

# Profitability of Tasmanian beef enterprises:

Calving dates and stocking rates for  
weaner and yearling production systems



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Grassland Society of Southern Australia Inc



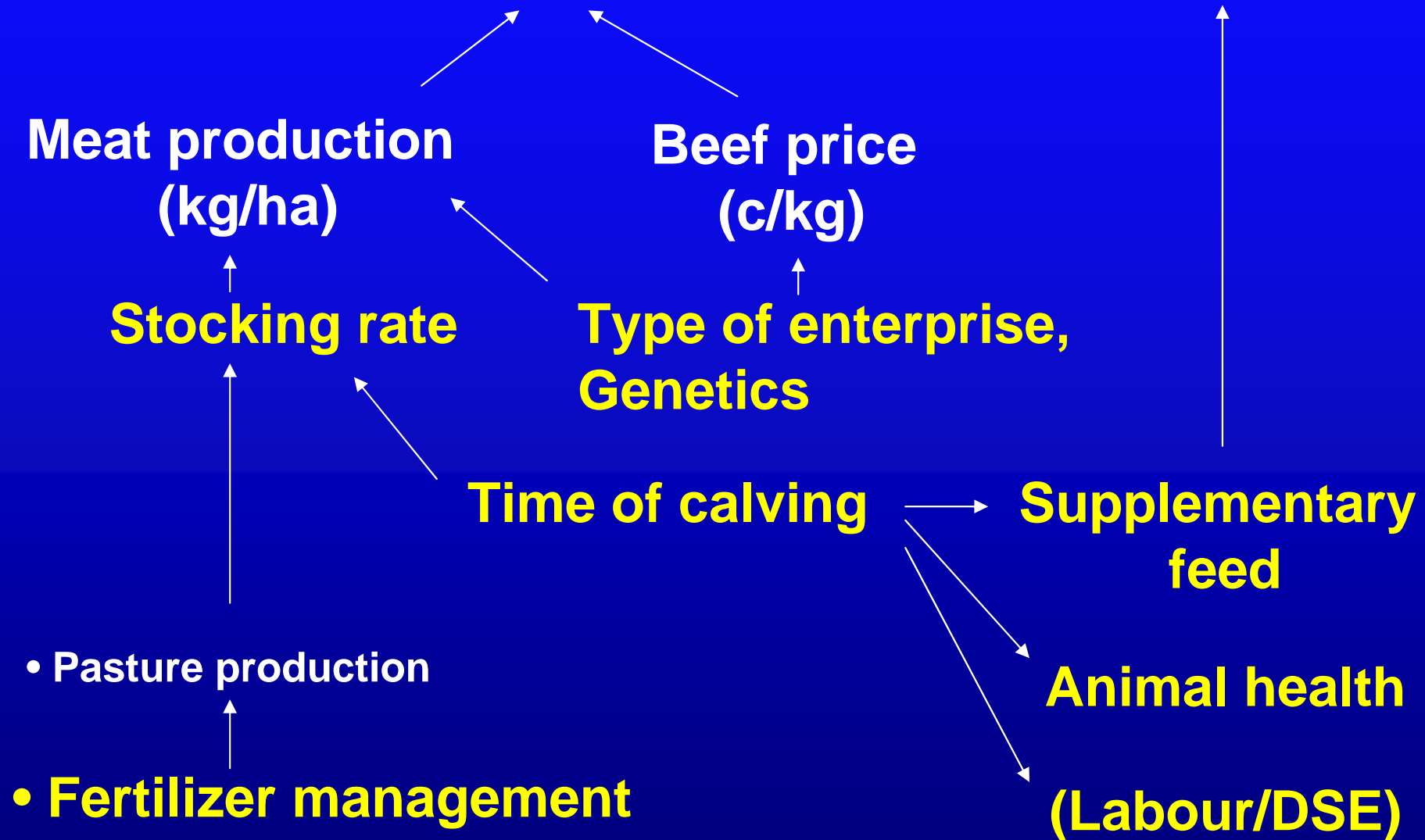
# How can I make more from beef?

“Profitable grazing businesses generate  
more income  
for roughly the same costs  
as less profitable farms”

Holmes, Sackett and Associates, 2004



# More income, same costs



# Key questions for beef production systems in midlands TAS

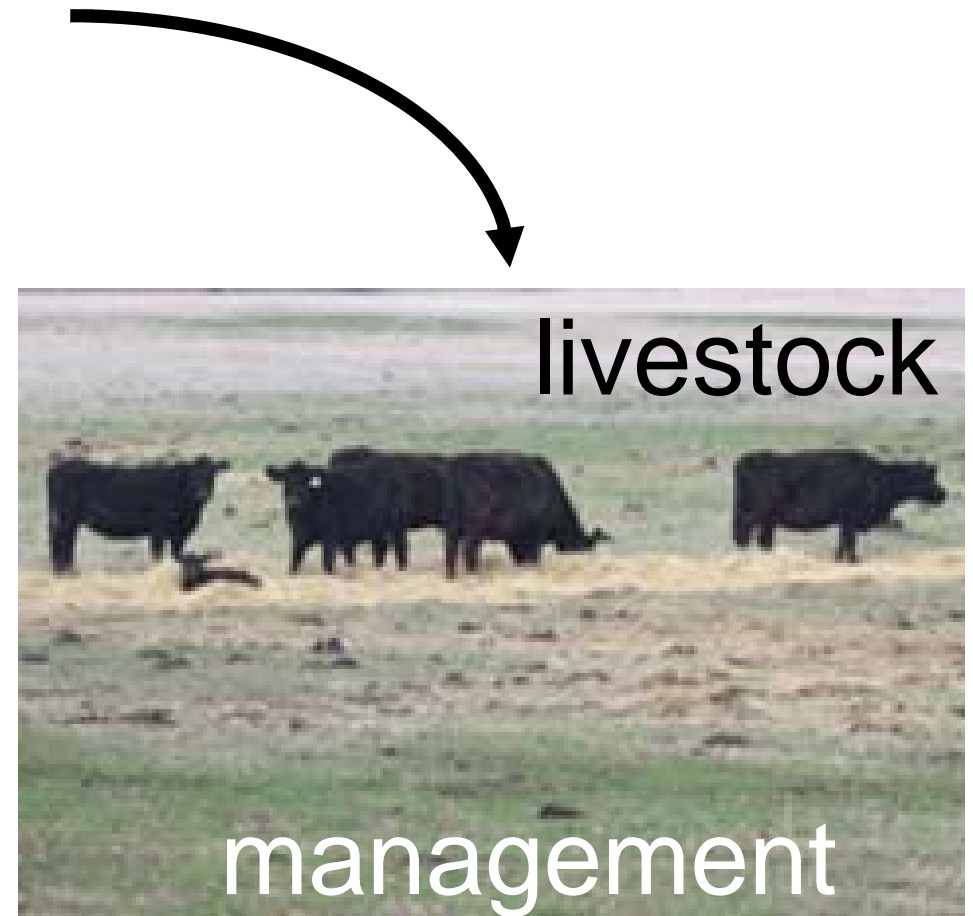
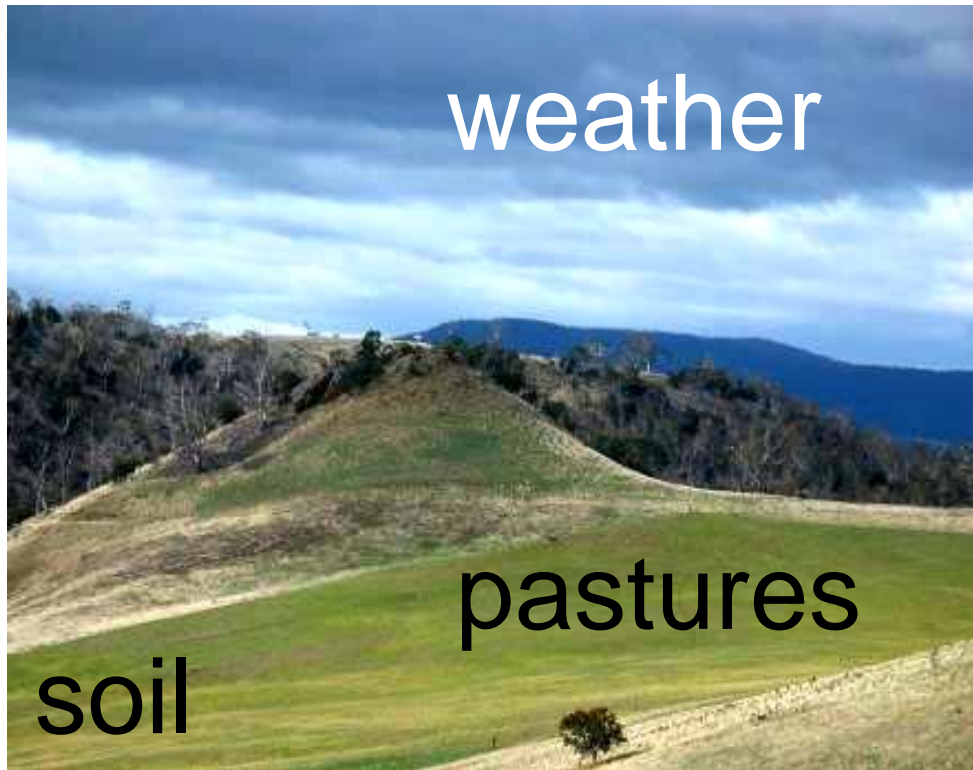
What are the most profitable and sustainable:

1. stocking rates?
2. enterprises?
3. calving dates?
4. levels of supplementary feeding?

