Optimising milk production with fertility

George Ramsbottom

Teagasc Oak Park

Outline

- **The base cow**
  - **Milk √**
  - **Fertility X**

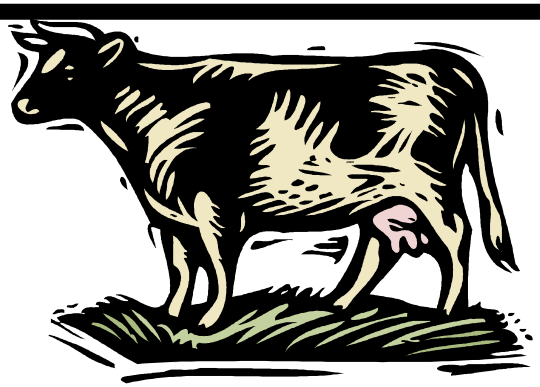
- **Lactation length / herd age ⇓ 1,000 litres**
- **€125 Fertility - 365 day calving interval**

The Fertility Stool

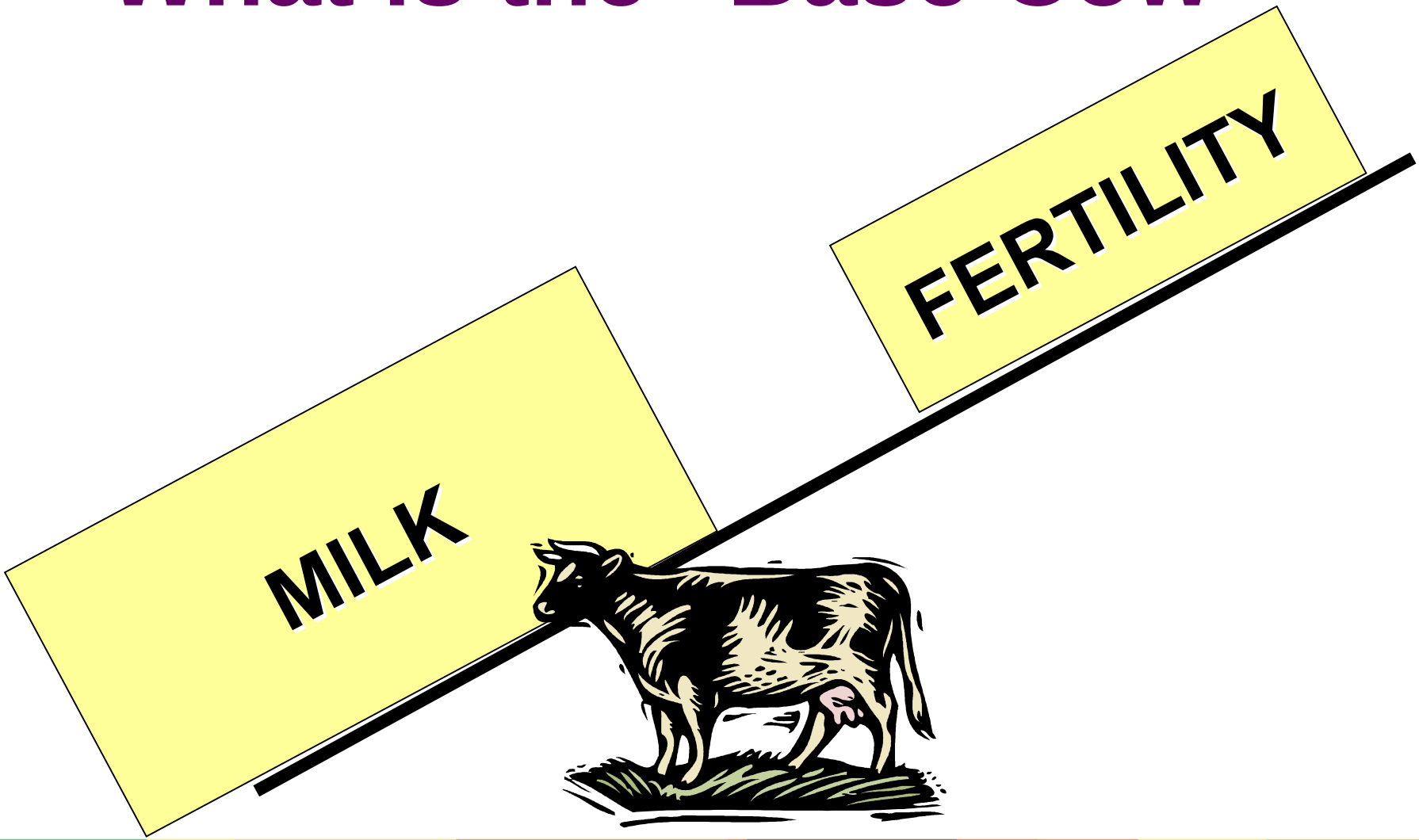
What is the “Base Cow”

PD = 0

MILK	FERTILITY
367 kg Milk solids	387 day calving interval
3.79% Fat & 3.30% Protein	83% survival



What is the “Base Cow”



What does a ‘base herd’ look like?

