. Know how much grass is grown on the farm
b. Establish the stock carrying capacity of the farm



Male Dairy Calf to Beef Production

15 month bull system

19 month bull system

21 month steer system

24 month steer system

Steer Production Systems

24 month steer system

- Pasture graze[illegible] 1st season
- Housed in[illegible]mber
- 2nd sea[illegible] pasture
- Co[illegible]rate input during finish: 550 kg
- [illegible]ass weight = 320 kg

Finishing 2.5 per hectare

21 month steer system

- Pasture graze[illegible] 1st season
- Housed in[illegible]mber
- 2nd se[illegible] pasture
- C[illegible]rate input during finish: 300 kg
- [illegible]cass weight = 280 kg

Finishing 3.0 per hectare

Blueprints for Bull Production Systems

15 month bull system

Finishing 4.0 per hectare

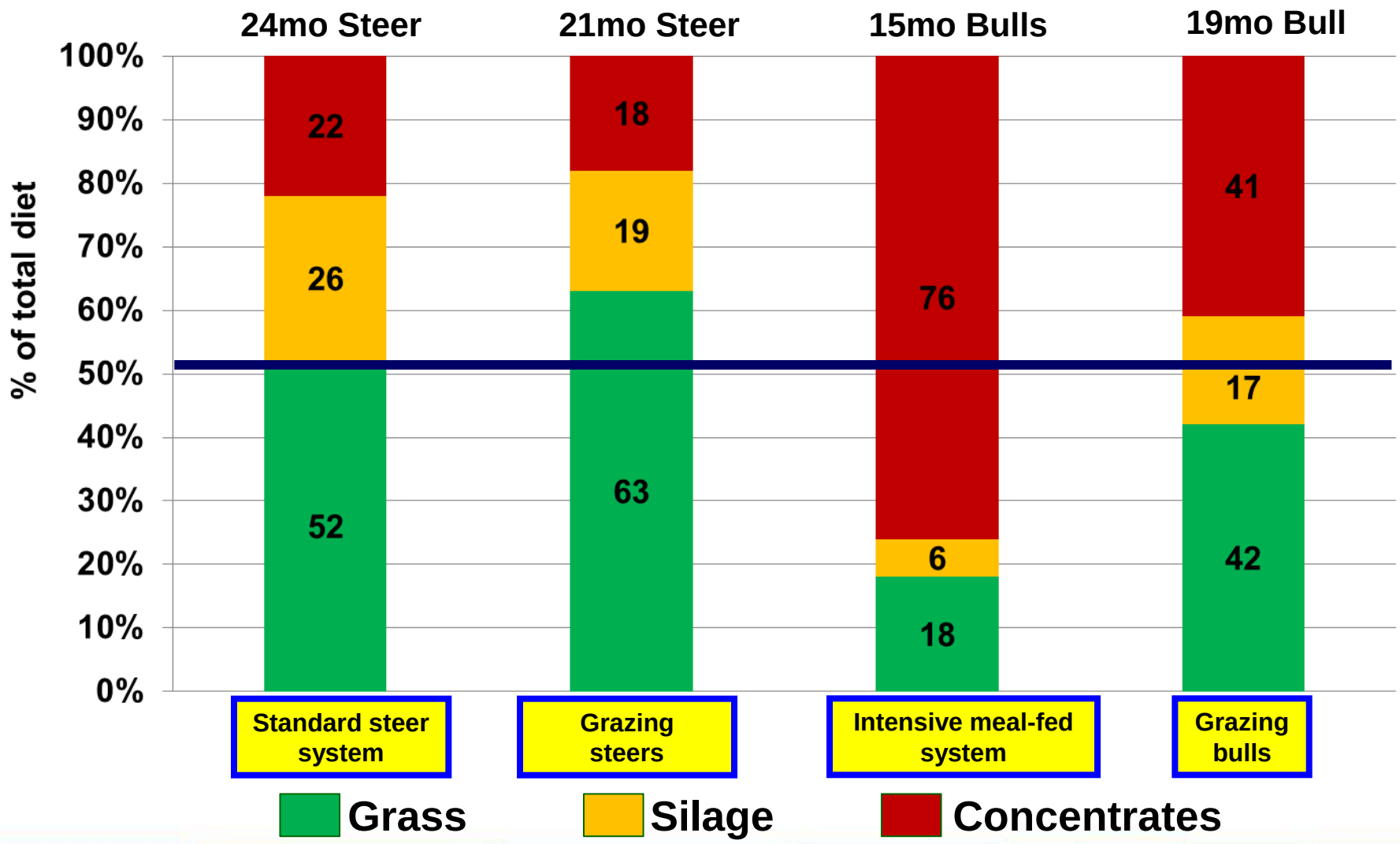
- Pasture gr… or 1st season
- House… ovember
- A… eal finishing (until May/June)
- …centrate input during finish: 1.8 t
- Target carcass weight = 275 kg