*Specific for farm, over a range of seasons*

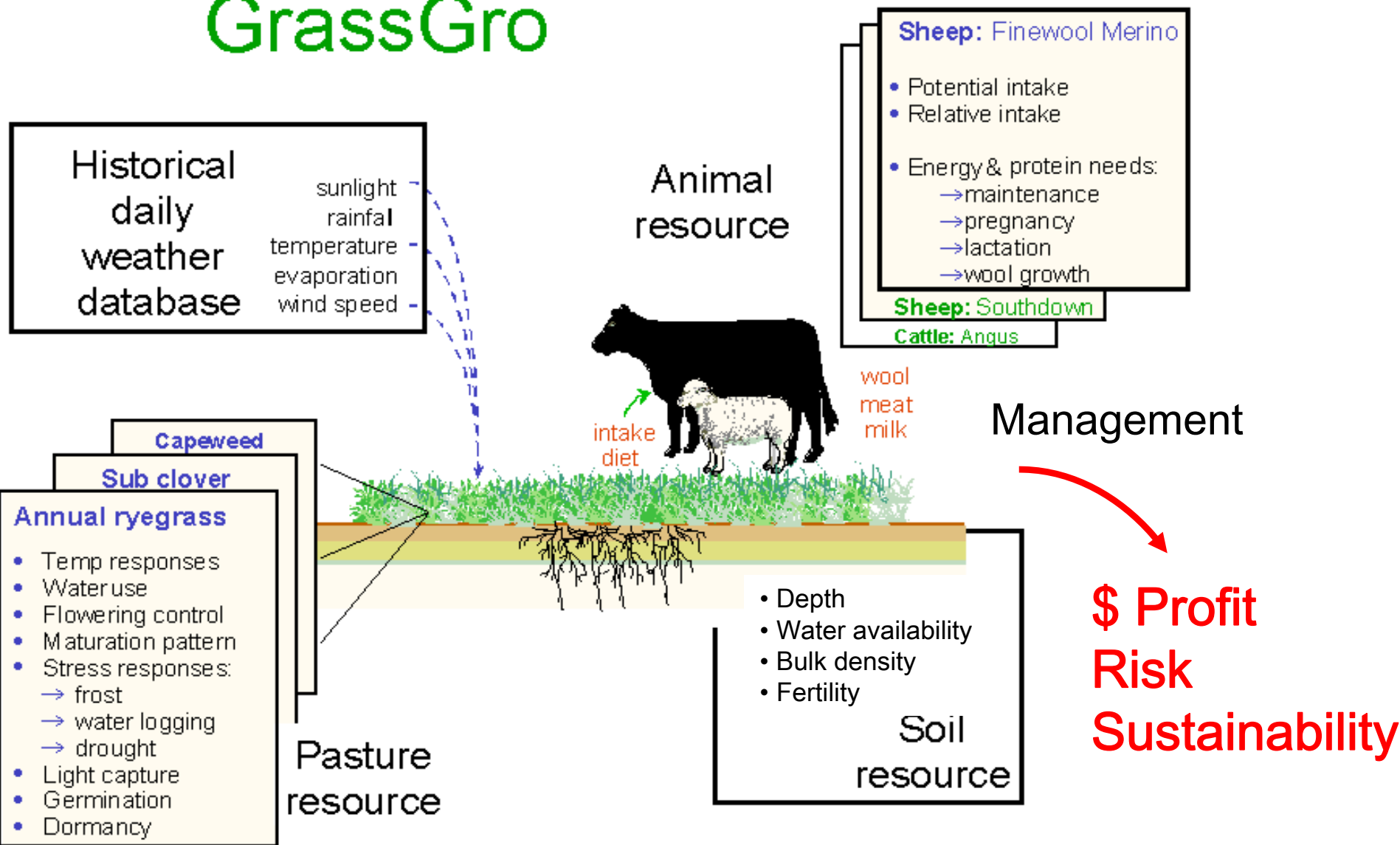


# Farm resources

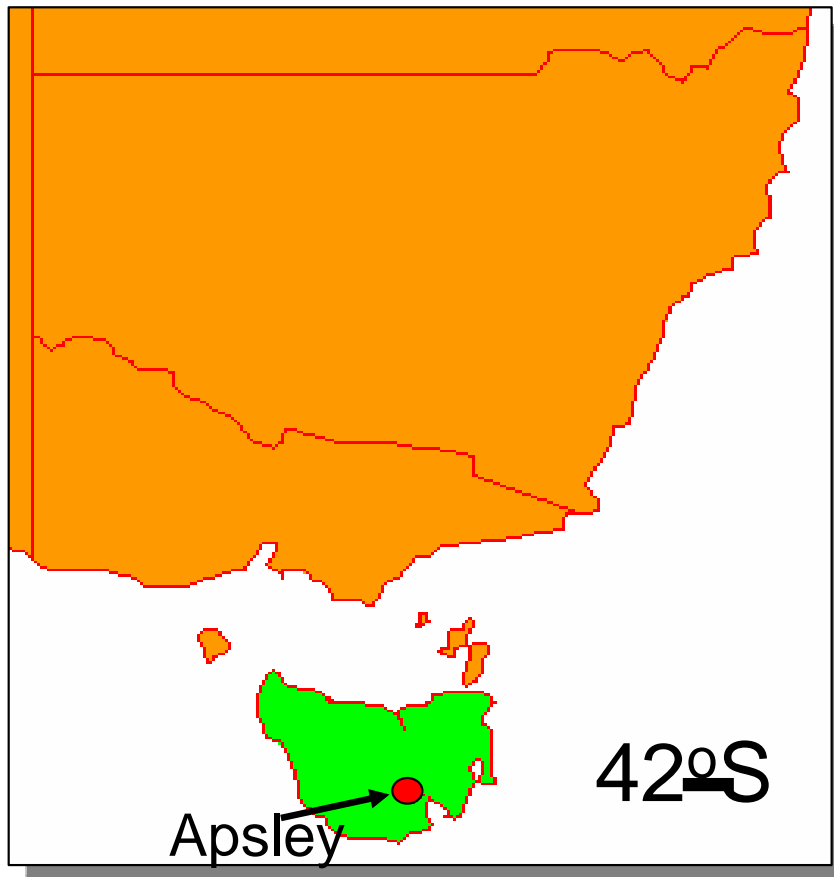


# Putting the farm's resources together

## GrassGro



# Southern midlands -climate and pasture growth



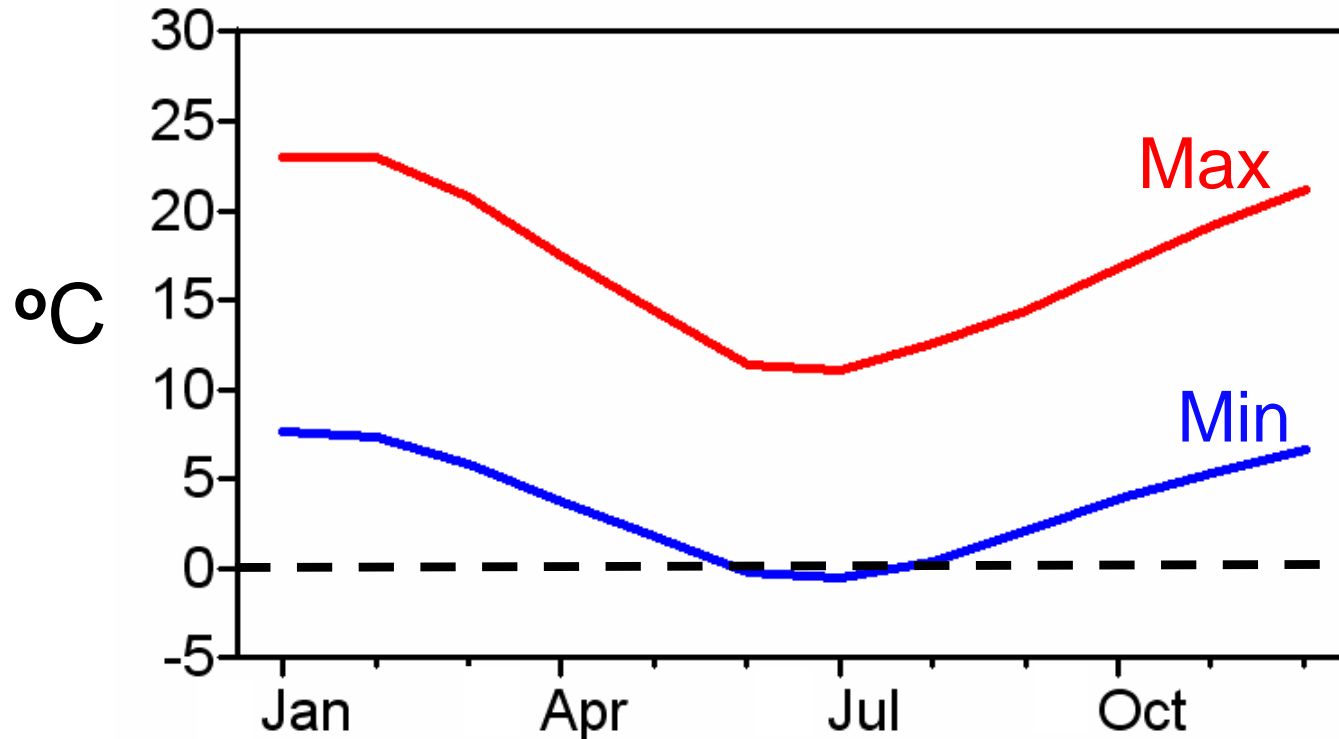
Elevation: 270 m

Annual rainfall: 550 mm  
(1979-2004)



# Daily temperatures

Average monthly temperatures



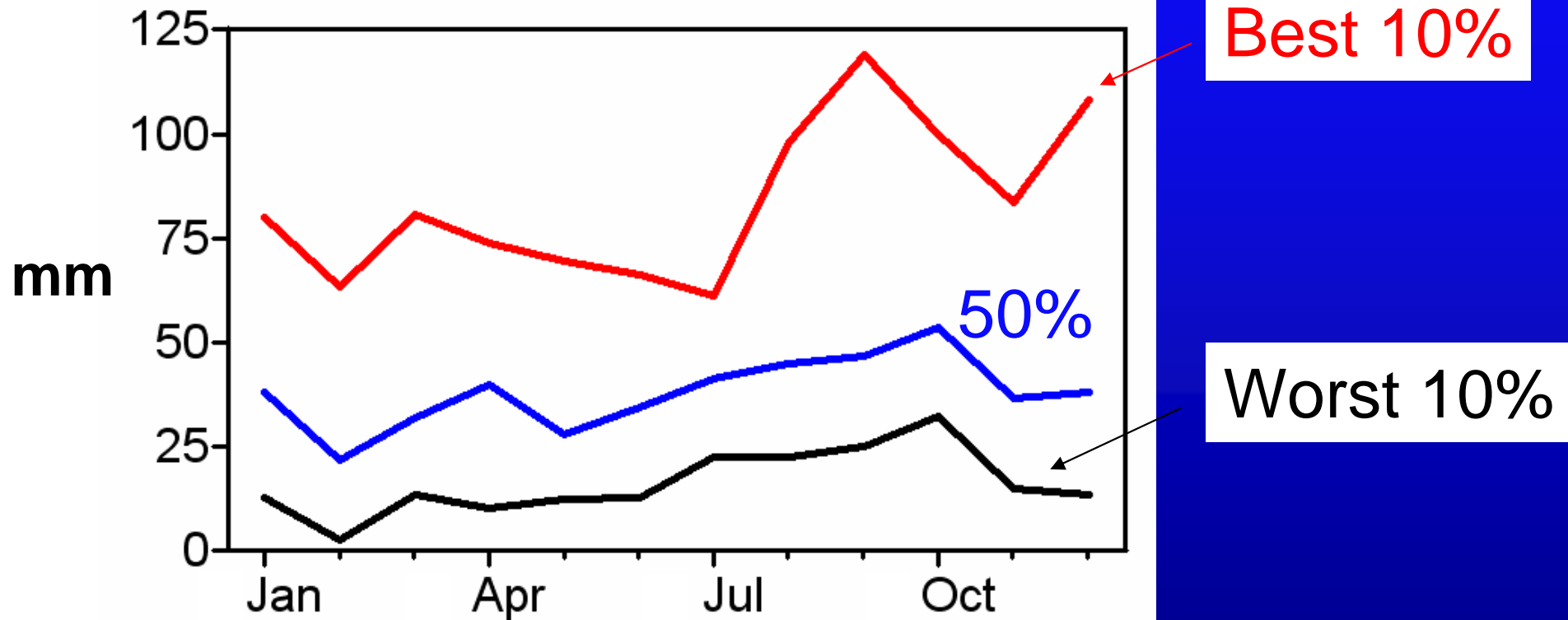
+ short days  
in winter





# Rainfall variability

Percentiles for monthly rainfall

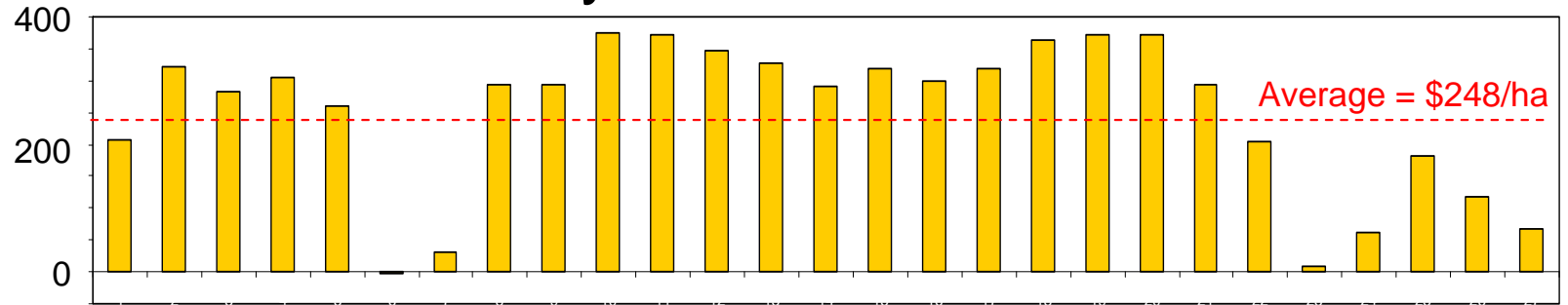


Climate variability

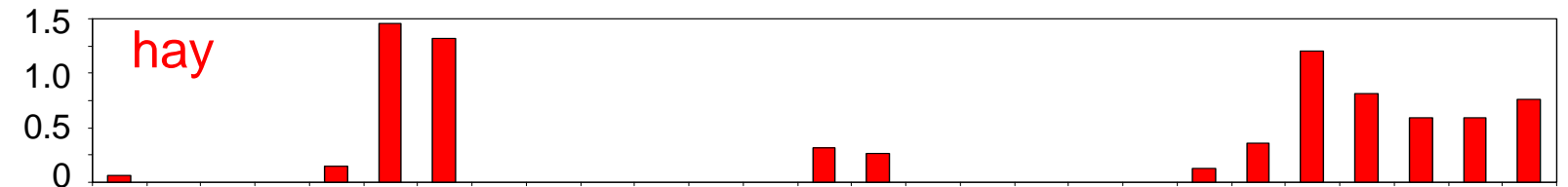


Production risk

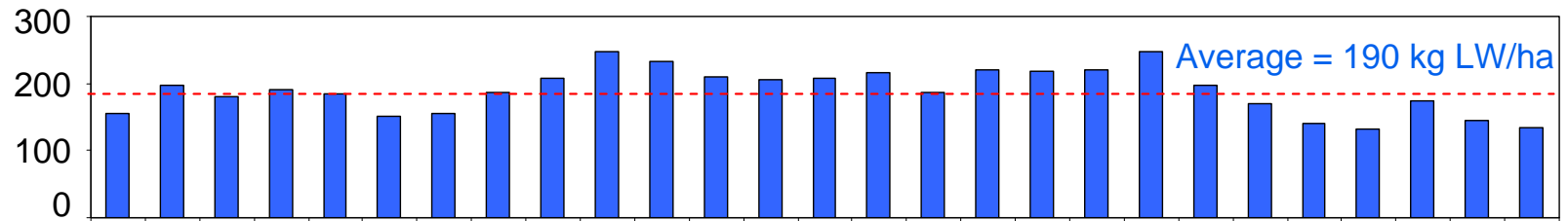
Gross margin (\$/ha)



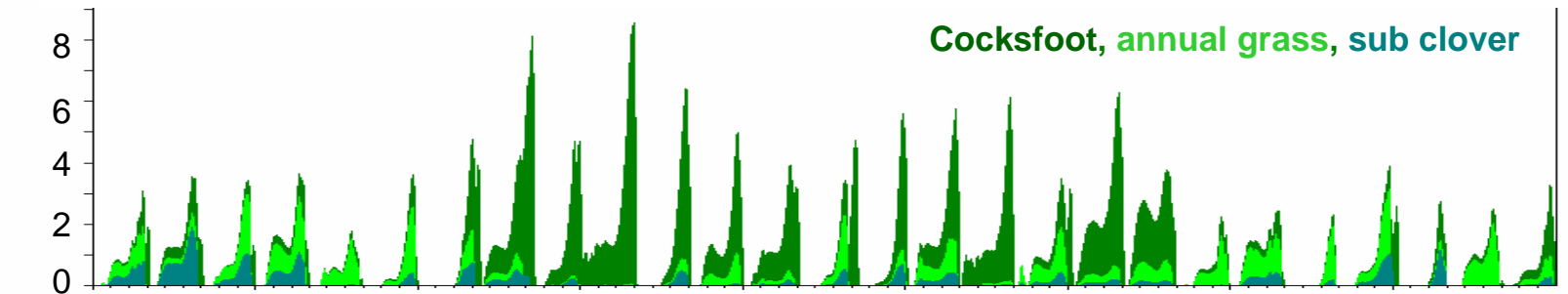
Feed (t/ha)



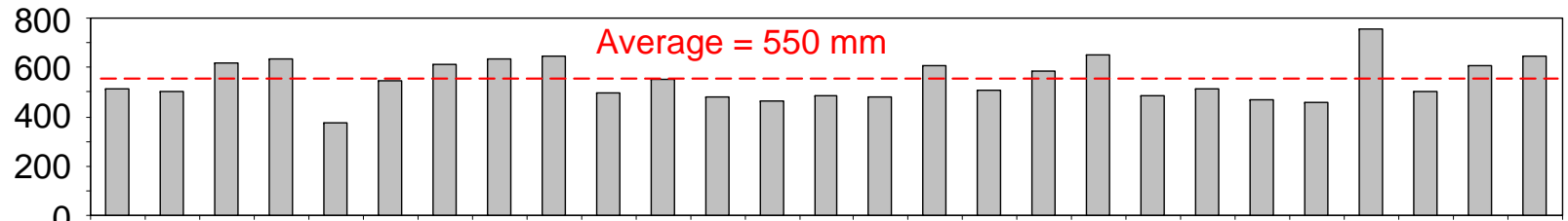
Meat production (kg LW/ha)



Green pasture (t DM/ha)

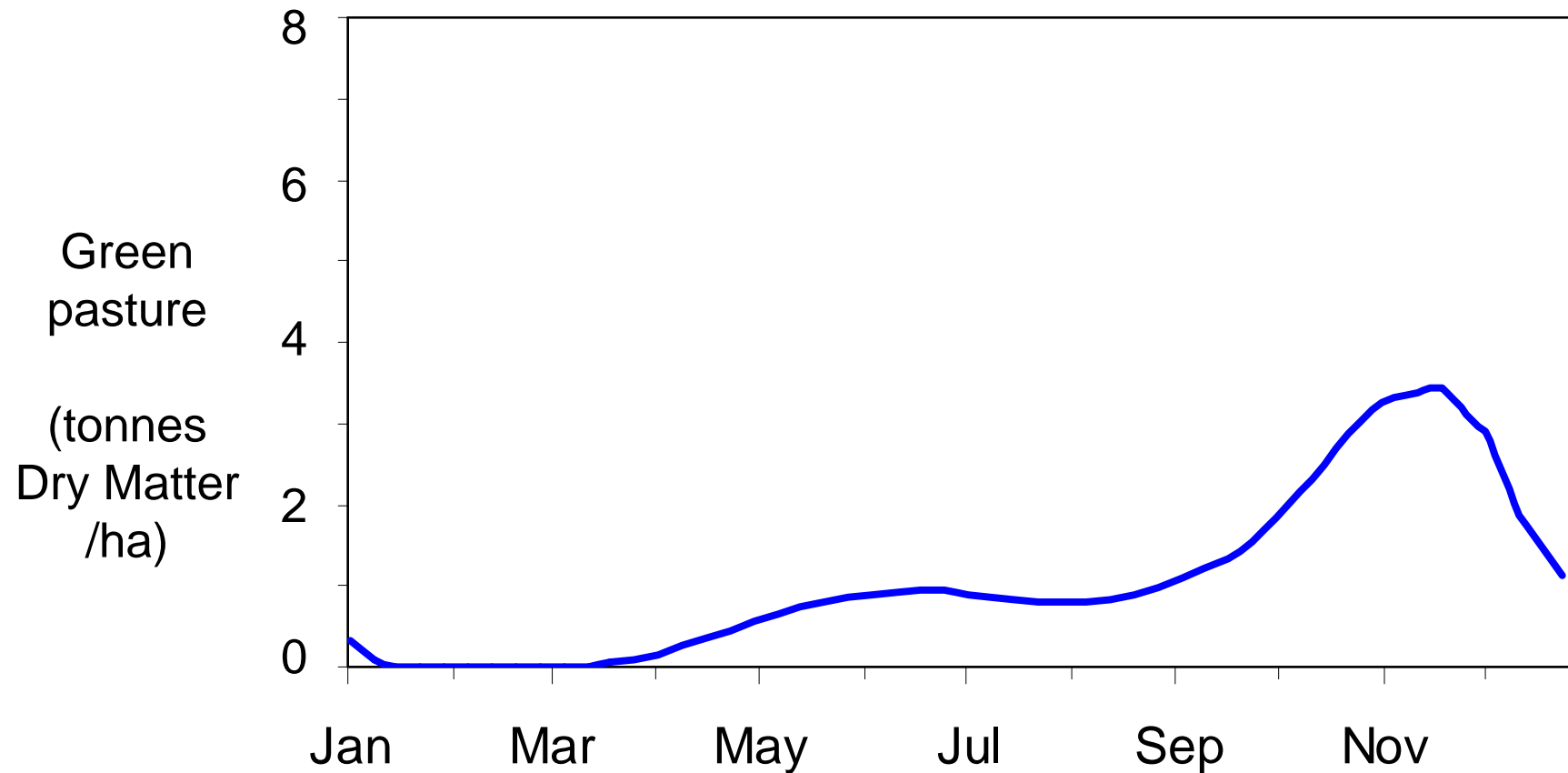


Annual rainfall (mm)