Lactation	% herd	Yield litres	Yield MS
1st calvers	18%	5,190	367 kg
2nd calvers	16%	5,767	408 kg
Mature cows	66%	6,488	459 kg
Herd average		**6,139**	**434 kg**

What does a ‘base herd’ look like?

Lactation	% herd	Yield litres	Yield MS
1st calvers			
			408 kg
M cows	66%	6,488	459 kg
Herd average		**6,139**	**434 kg**

This age structure is not possible with the base cow

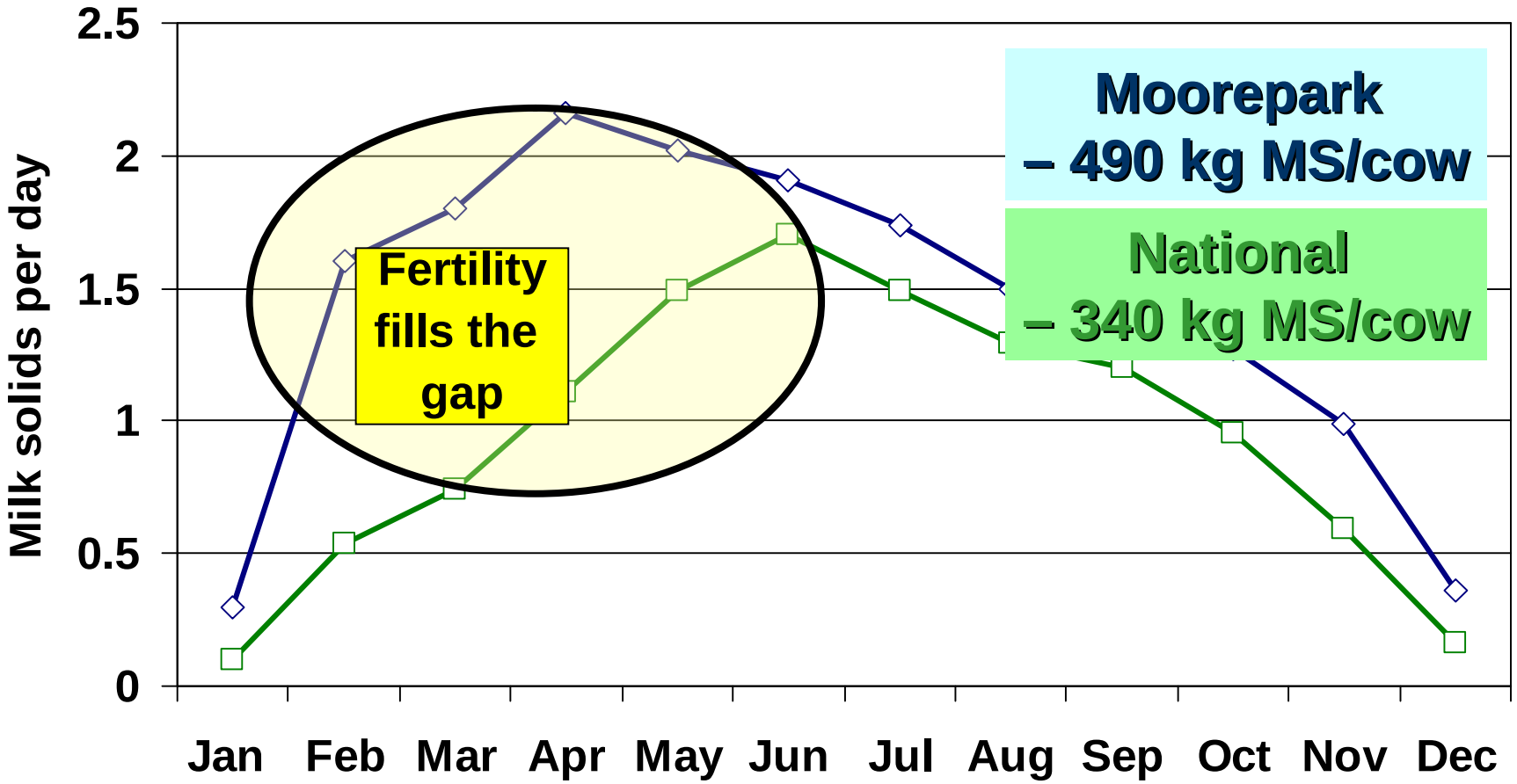
Short lactation / herd age profile

	Days in milk	Milk solids (kg)	Difference (kg)
Base Herd	305	434 kg	
Calving date slip	270	389 kg	- 45 kg