19 month bull system

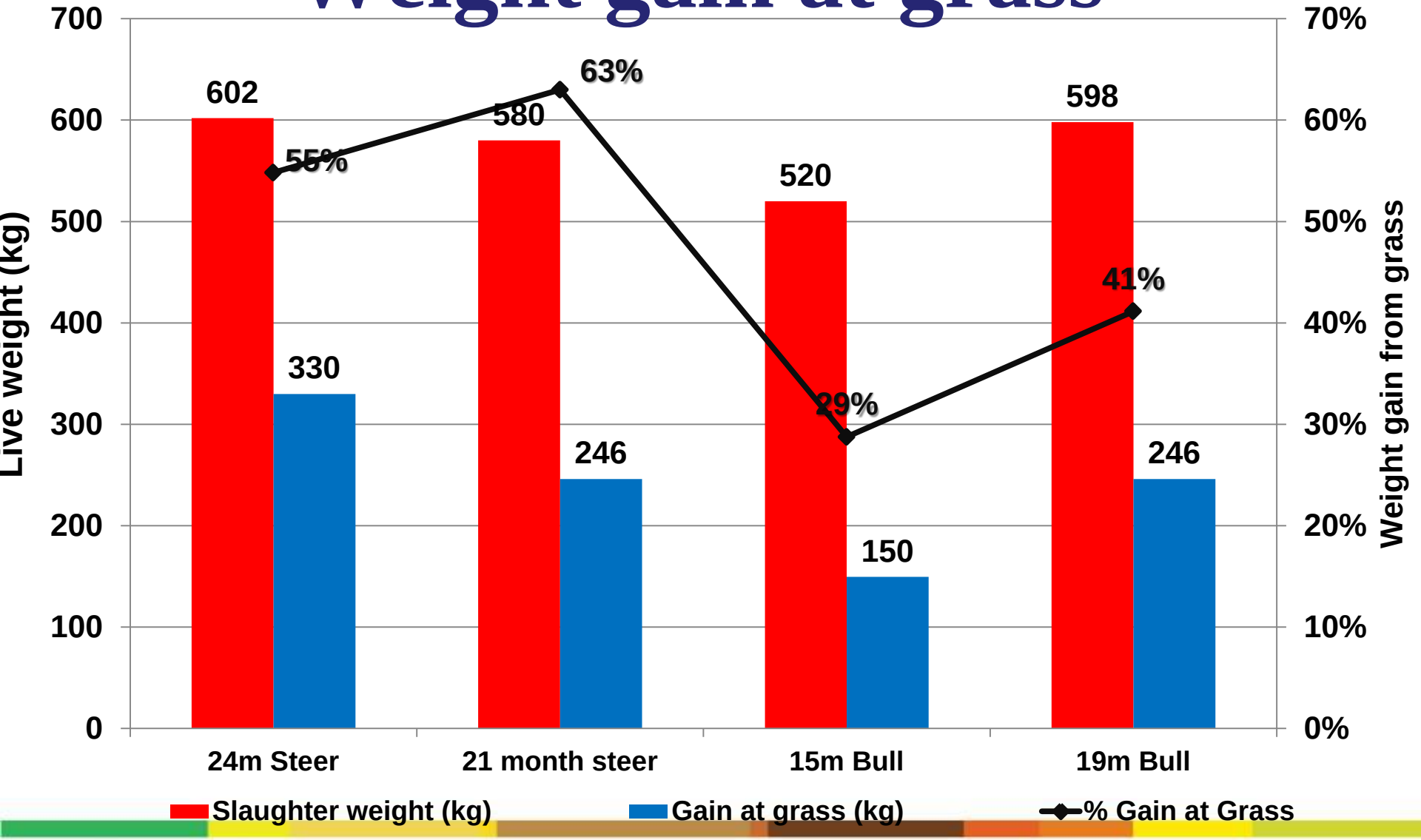
Finishing 3…

- Pasture … for 1st season
- Stor… winter
- 1… y grass & 100 day ad-lib finish
- …ncentrate input during finish: 1.2 t
- Carcass weight = 320 kg

Feed Budget


24mo Steer
21mo Steer
15mo Bulls
19mo Bull
% of total diet
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
22
26
52
18
19
63
76
6
18
41
17
42
Standard steer system
Grazing steers
Intensive meal-fed system
Grazing bulls
Grass
Silage
Concentrates

Weight gain at grass



24 month HF Steer System

€75

2.5 / ha.