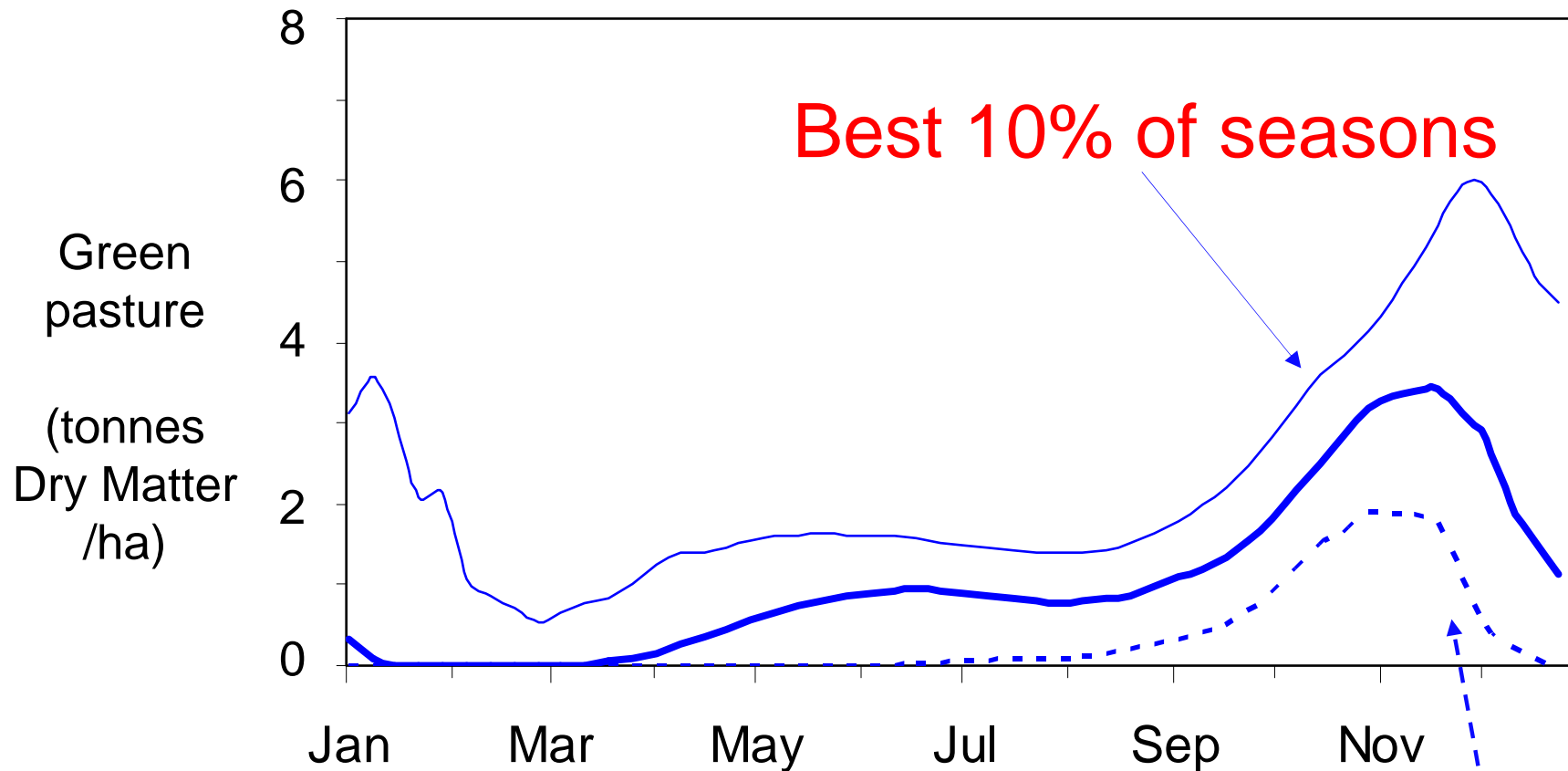


# Pasture supply – S. Midlands

Cocksfoot - annual grass - sub clover



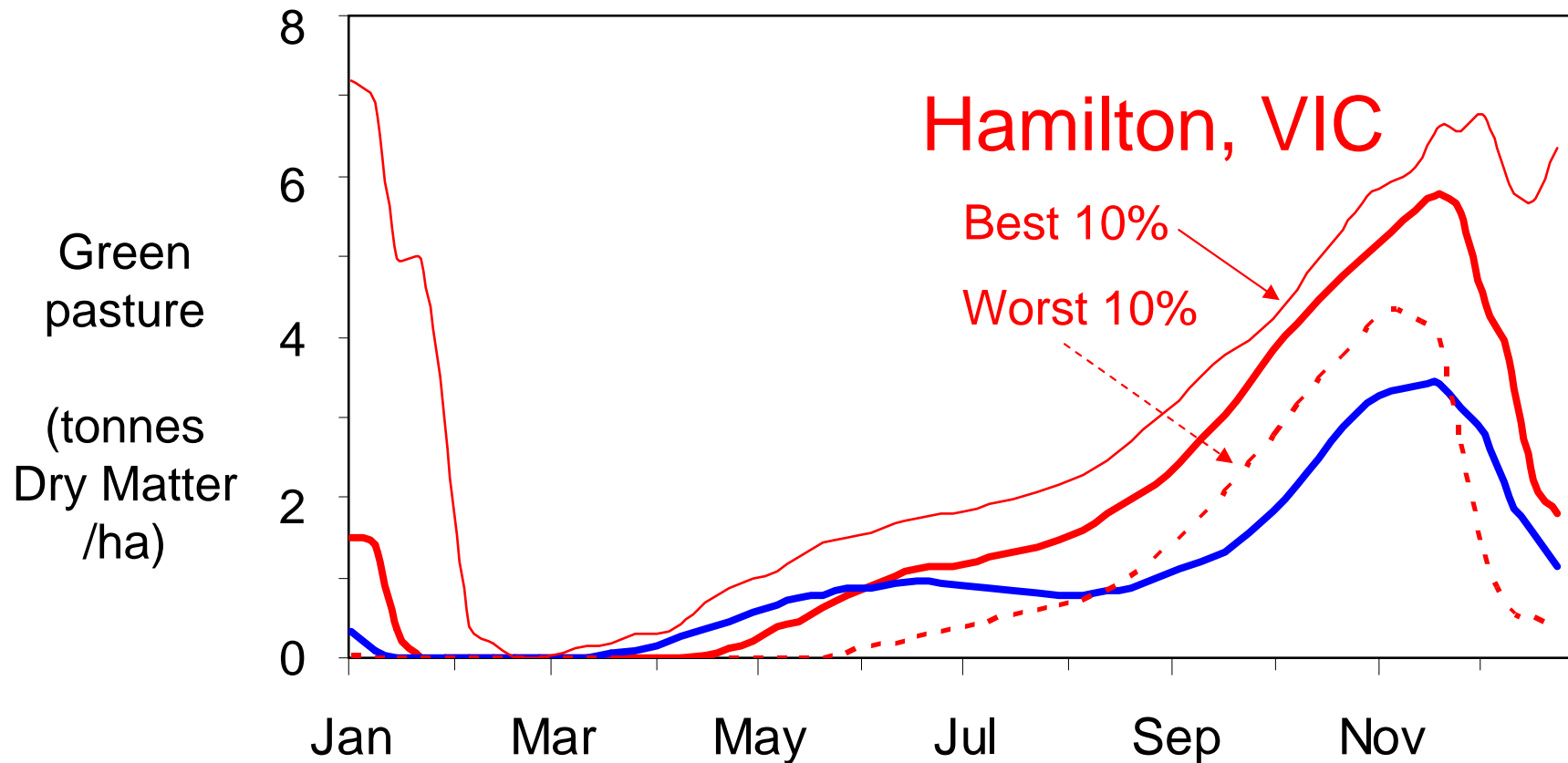
# Variability in pasture supply



**Worst 10% of seasons**



# Reliability of pasture supply - S. Midlands vs SW Victoria



# Beef systems tested

- Self-replacing herd: 550kg Angus cows
  - **Weaner** & **Yearling** production
  - **5** stocking rates at **3** winter-spring calving dates
- Common weaning date (end Mar)



# Assumptions for weaner system

- Weaners sold on 1st April (7-9 months)

Weaners prices (c/kg LW):

	<b>&lt; 285 kg</b>	<b>&lt; 300 kg</b>	<b>&gt; 300 kg</b>
Steers	270	250	230
Heifers	215	200	185

- CFA cows 130 c/kg LW



# Assumptions for yearling system

- Yearling steers sold on 15th Dec (15-17 months)
- Cull heifers sold on 1 Mar (18-20 months)
- Prices:
  - Steers 220c/kg LW
  - Heifers 175c/kg LW
  - CFA cows 130c/kg LW





# Profit driver: Stocking rate

Test 5 stocking rates:

0.3, 0.6, 0.9, 1.2, 1.5 **cows/ha**

Over 25 years (1979-2004)



# Grazing pressure: cows/ha vs DSEs

	<i><b>Weaner System</b></i>
Cows/ha (includes repl. heifers)	<i>0.9</i>
Followers/ha	0
DSEs/ha on 1 Jul	8.5



# Grazing pressure: cows/ha vs DSEs

	<i>Weaner System</i>	<i>Yearling System</i>
Cows/ha (includes repl. heifers)	0.9	0.9
Followers/ha	0	0.6 yearlings
DSEs/ha on 1 Jul	8.5	12.7



# Grazing pressure: cows/ha vs DSEs

	<i>Weaner System</i>	<i>Yearling System</i>
Cows/ha (includes repl. heifers)	0.9	0.9
Followers/ha	0	0.6 yearlings
DSEs/ha on 1 Jul	8.5	12.7

**+50%**



# Cost: Supplementary feeding

Feed to maintain condition above:

- score 2.0 -cows
- score 2.5 -weaners

Hay purchased at \$150/t  
(not cut from surplus)