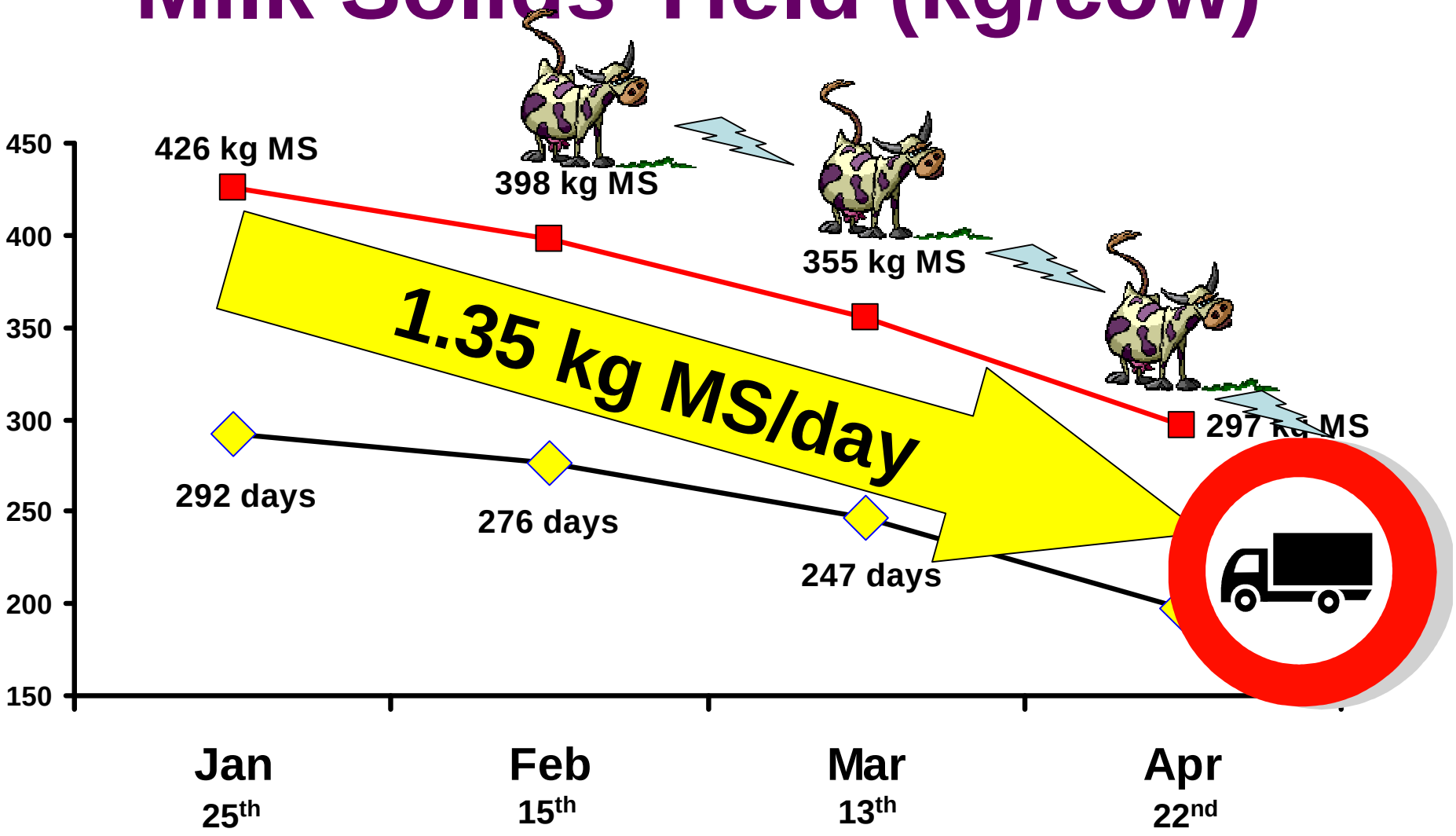
* (30% Heifers / 25% 2nd Calvers)