€255/ton

Variable Costs €700

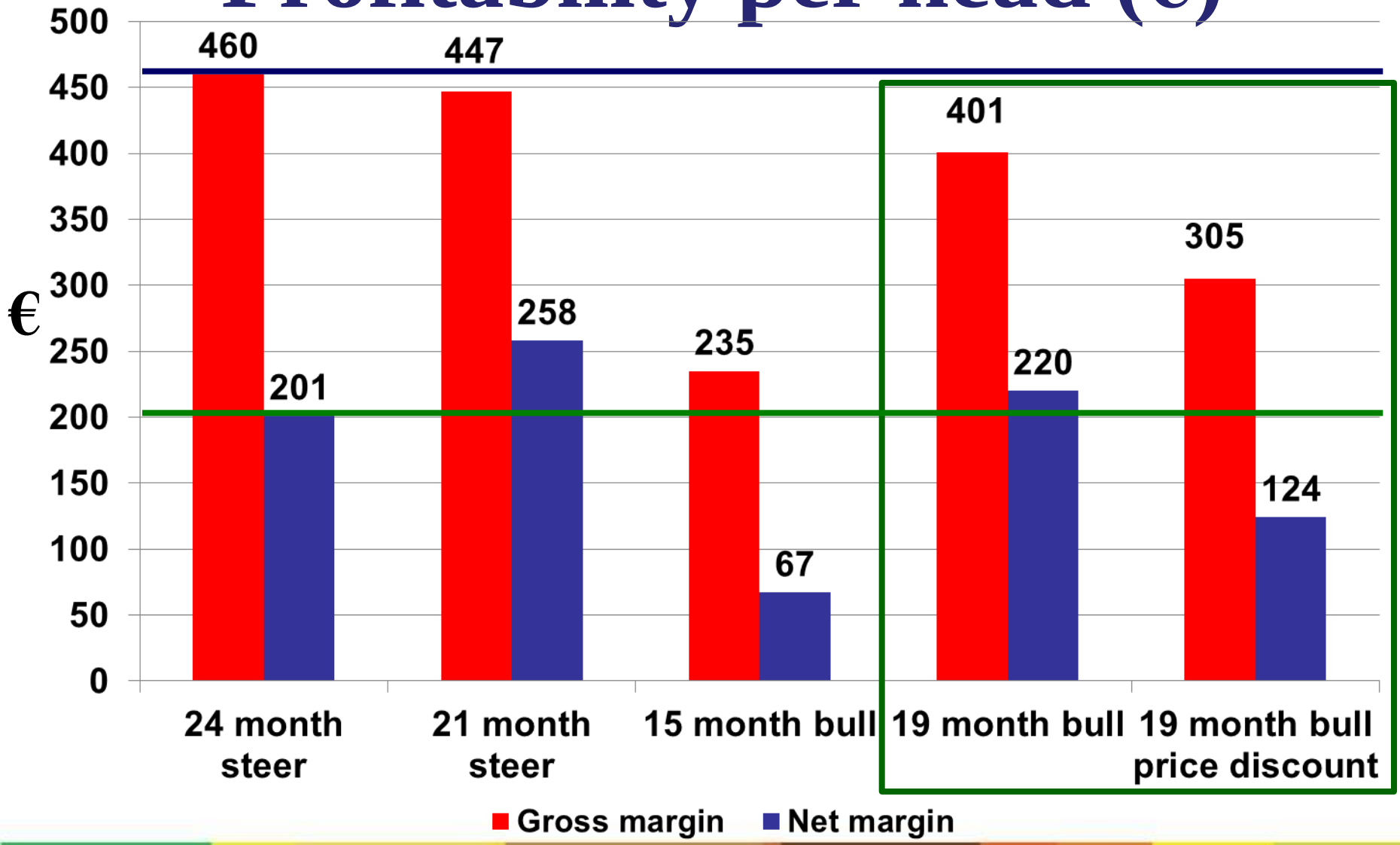
Gross Margin Per Head = €460

Net Margin Per Hd. = €201

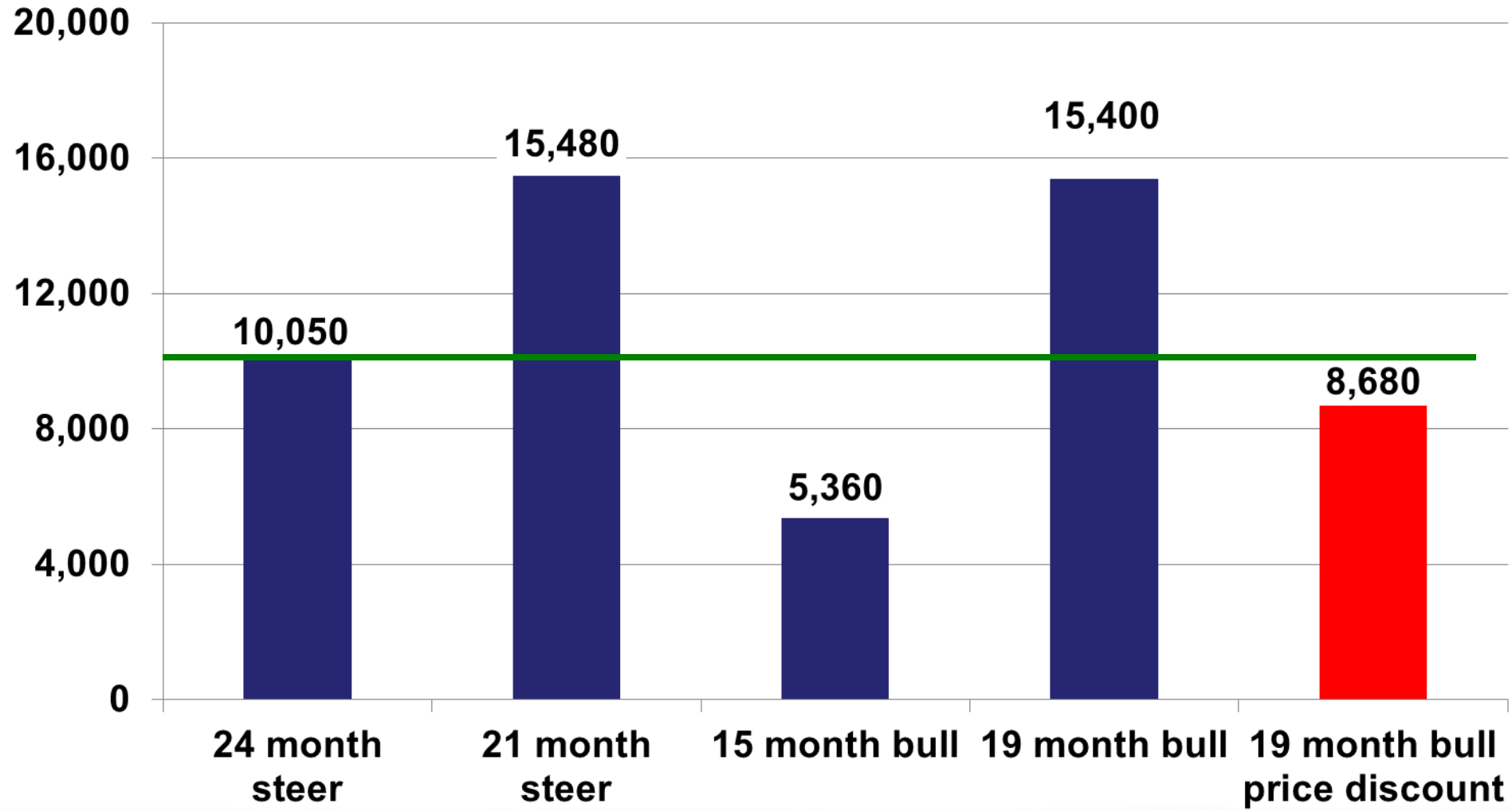
€3.87 / kg

€1,238

Profitability per head (€)



Net margin on a 20 hectare farm (€)



Early maturing beef from the dairy herd

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Early Maturing Production Systems

- **Plentiful supply of calves**
  - **Easy calving short gestation traits**

- **Focused on low input production systems**
  - **1st season at pasture**
  - **'Stored' through the first winter**
  - **2nd season at pasture**
  - **Slaughtered off pasture/ short finishing period**

Early Maturing Dairy Cross Heifer

- **Slaughtered from Sept - Nov**
- **Concentrate input during finish: 150 kg**
- **Carcass weight = 235-245 kg**
- **Conformation score: O=**
- **Fat score: 3-**

Finishing 3.5 per hectare

Early Maturing Steer Systems

Finishing 3.0 per hectare

21 month system

- Pasture for 1st season
- 2nd season at pasture
- Housed in Oct/ Nov
- Concentrate input during finish: 150 kg
- Carcass weight = 280 kg

Finishing 2.5 per hectare

23 month system

- Pasture for 1st season
- Housed in November
- 2nd season at pasture
- Concentrate input during finish: 450 kg
- Carcass weight = 300 kg