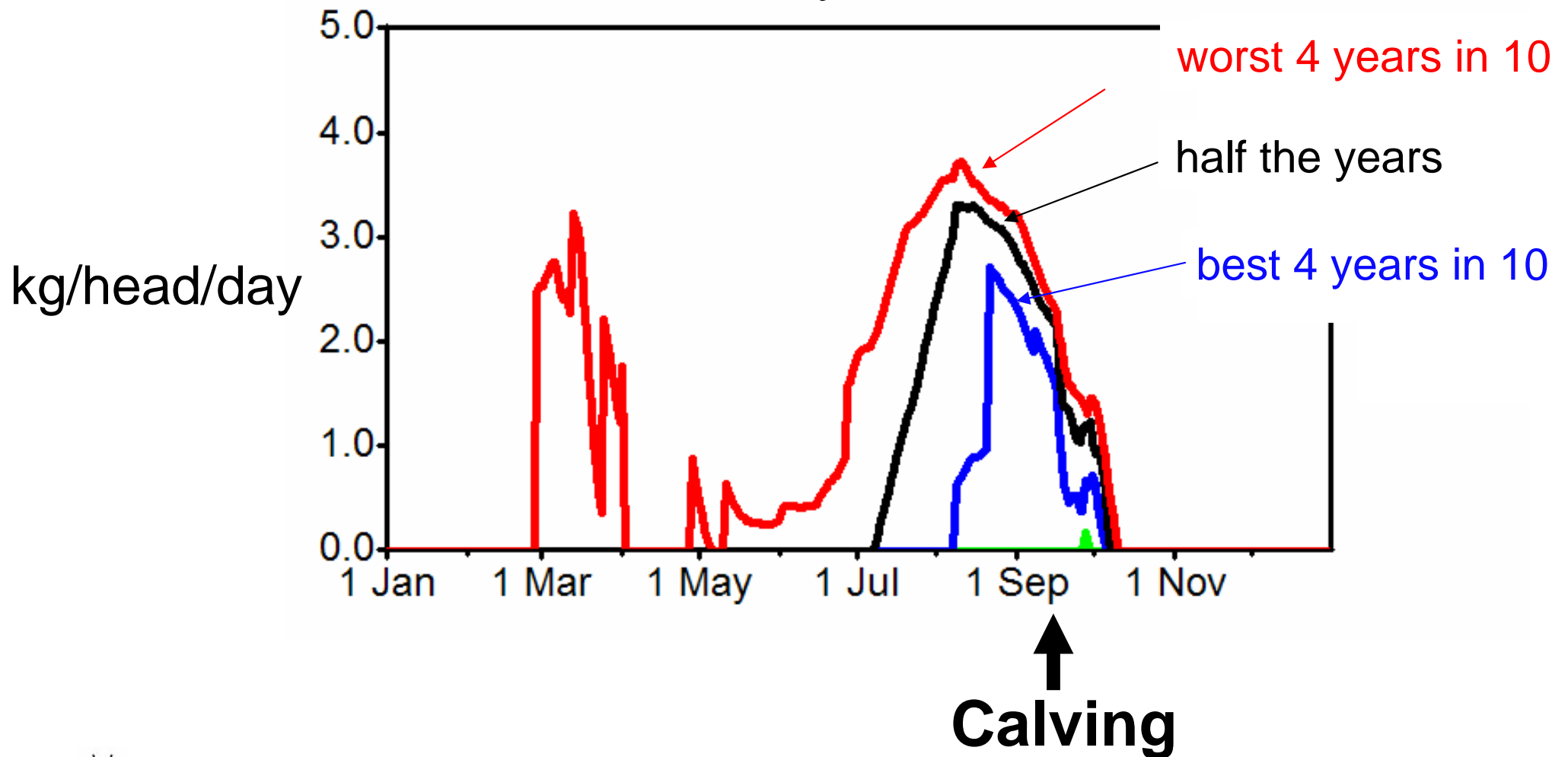


Gross margins calculated after cost of feeding



# Significant feeding needed at calving

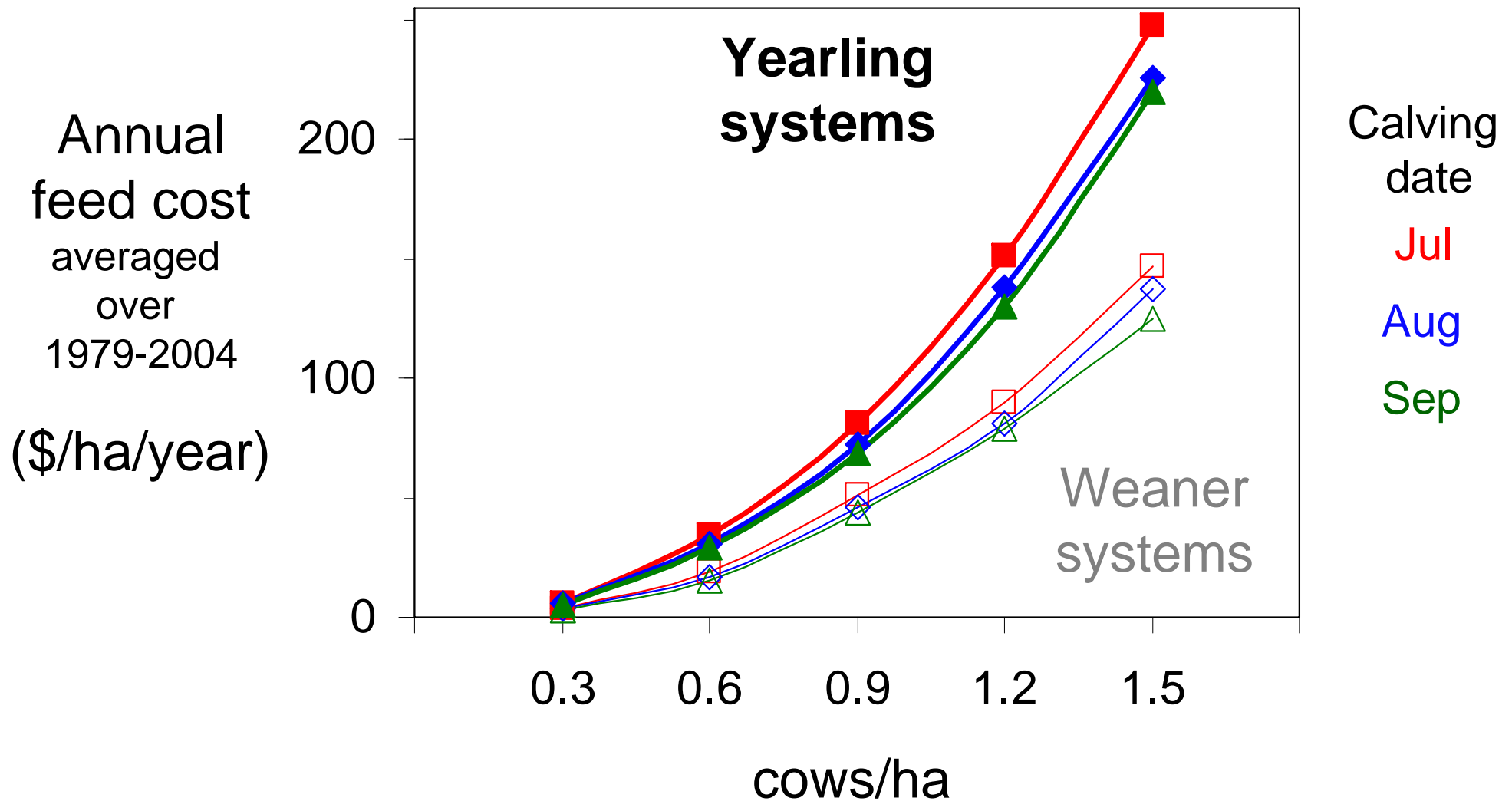
Percentiles for hay fed to mature cows



1.2 cows/ha



# Supplementary feeding depends on stocking rate



# *Key messages - feeding*

- Significant feeding— at stocking rates over 0.6 cows/ha
- Yearling systems - more feeding than weaners
- Weaner systems carry less animals through winter
- In most years, yearlings also fed over winter to maintain weight
- Earlier calving = more feeding

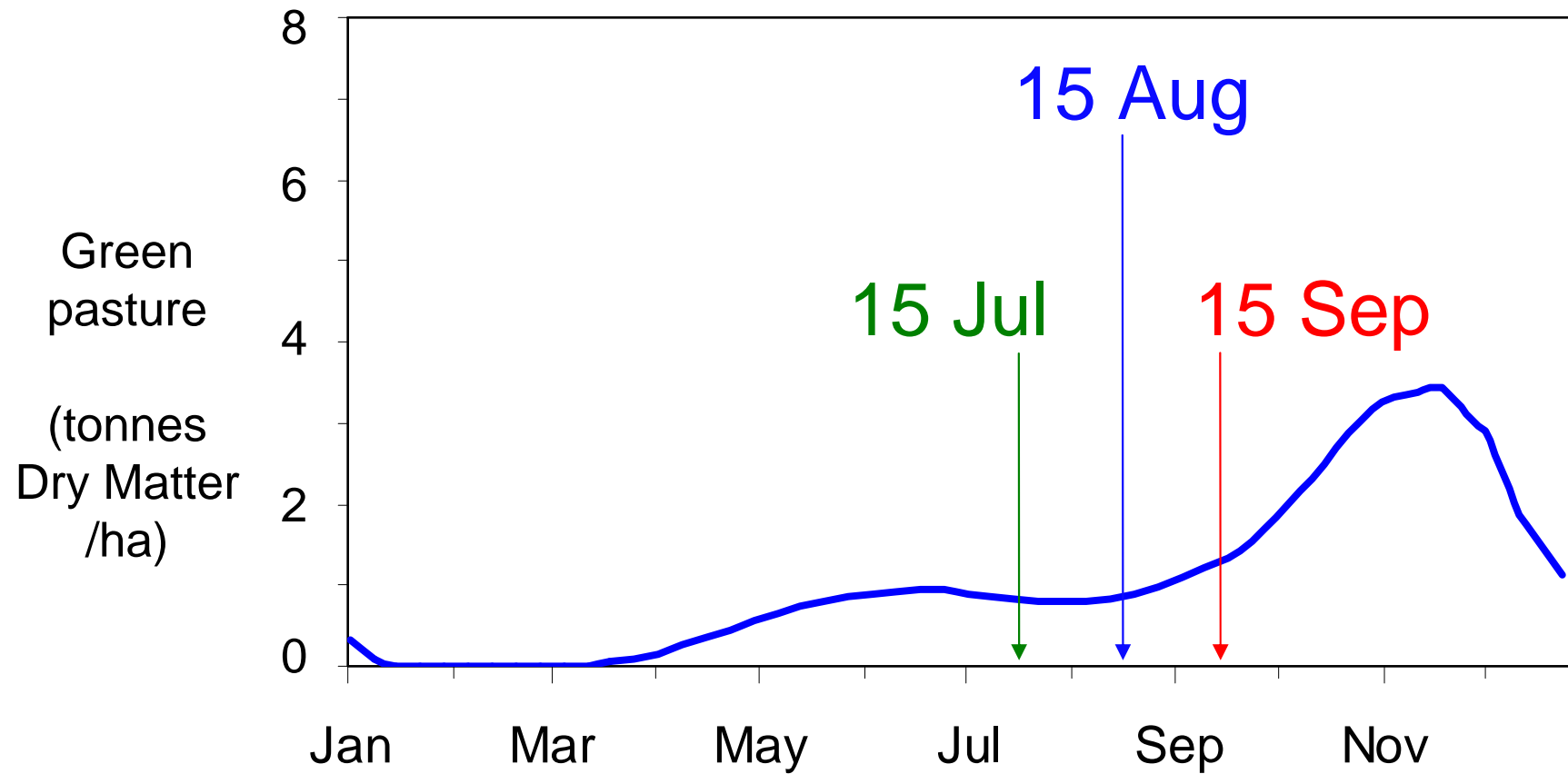




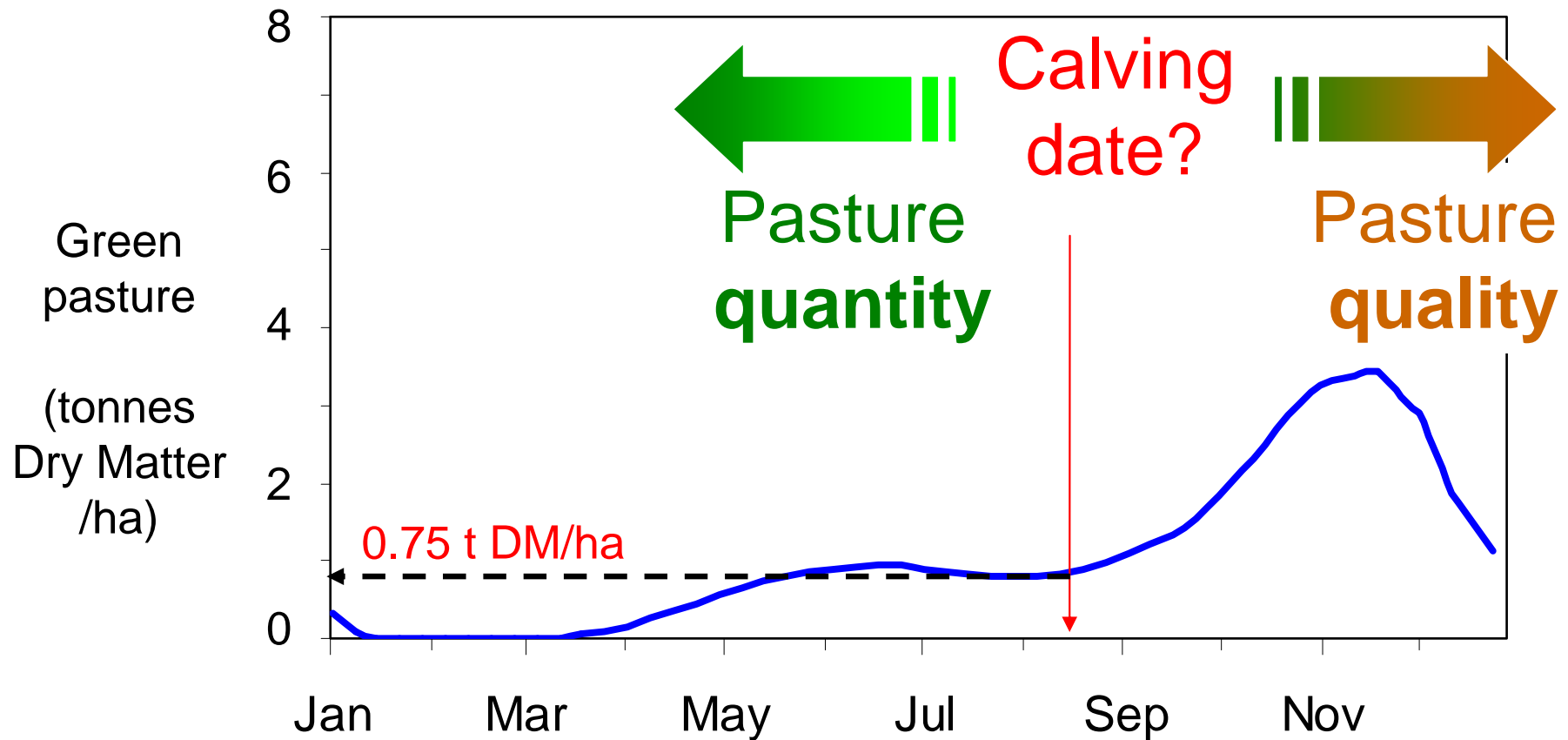
# Profit driver: Time of calving



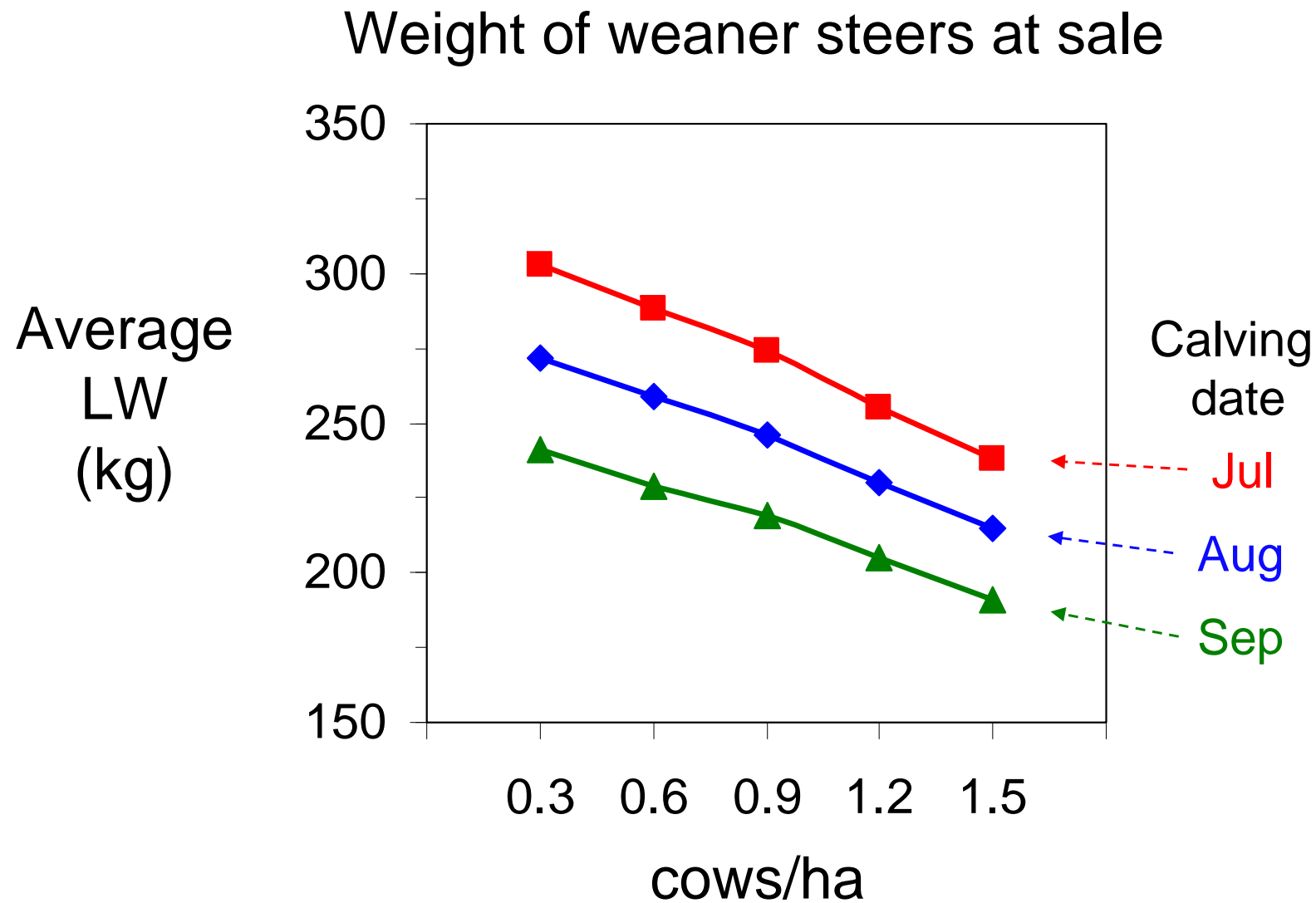
# 3 calving dates tested



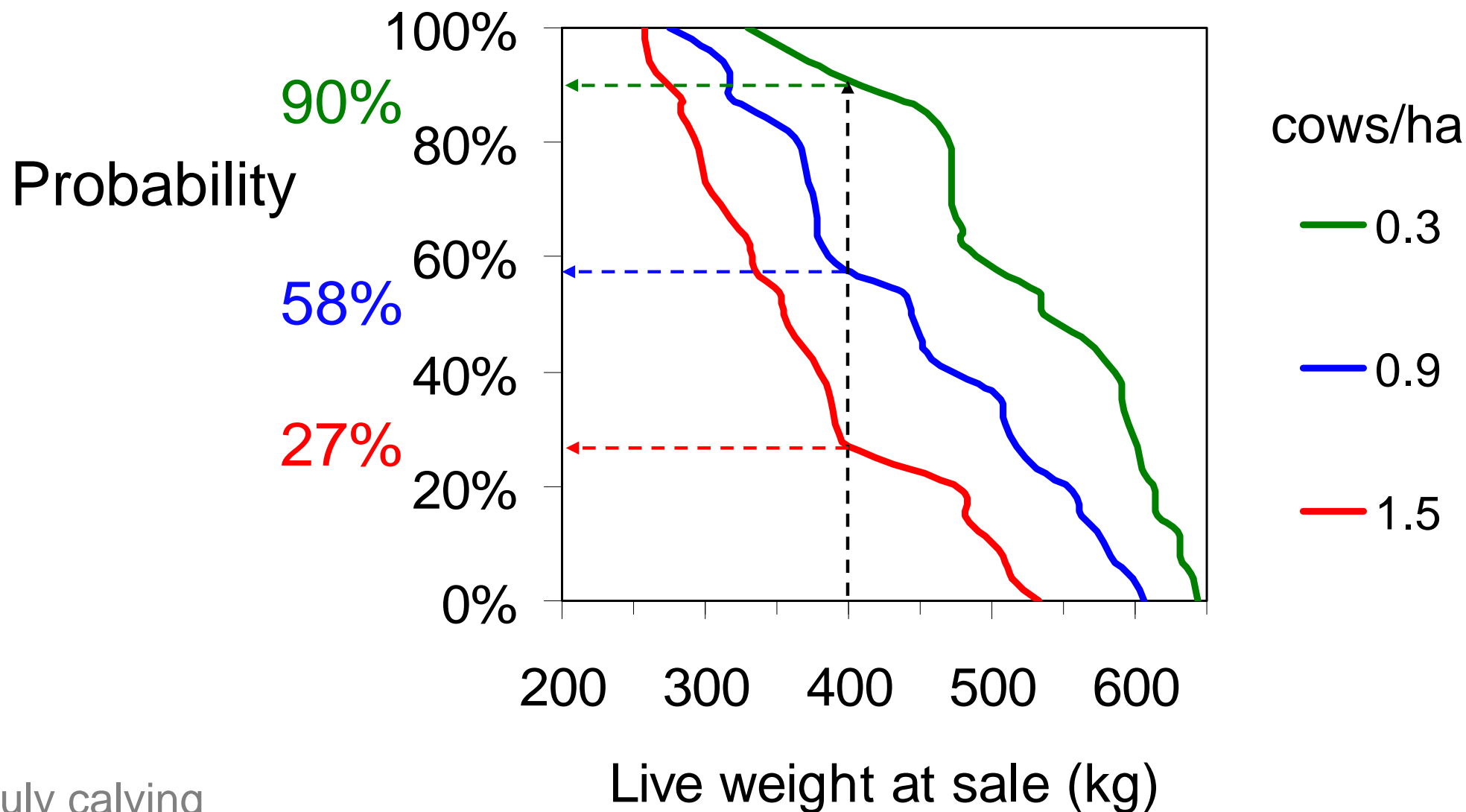
# Time of calving: yearling vs weaner requirements