Monthly milk solids production

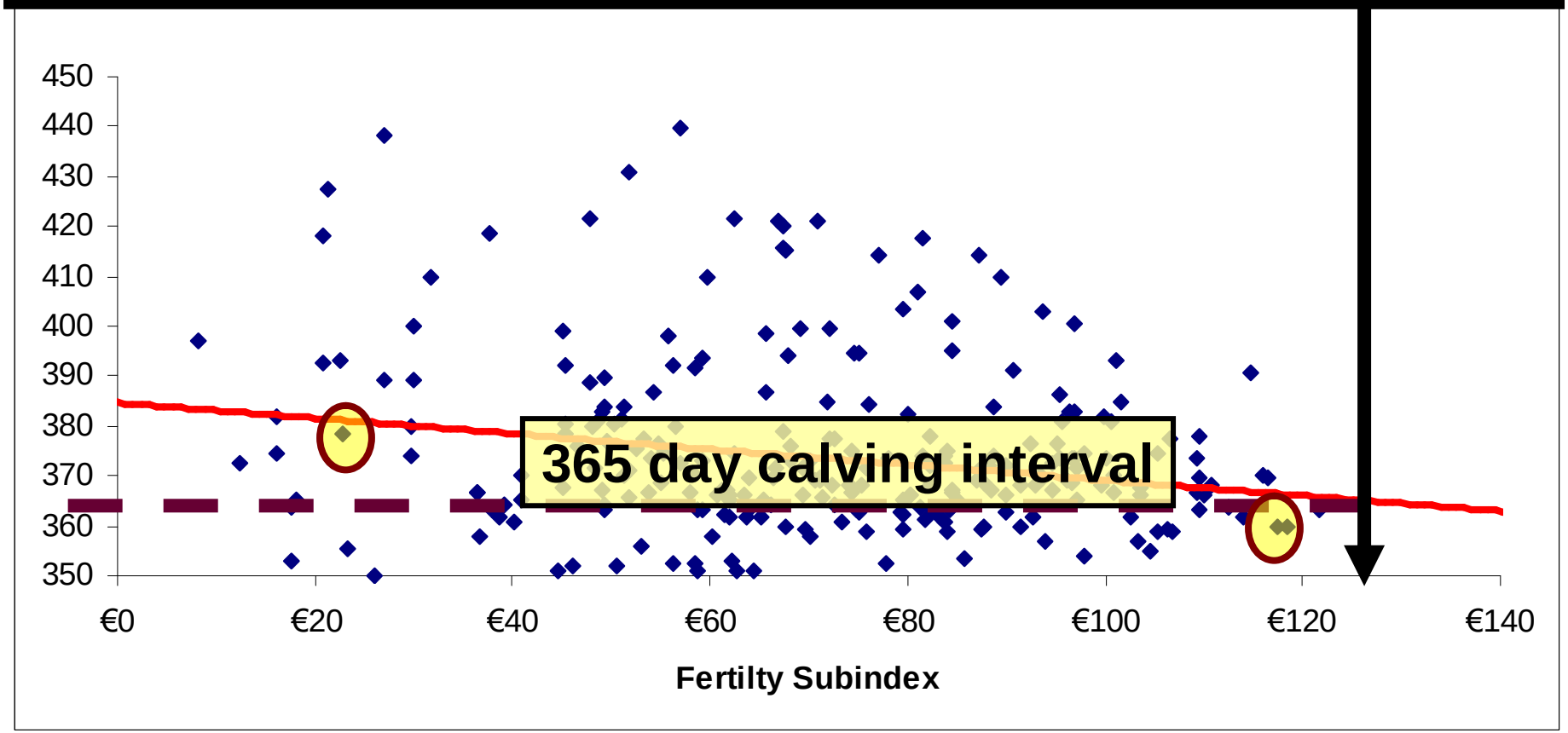
Moorepark vs national herd (2005)



Milk Solids Yield (kg/cow)



365 day calving interval - €125 Fertility Sub-index



Breeding a high fertility herd

	Num of Cows	Milk Kg Fat % Prot %		Surv% Cl Days	Milk % Contrib	Fertility % Contrib	Calving % Contrib	Beef % Contrib	Mainten. % Contrib	Health % Contrib	EBI €
I	140	-7			€ 33.5	€ 83.4	€ 14.3	€ -16.7	€ 12.6	€ -0.6	€ 127
	0	7.0	0.14	2.0	21%	51.6%	8.9%	-10.3%	7.8%	-0.4%	
	140	4.2	0.09	-5.0							

- **Target** - €125 Fertility Subindex
- €250 - €83.4 = €167
- **€167 = average AI sire Fertility Subindex**
- Can this be achieved in one generation?

Summary

- **The base cow**
  - **Milk √**
  - **Fertility X**
- **Lactation length / herd age ⇓ 1,000 litres**
- **€125 Fertility - 365 day CI – 60 kg MS**