Finishing 2.2 per hectare

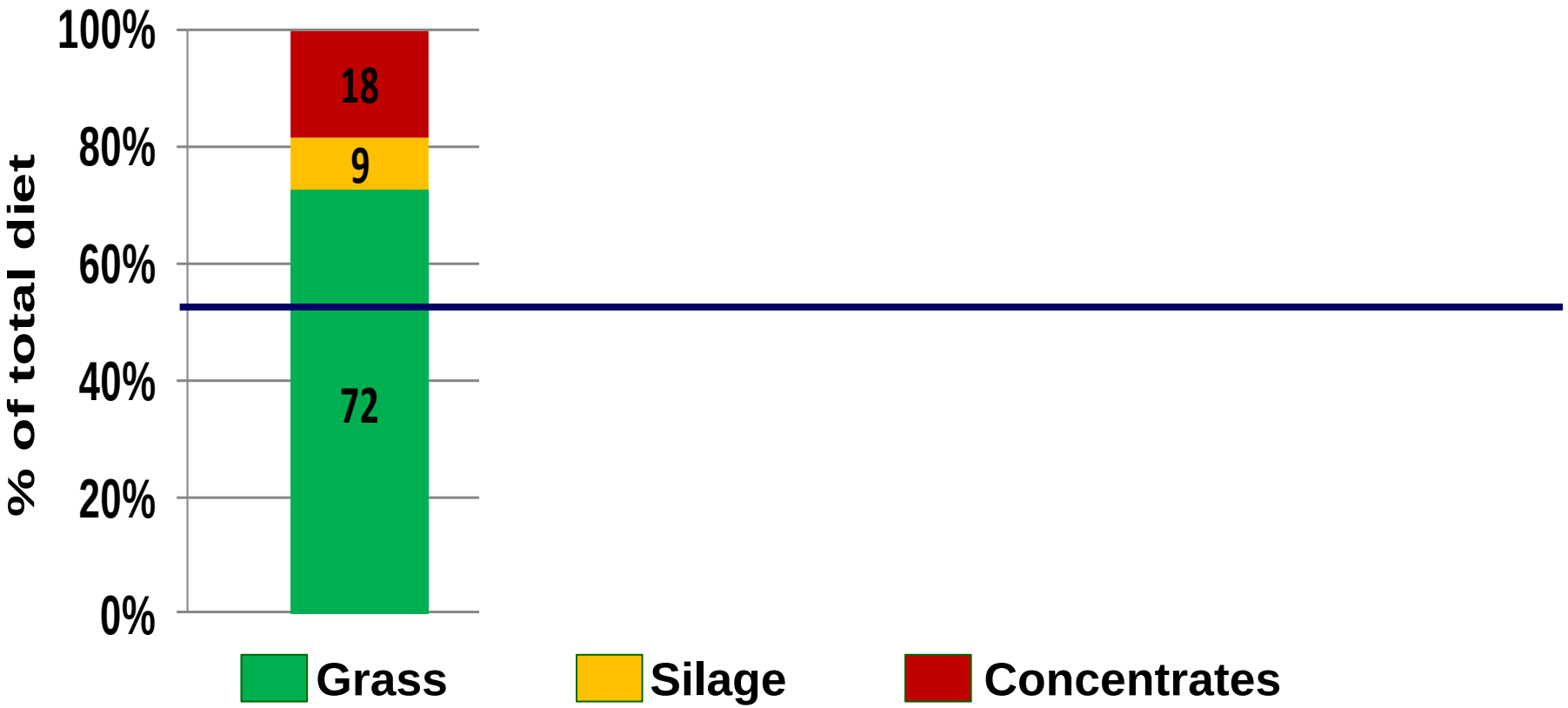
26 month system

- Pasture for 1st season
- Housed November
- 2nd season at pasture
- Concentrate input during finish: 0 kg
- Carcass weight = 320 kg