# Weaners: heavier sale weights from earlier calving and low stocking rates

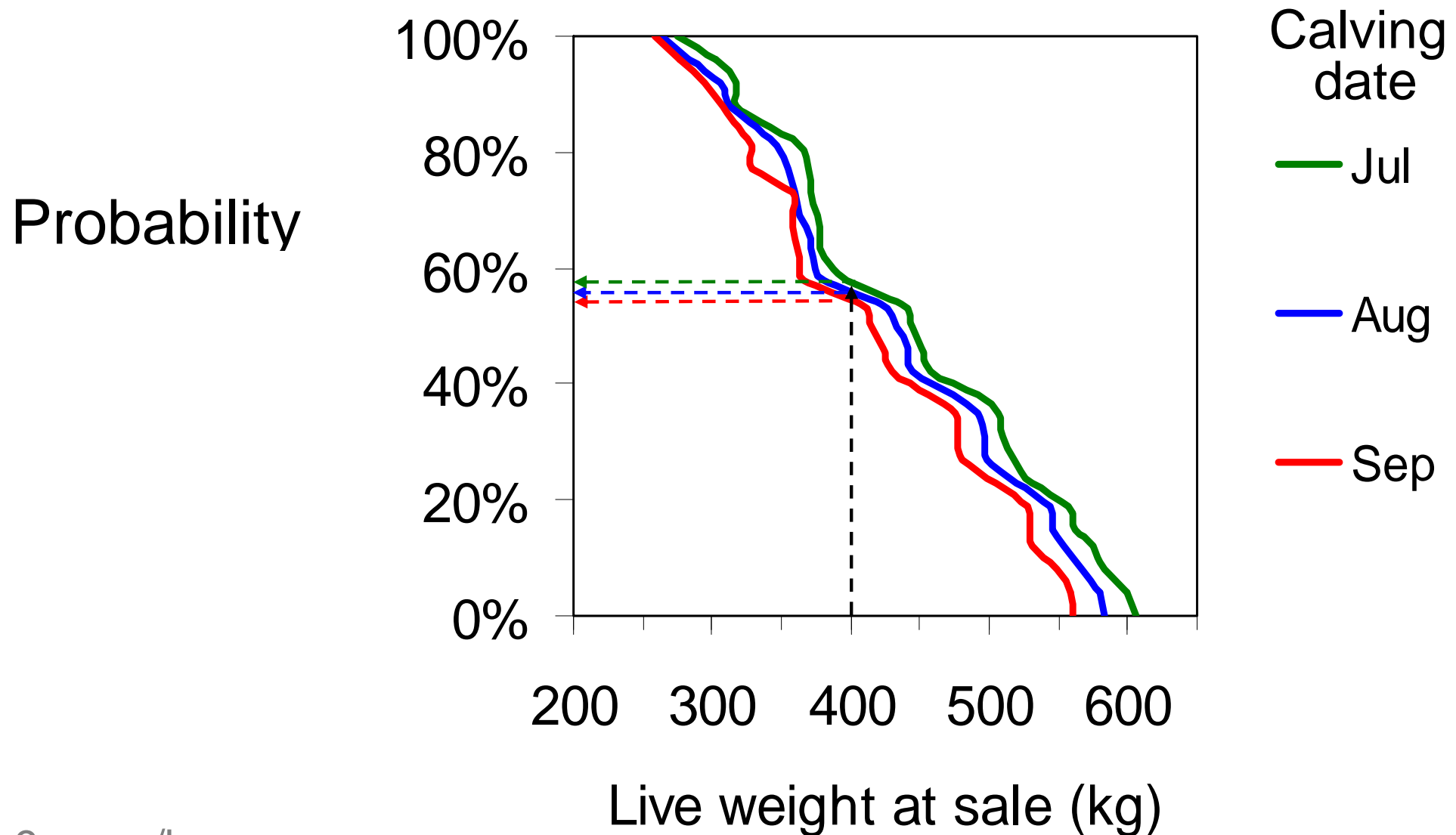


# Yearlings: reaching target (400kg) more likely at low stocking rate



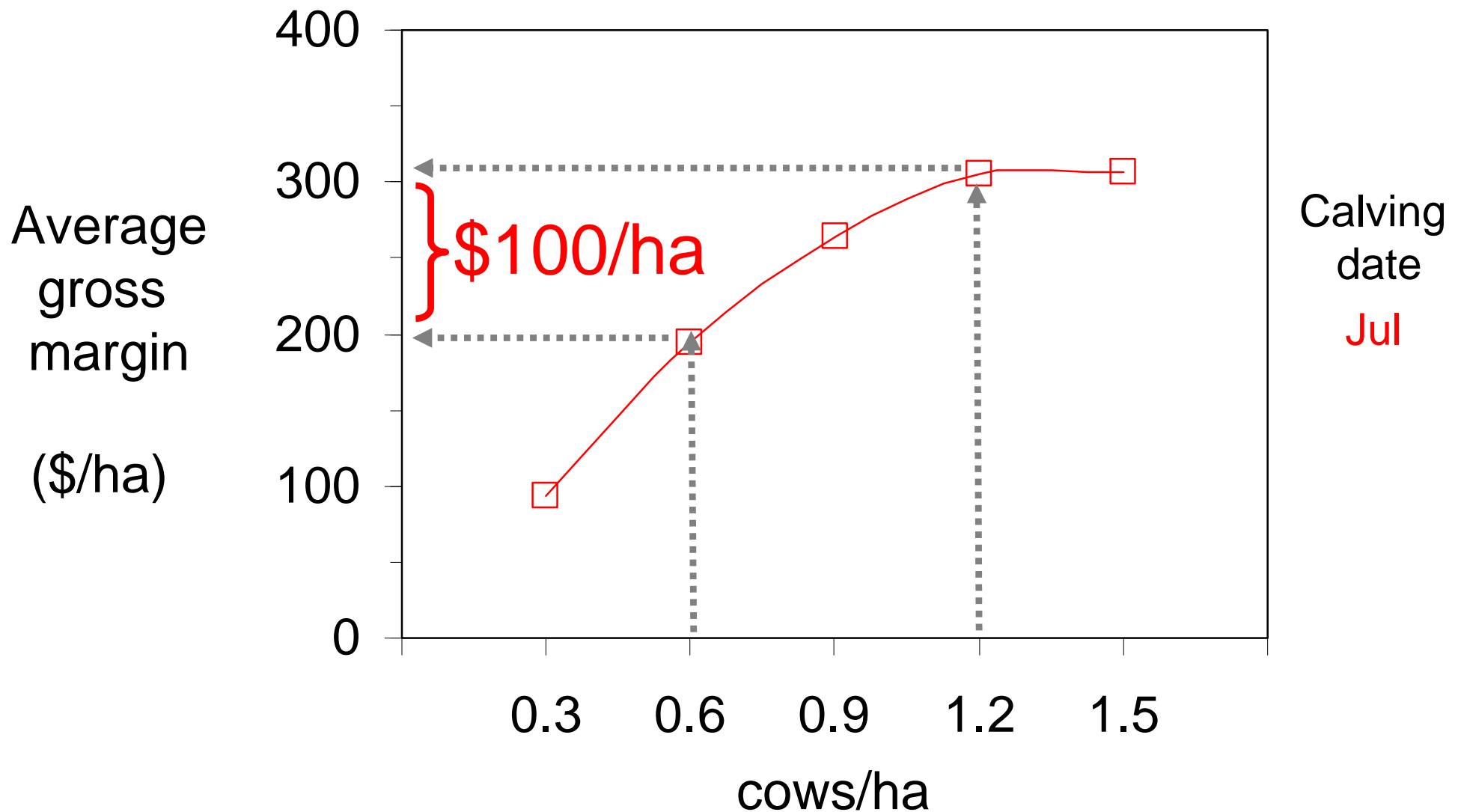
July calving

# Calving date: little effect on reaching yearling target weight

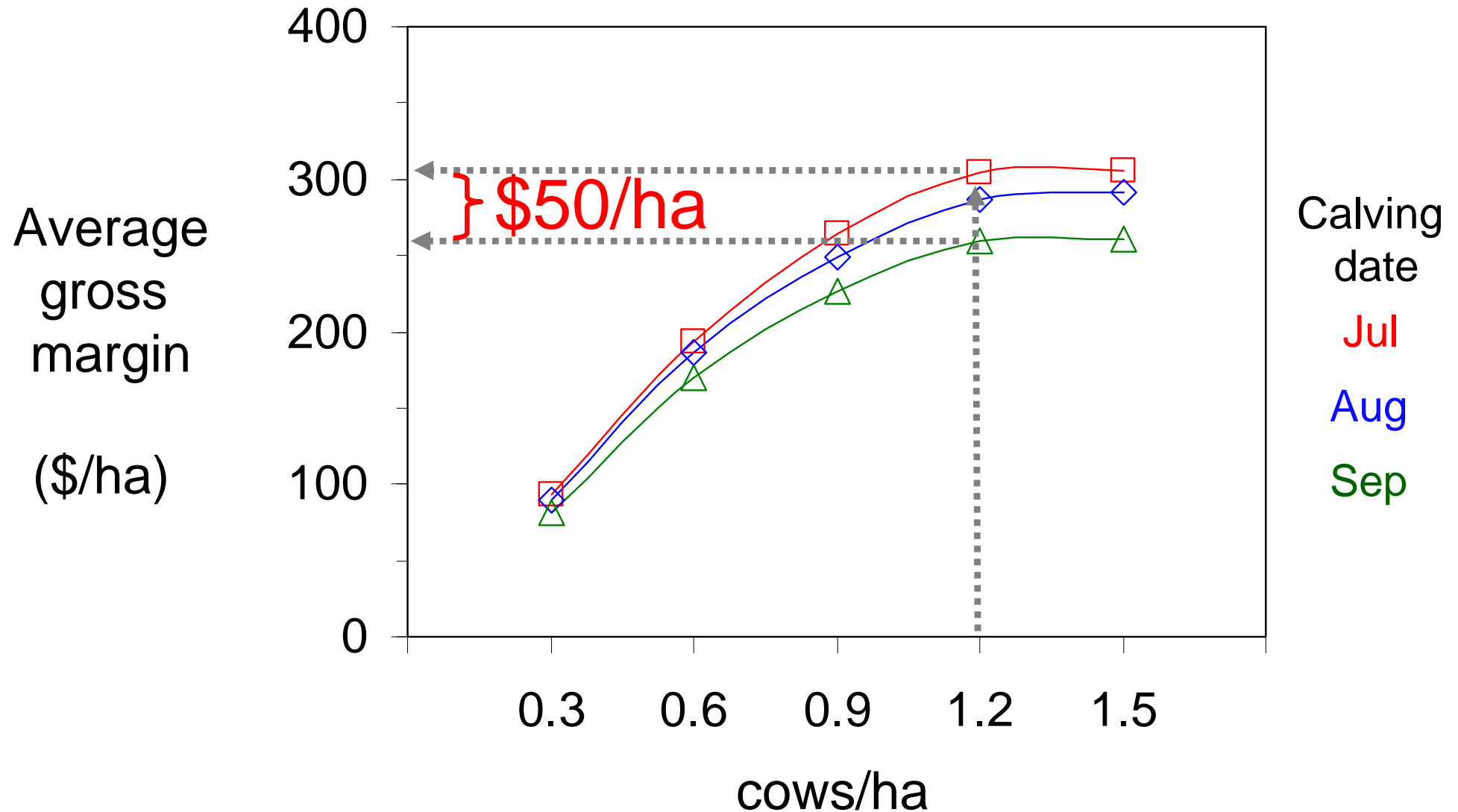


0.9 cows/ha

# Stocking rate vs Profit (weaners)

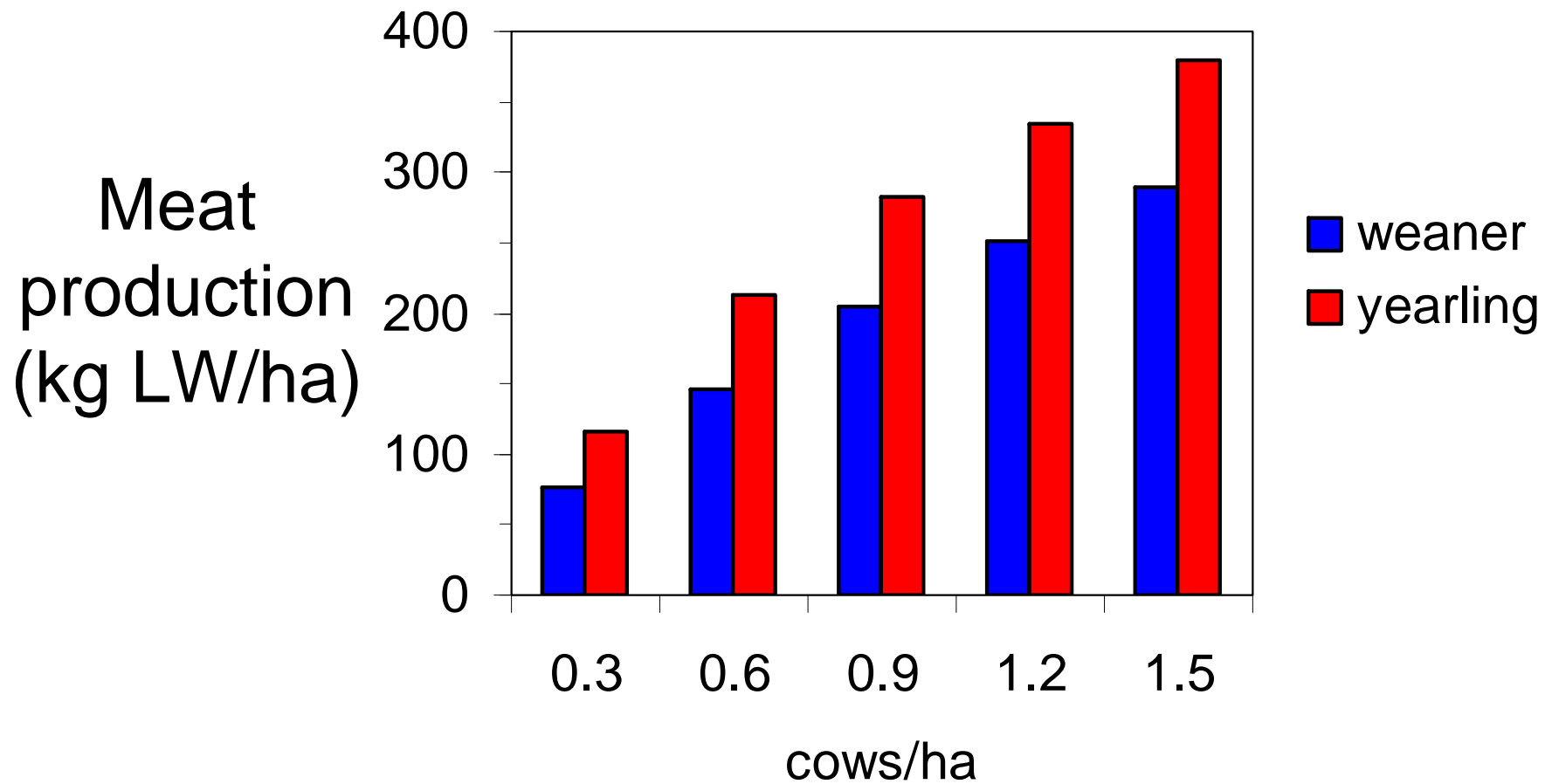


# Calving date vs Profit (weaners)



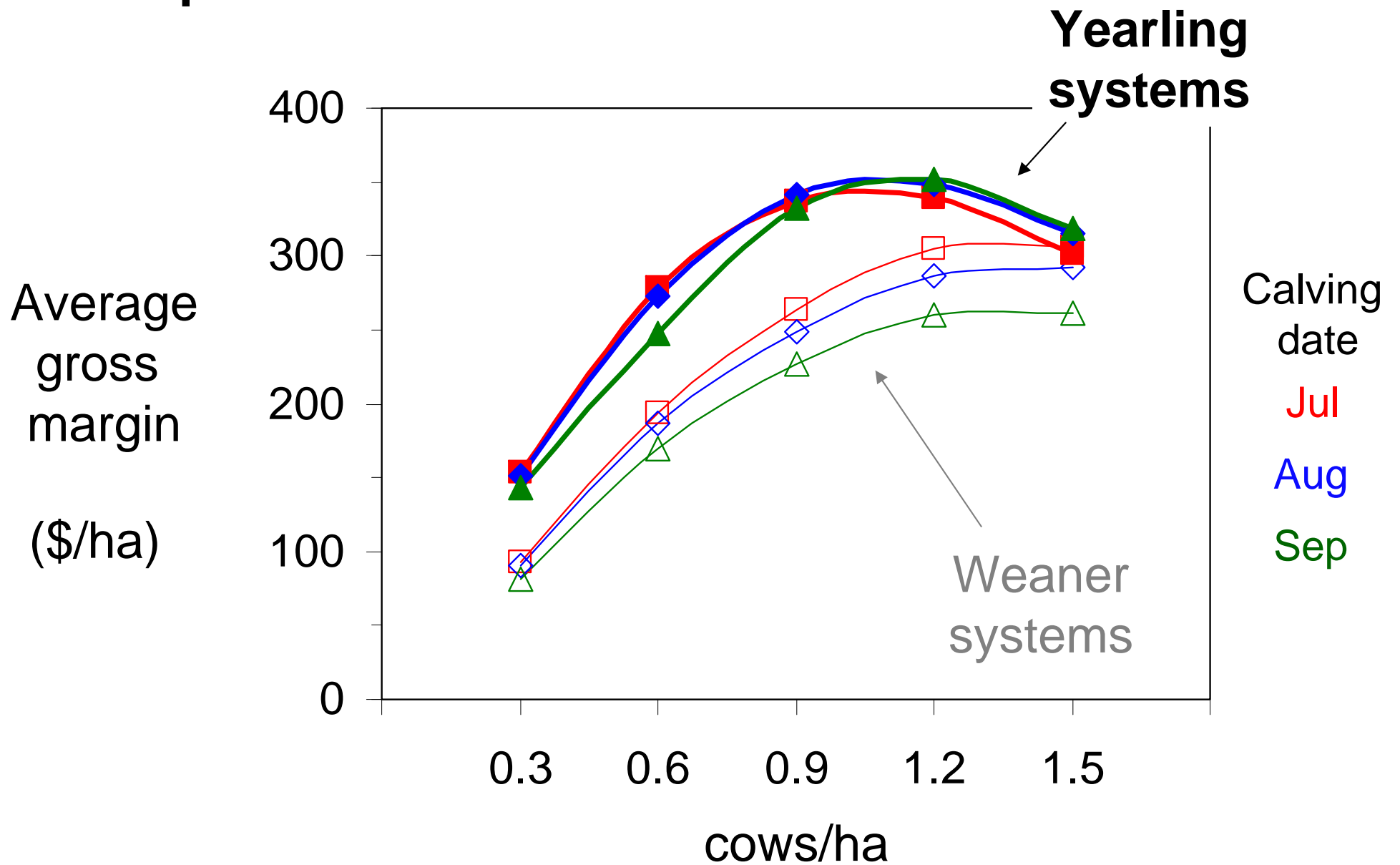


# More beef from higher stocking rates and from yearling systems

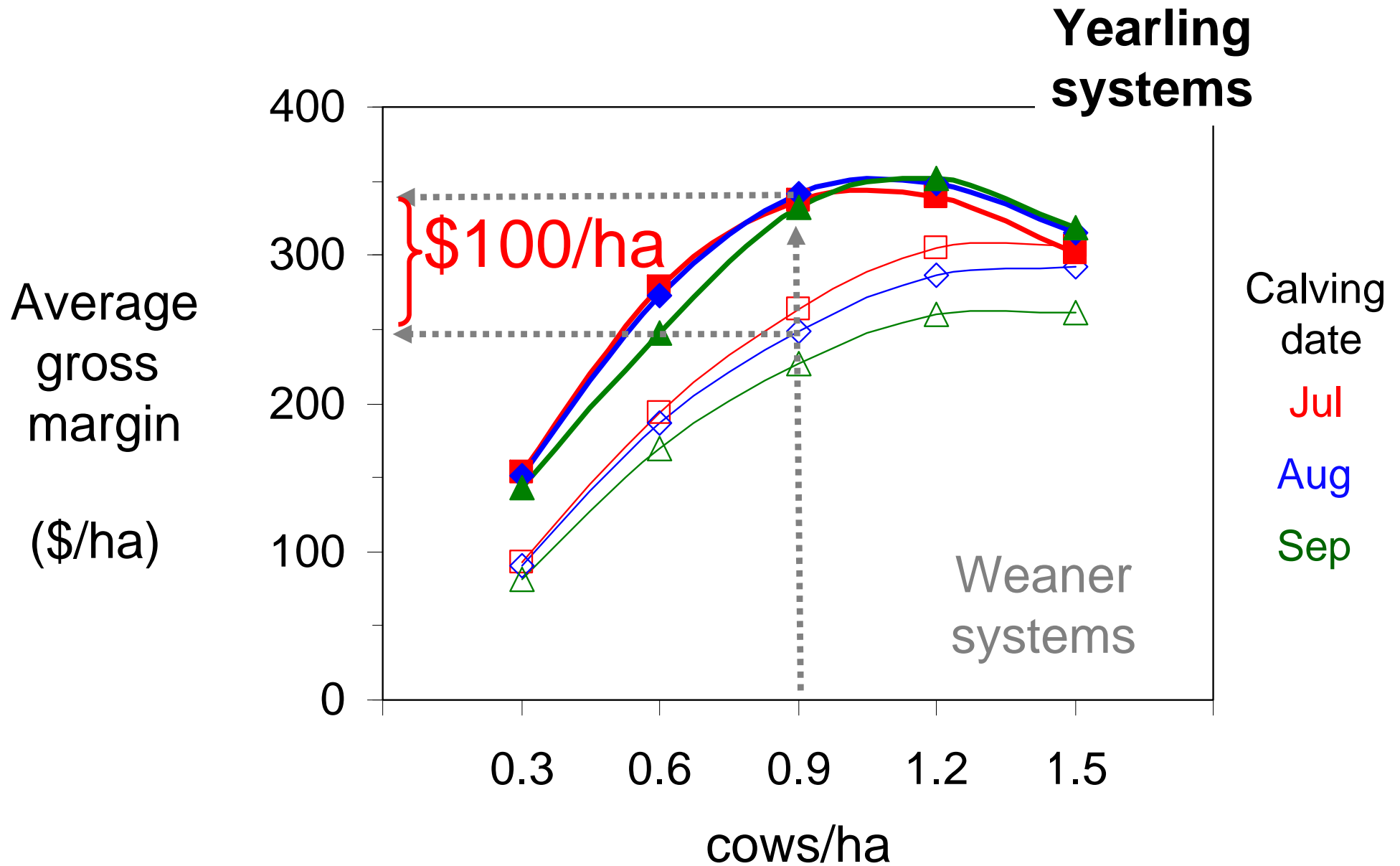


July calving

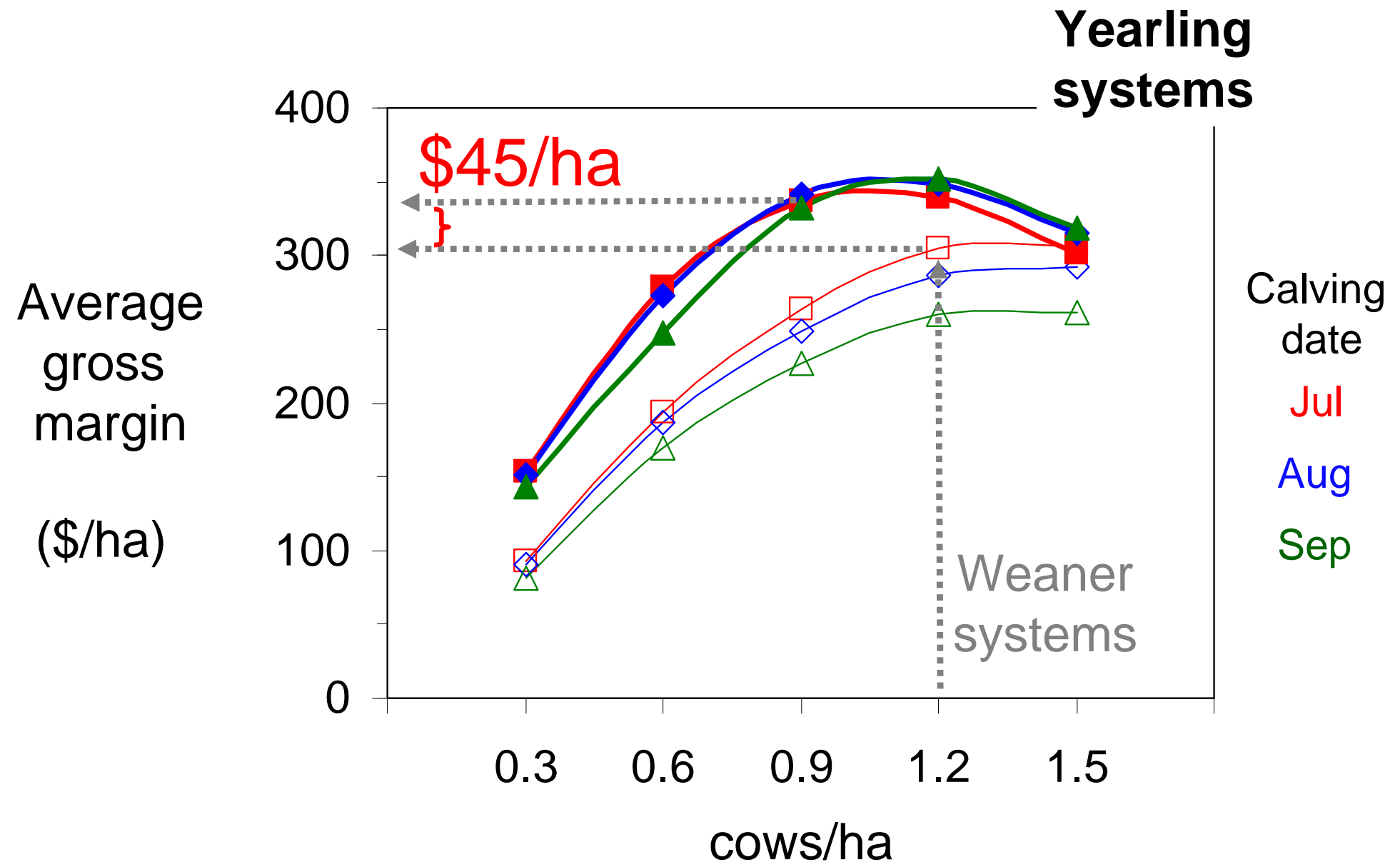