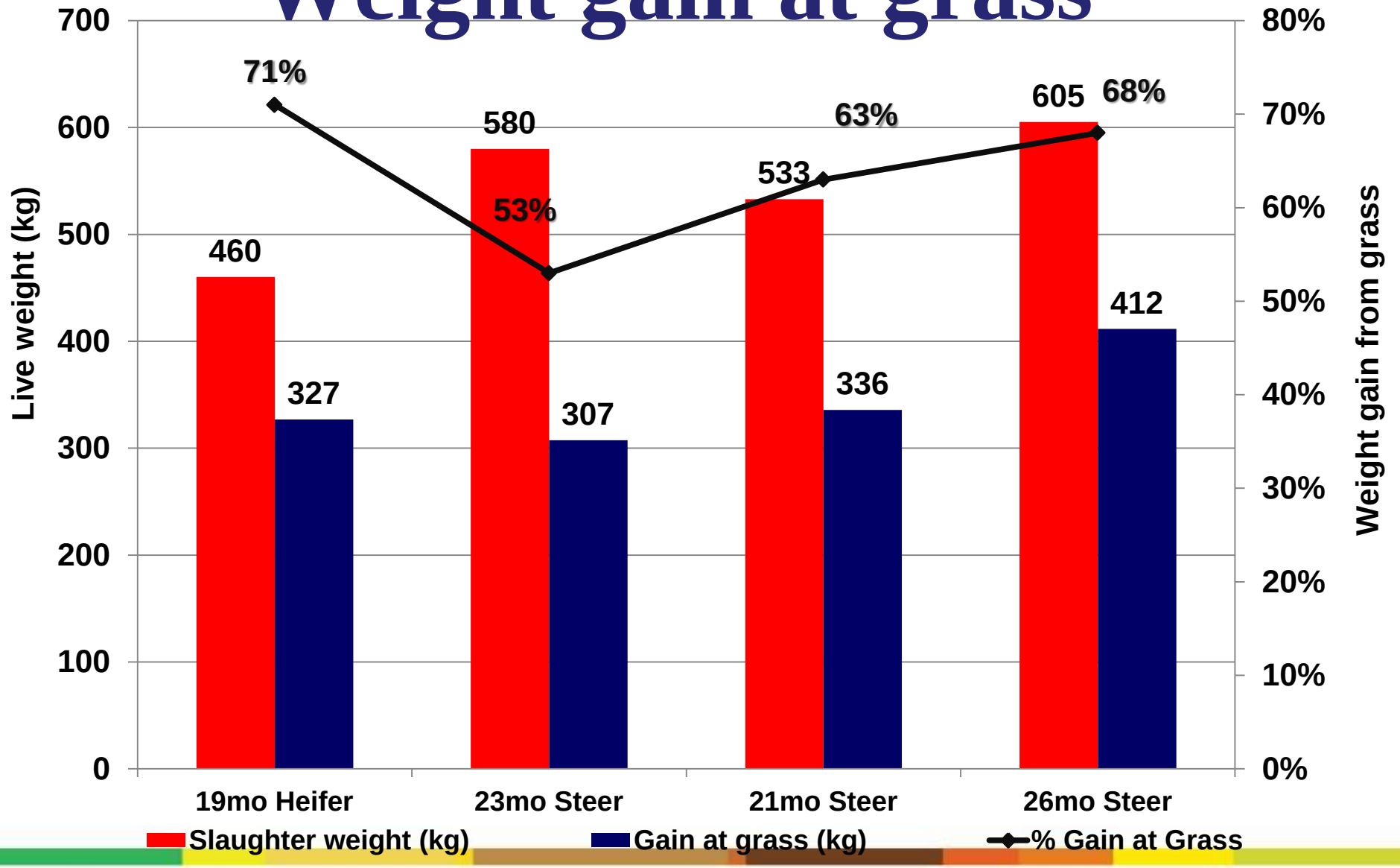
Feed Budget

1. 19mo Heifers

Finished at grass – Sept to Nov



Weight gain at grass



SPRING BORN HEIFER

€240

19-21 month Heifer Beef

€255/ton

Variable Costs
€409

€4.22 / kg
€992

Gross Margin Per Head = €339

Net Margin Per Hd. = €177

SPRING BORN STEERS

23 month Steer Beef

€270

€255/ton

Variable Costs
€386

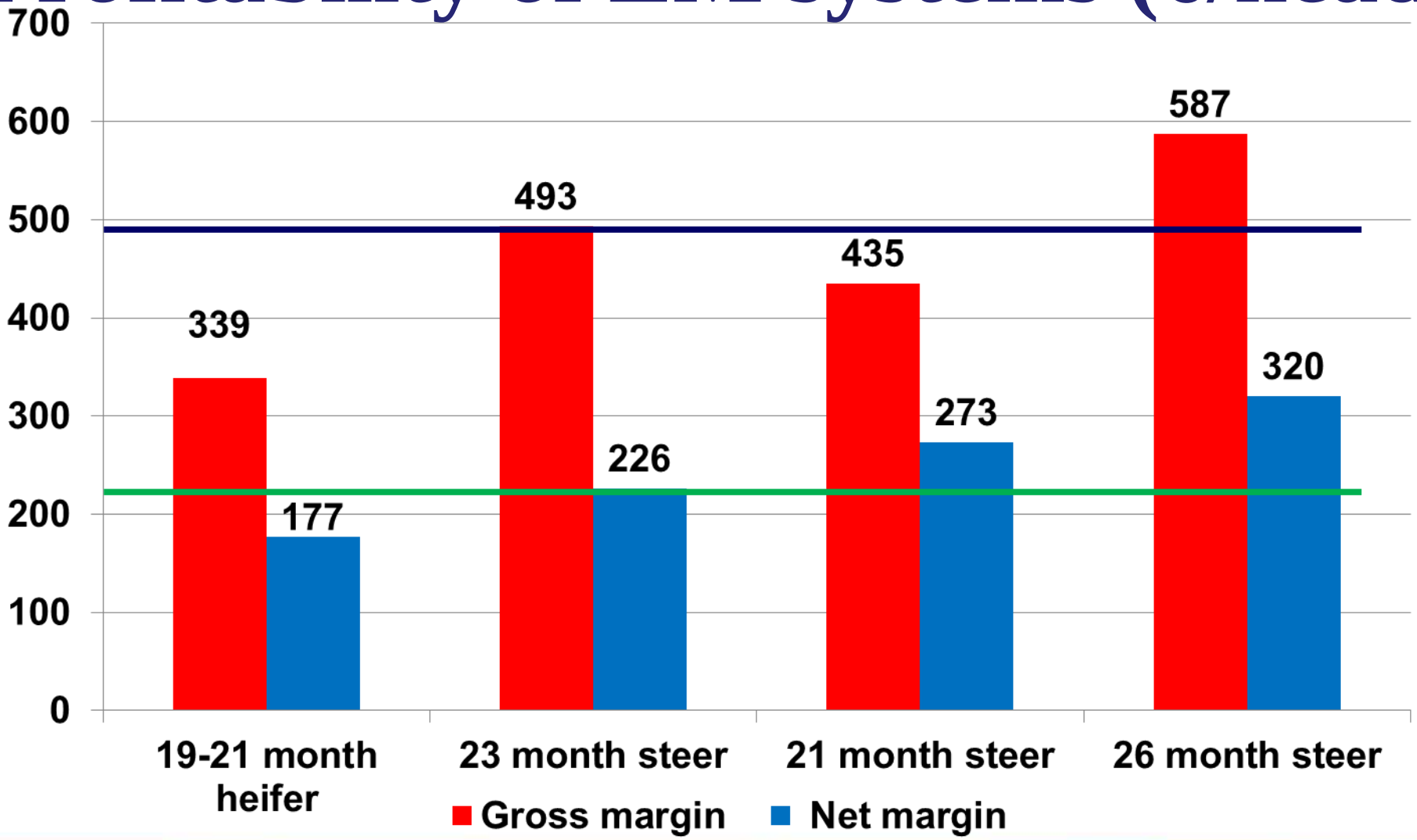
Gross Margin Per Head = €493

Net Margin Per Hd. = €226

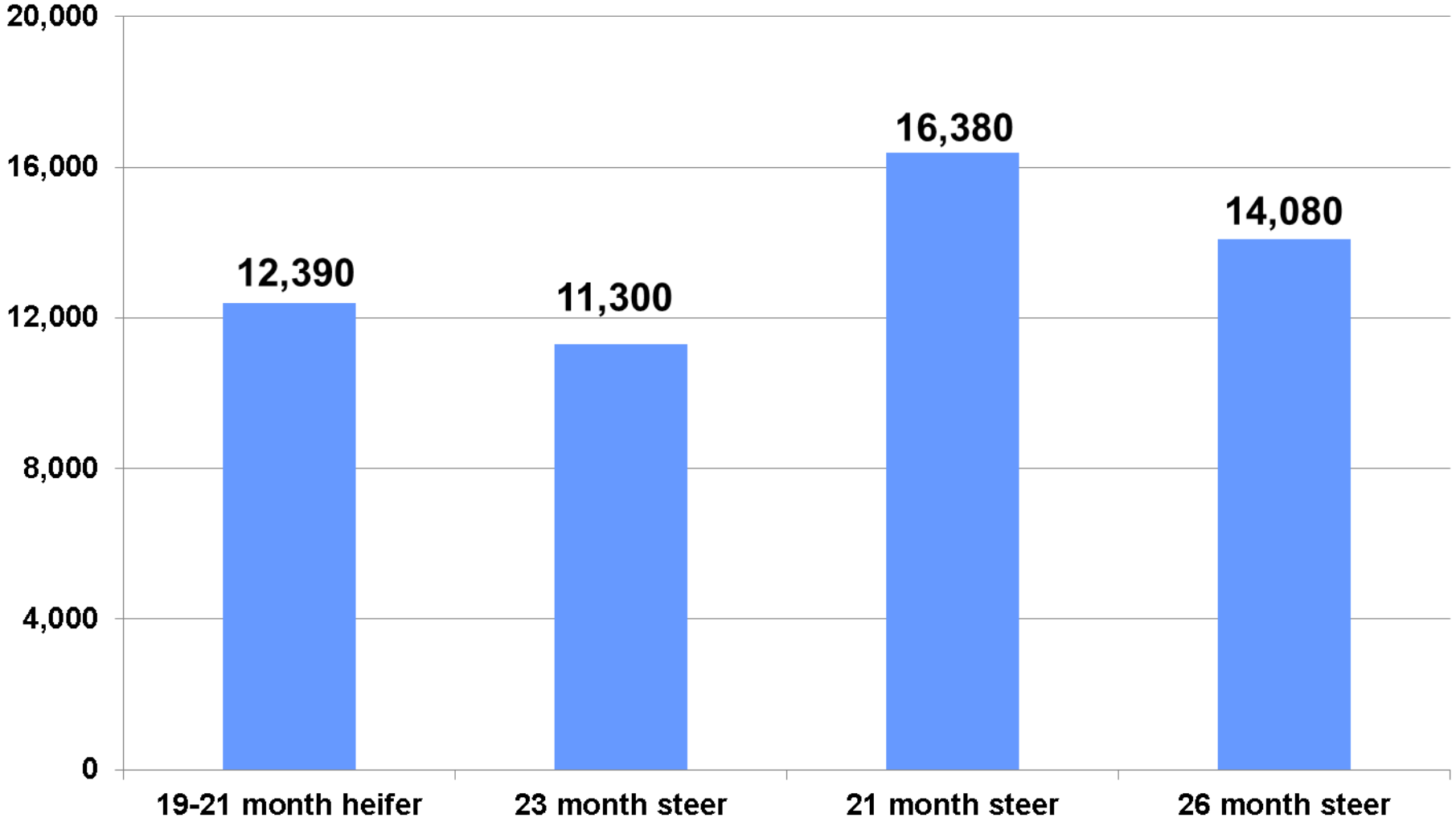
€4.37 / kg

€1,346

Profitability of EM systems (€/head)



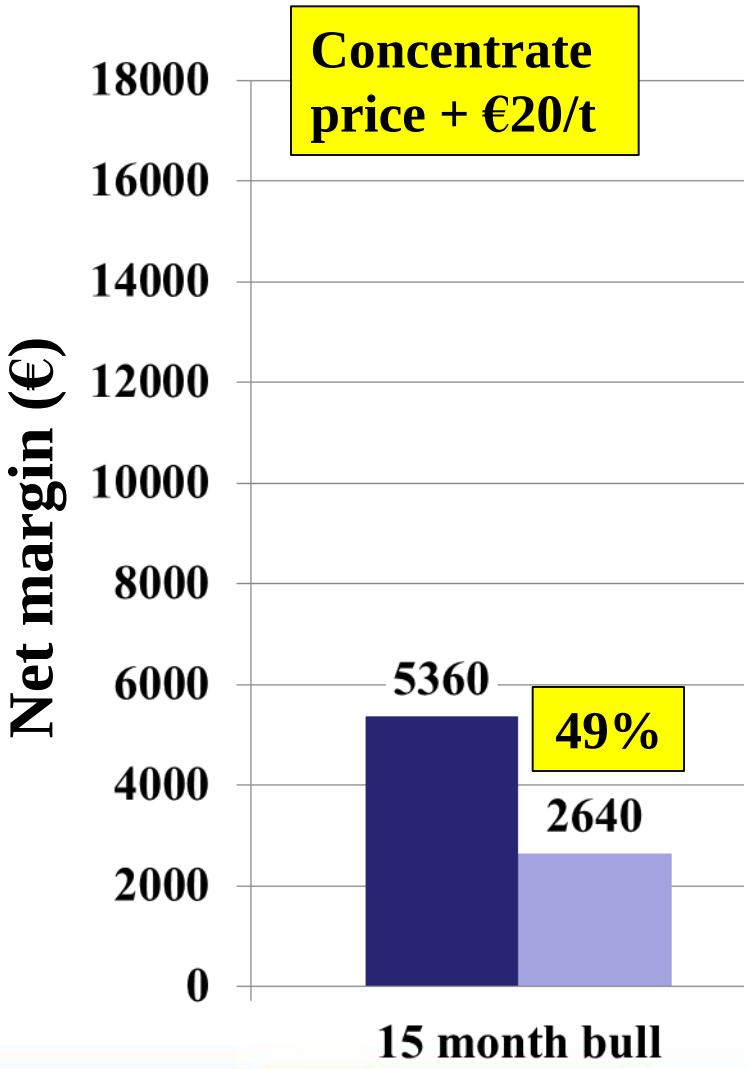
Net margin on a 20 hectare farm (€)



Risk Factors

- **Dairy bulls:**
  - **Market availability/ price discounts**
  - **Concentrate price**
- **Beef price**
- **Calf price**
- **Stocking rate**
- **Animal health**

Sensitivity Analysis on a 20 ha farm



Take home messages

- **Decide and set targets for the system(s)**
  - **Match to farm circumstances**
  - **Potential to be profitable – management critical**
- **Set a ceiling for calf price**
- **Establish systems that optimise animal performance and utilise high levels of grazed herbage**
- **Focus on output per hectare from pasture based systems**

THANK YOU