# Enterprise vs Profit



# Enterprise (same stocking rate and calving date)



# Enterprise (stocking rate and calving optimised)



# *Key messages*

## *Calving dates & Profit*

Weaner system (April sales):

- later calving less profitable

Yearling system:

- calving dates had little effect on profit
- (total amount of supplement high for all dates)



# What has the greatest effect on Profit?

1. Stocking rate

*Boost to  
gross margin:  
120-180%*



2. Enterprise

15-30%



3. Calving date

0-15%



# Stocking rate, profit & risk

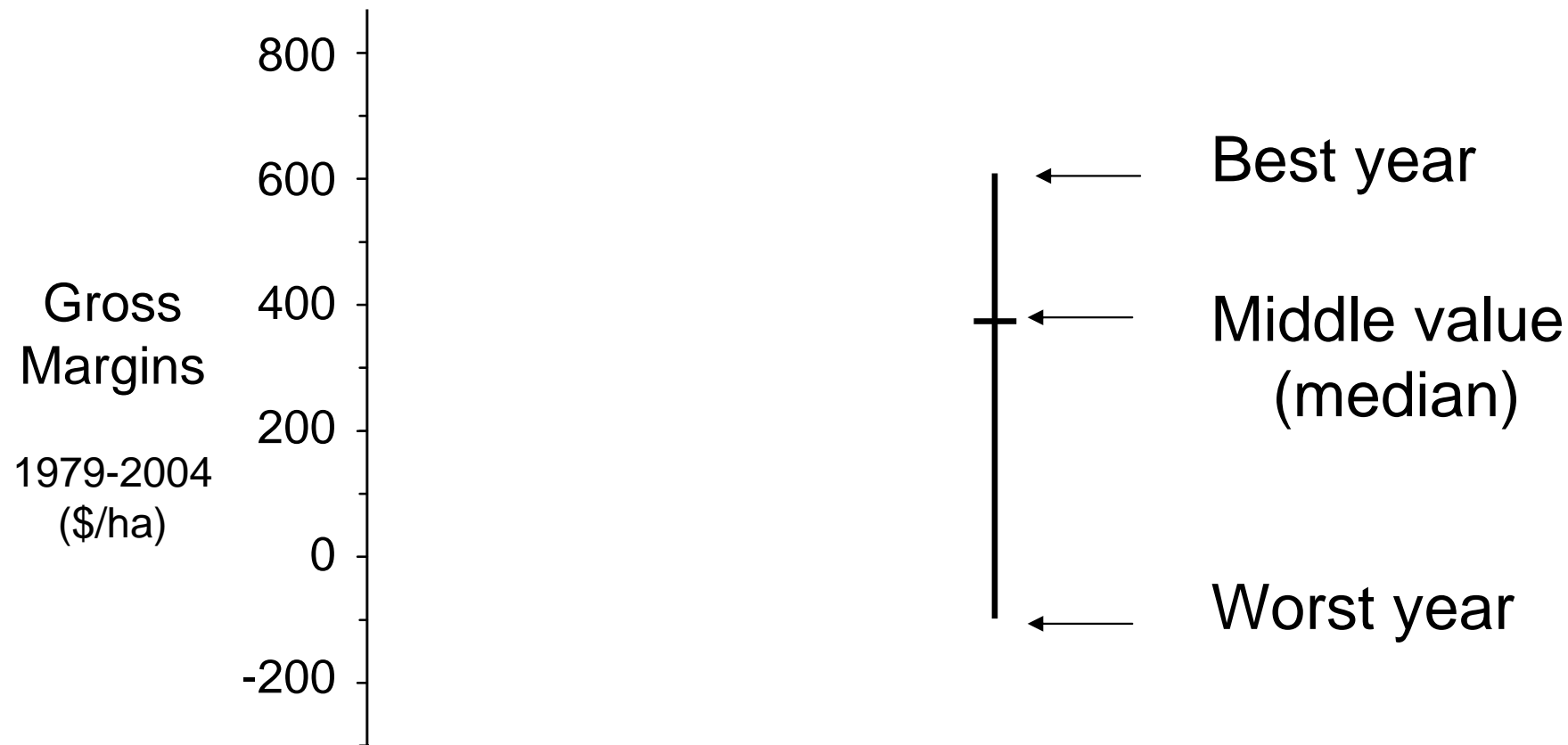


- What are the downside risks for each system?
- What are the opportunities?



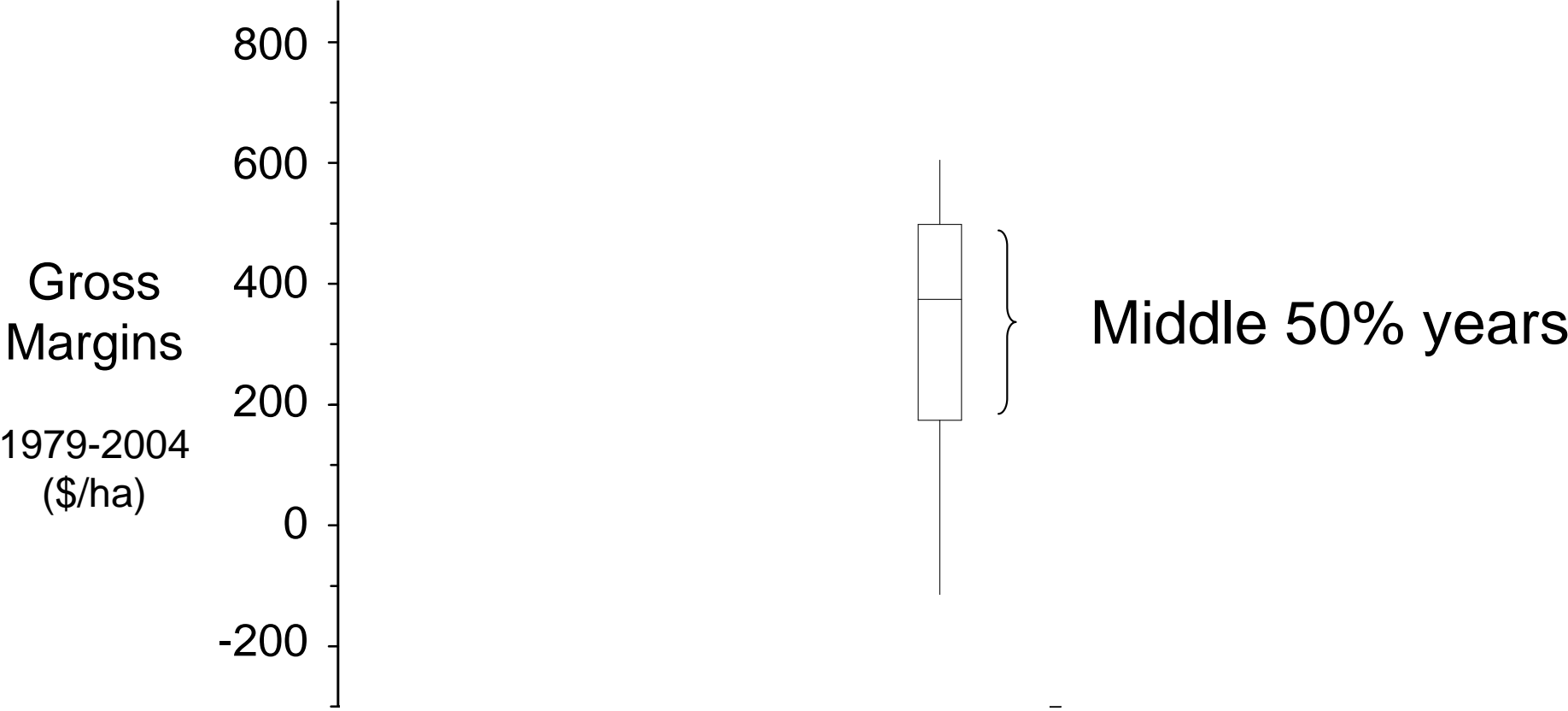
Risk = year-to-year variation

Rank gross margins from 25 years

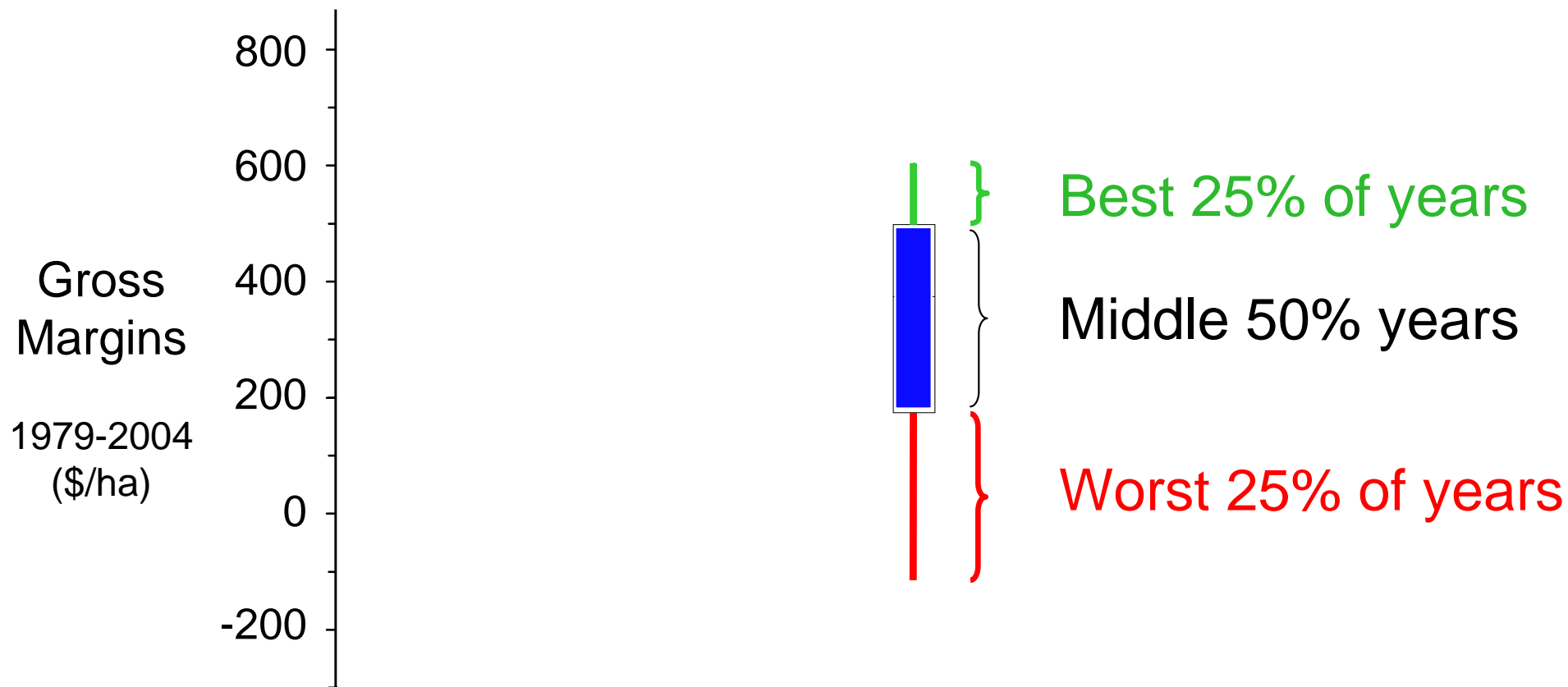




# Rank gross margins from 25 years

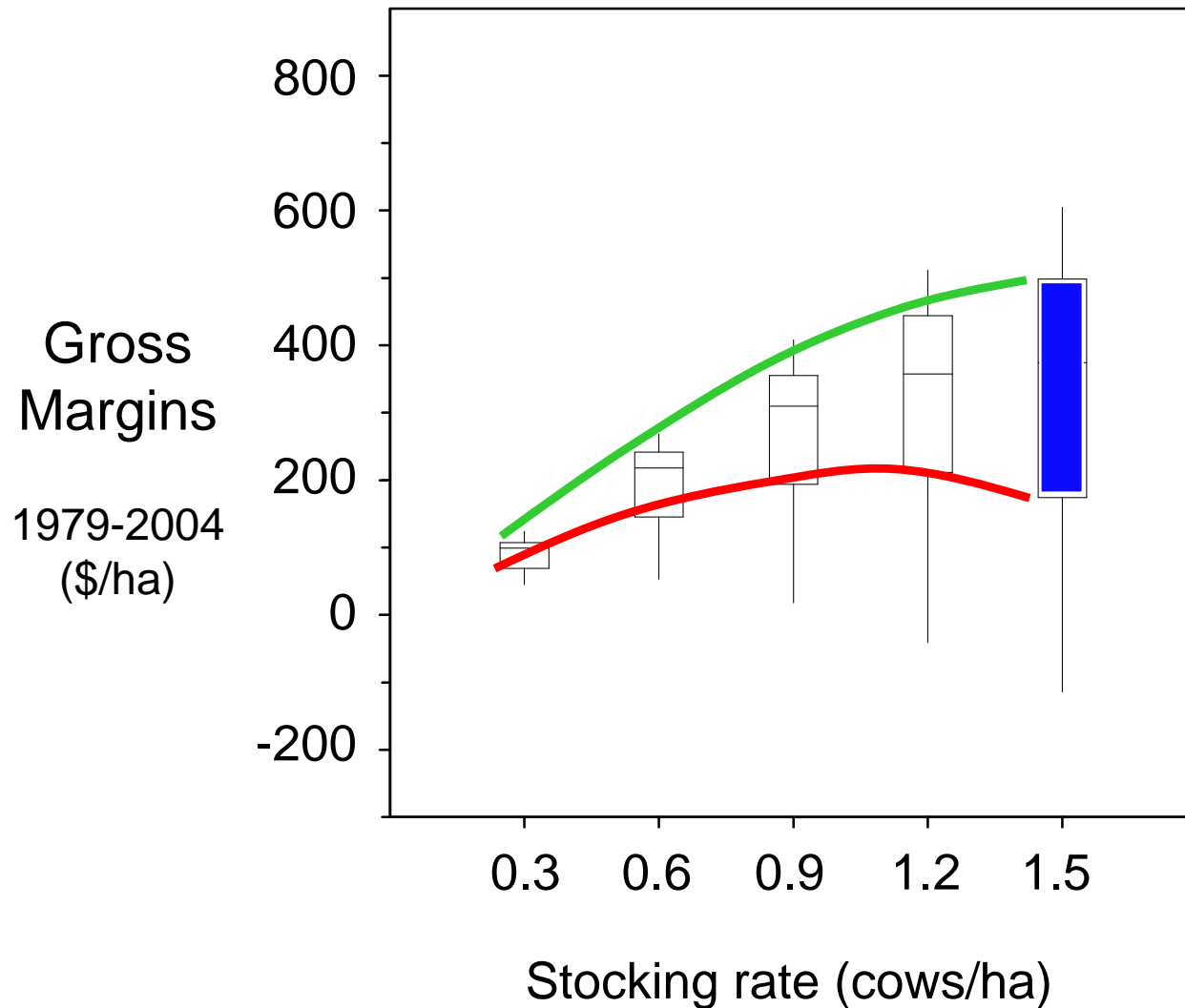


# Rank gross margins from 25 years

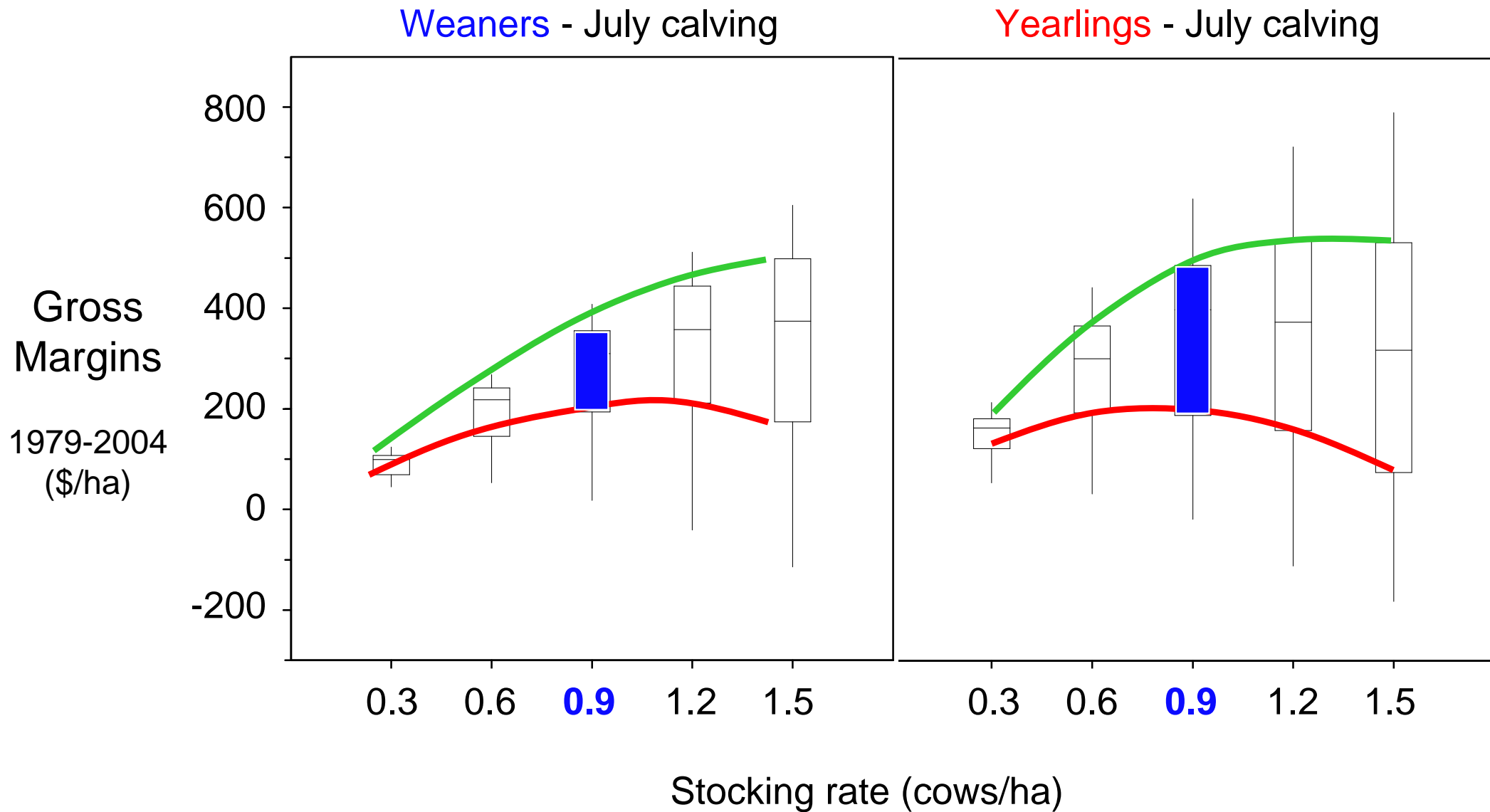


# Stocking rate and risk

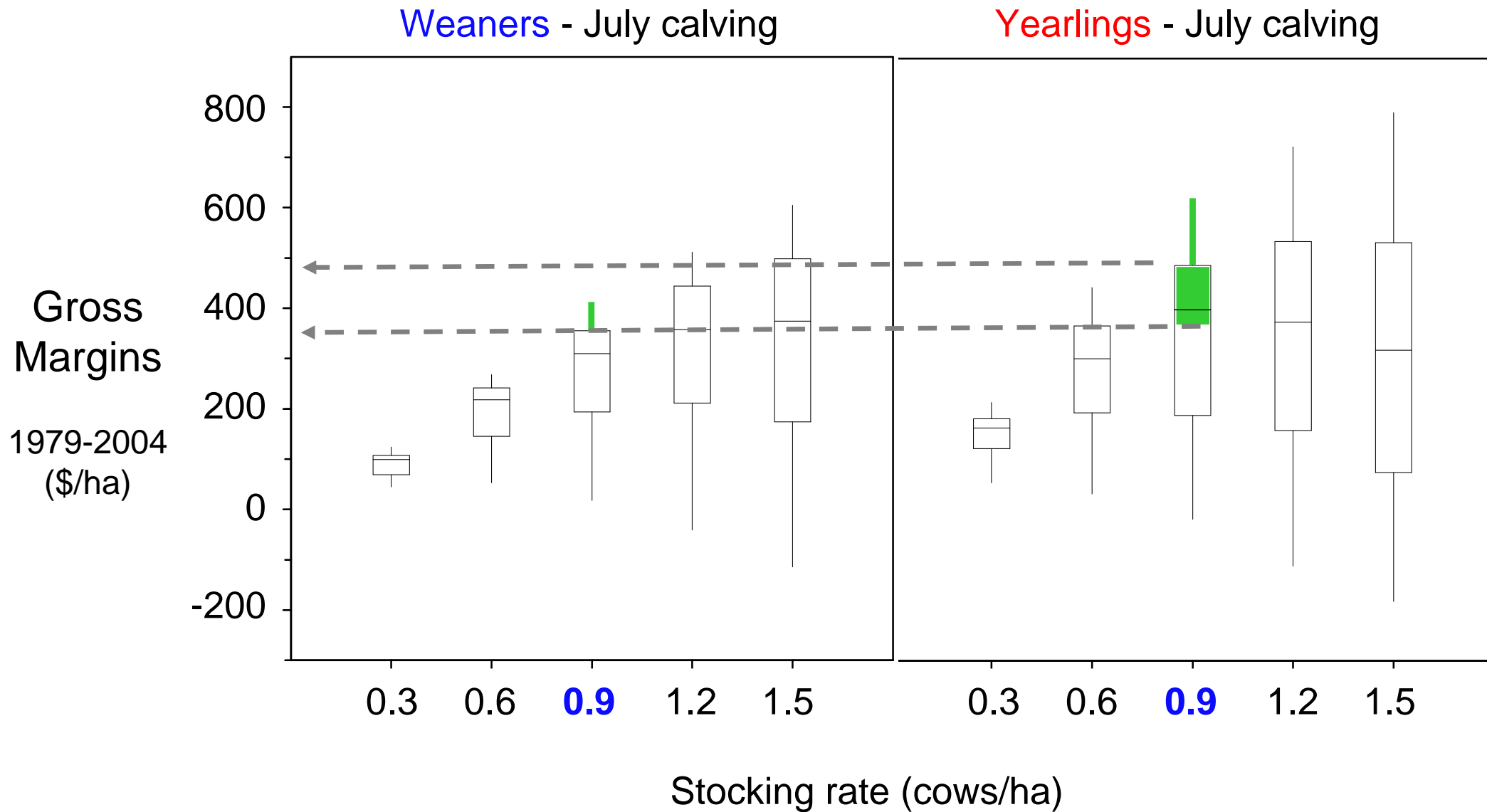
Weaners - July calving



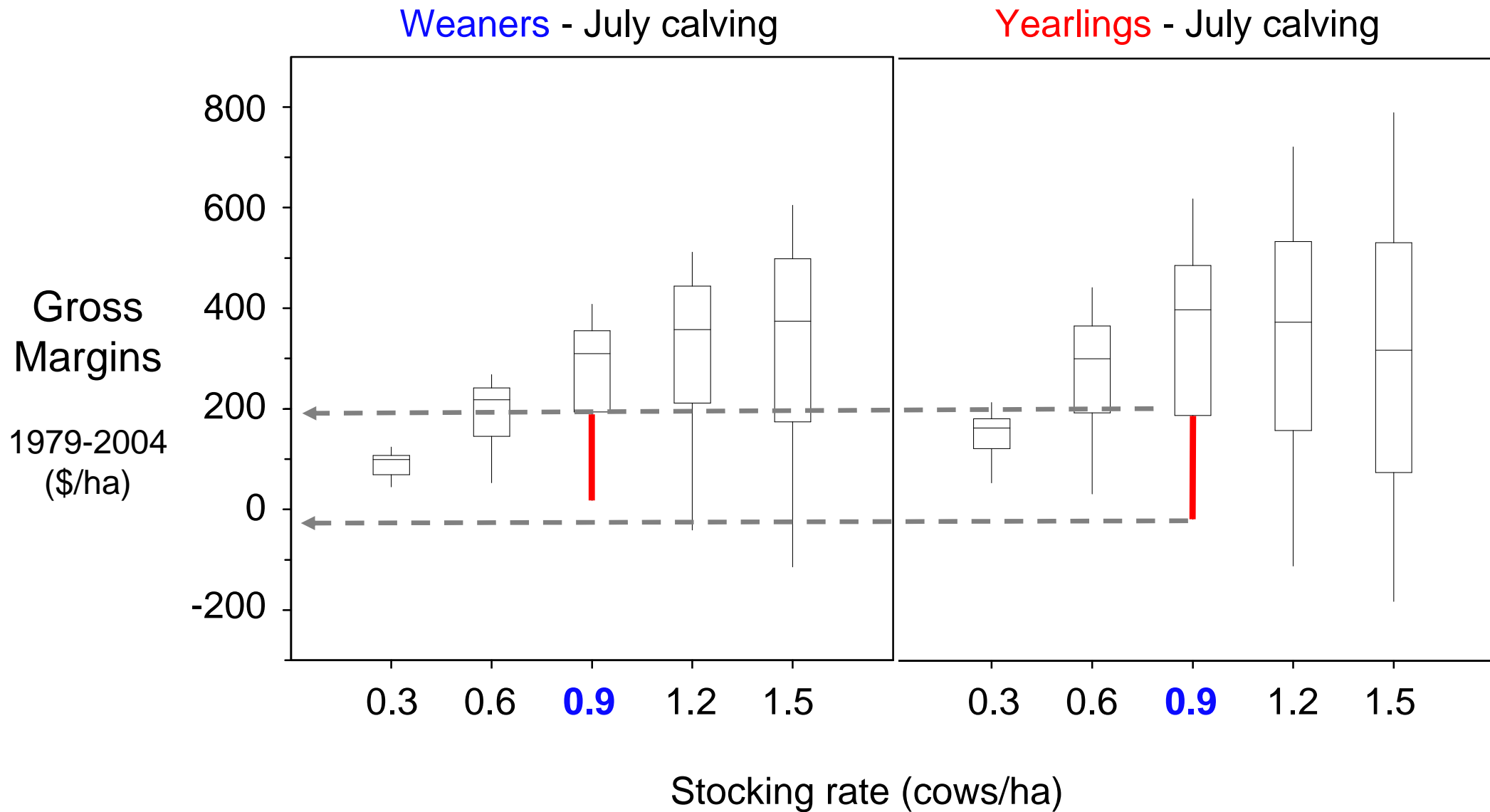
# Yearlings: more variable



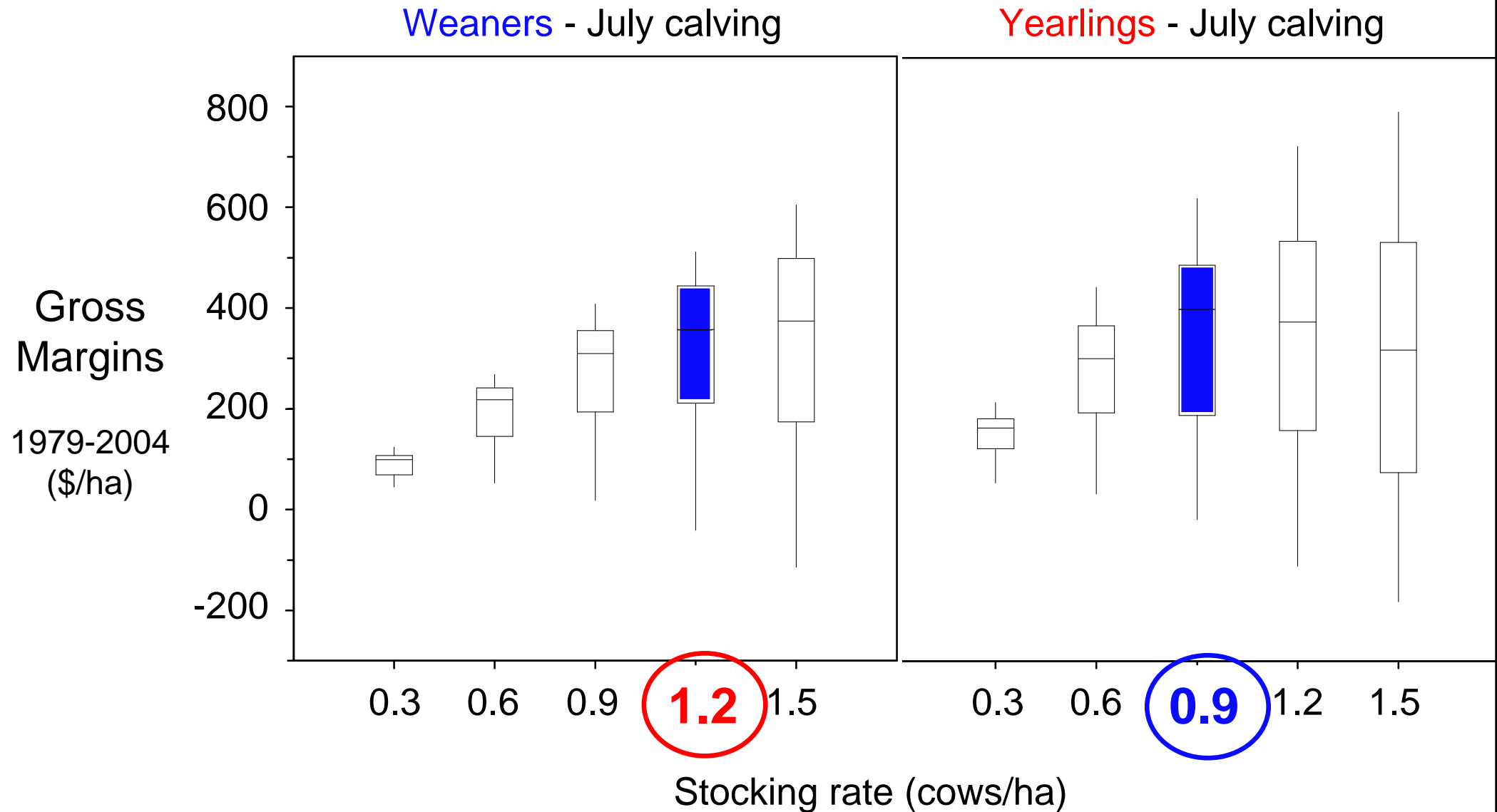
# Yearlings: more upside opportunity



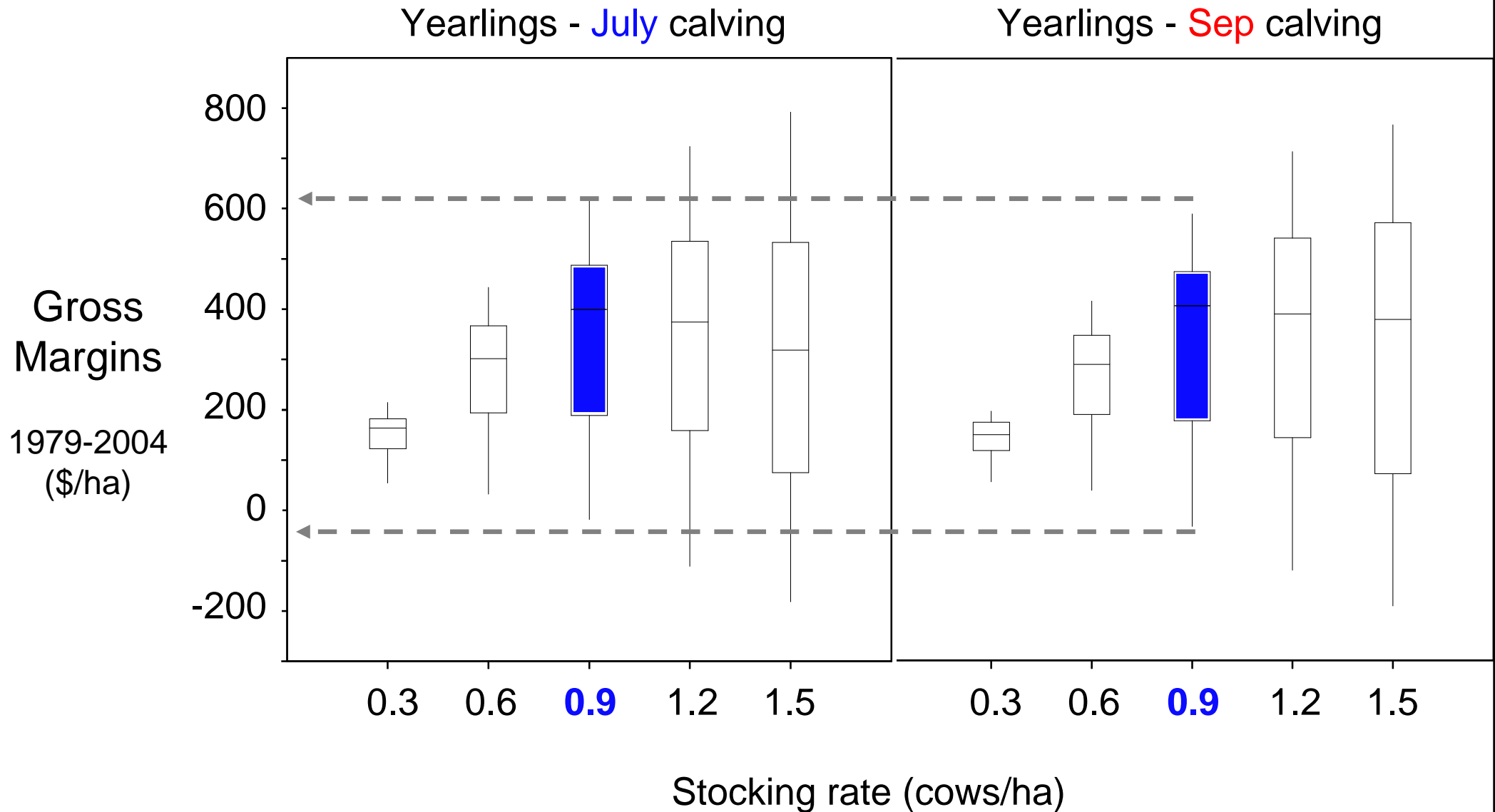
# Yearlings: similar downside risk



# Picking the best long-term stocking rate



# Yearlings: calving date –so what?!





# Stocking rates and risk

Yearlings: - more up side opportunity  
(more beef/ha)

Both: - similar down side risk at  
moderate stocking rates  
- greater down side risk at  
higher stocking rates



# Opportunities for other GrassGro studies

- Are bigger cows more profitable?
- How would a later or early calving affect risk?
- Is it cost effective to feed steers over winter to reach higher target weights?



# Profit-drivers in southern beef systems

1. Stocking rate
2. Enterprise type  
(not calving date)

*Keep focused: similar drivers,  
different targets*



# What did GrassGro show?

- A way to explore options
- Your grazing system's potential
- Profit
- Production risks

✓ Targeted information to support decisions





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