



The Economic Value of Improving Reproductive Efficiency

6 Reasons to Improve Repro:

1. ↗ Milk
2. ↗ Calves
3. ↗ Selective Culling
4. ↙ Repro Culling
5. ↙ Involuntary Culling
6. ↙ Repro Costs



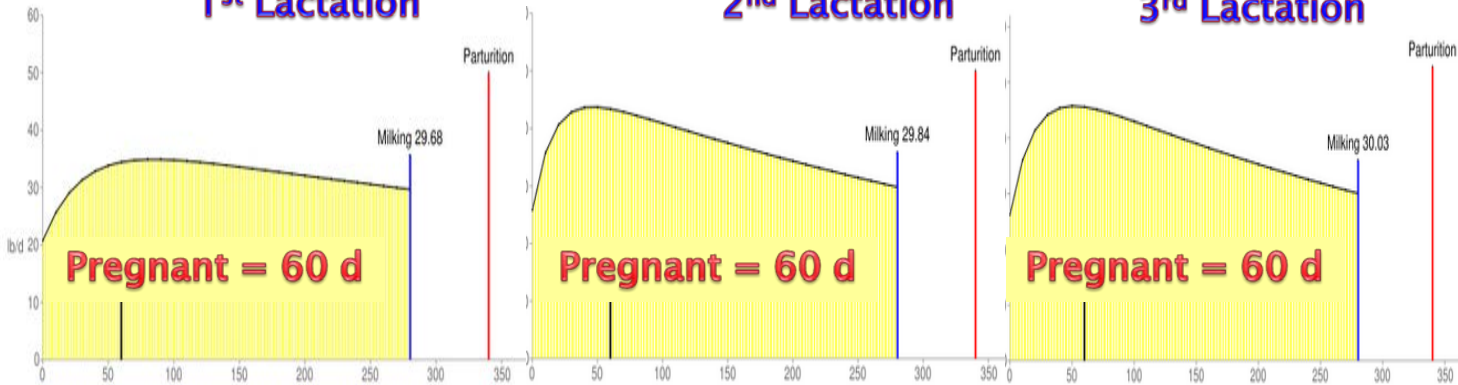
1. ↗ Milk

1st Lactation

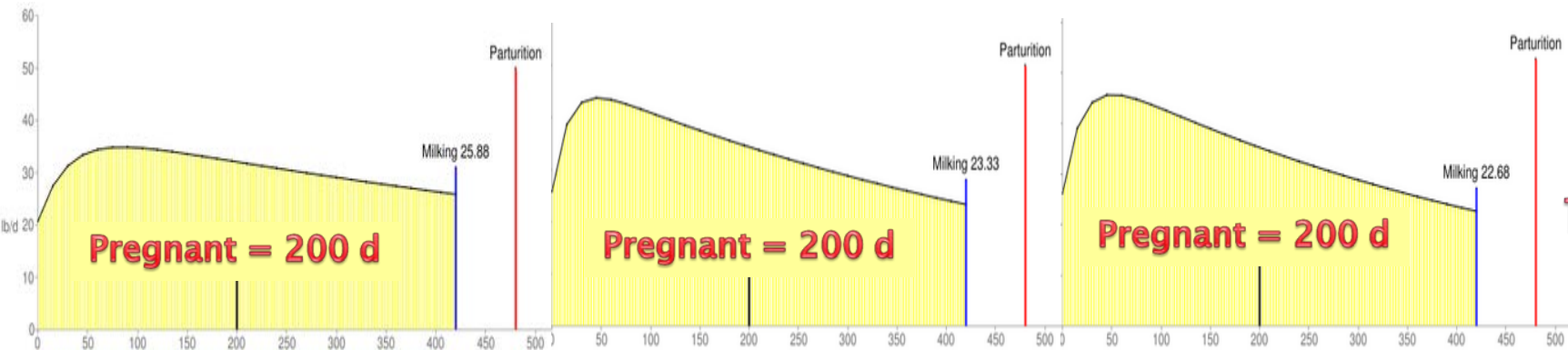
2nd Lactation

3rd Lactation

Milk
(lb./cow/yr)



18,412



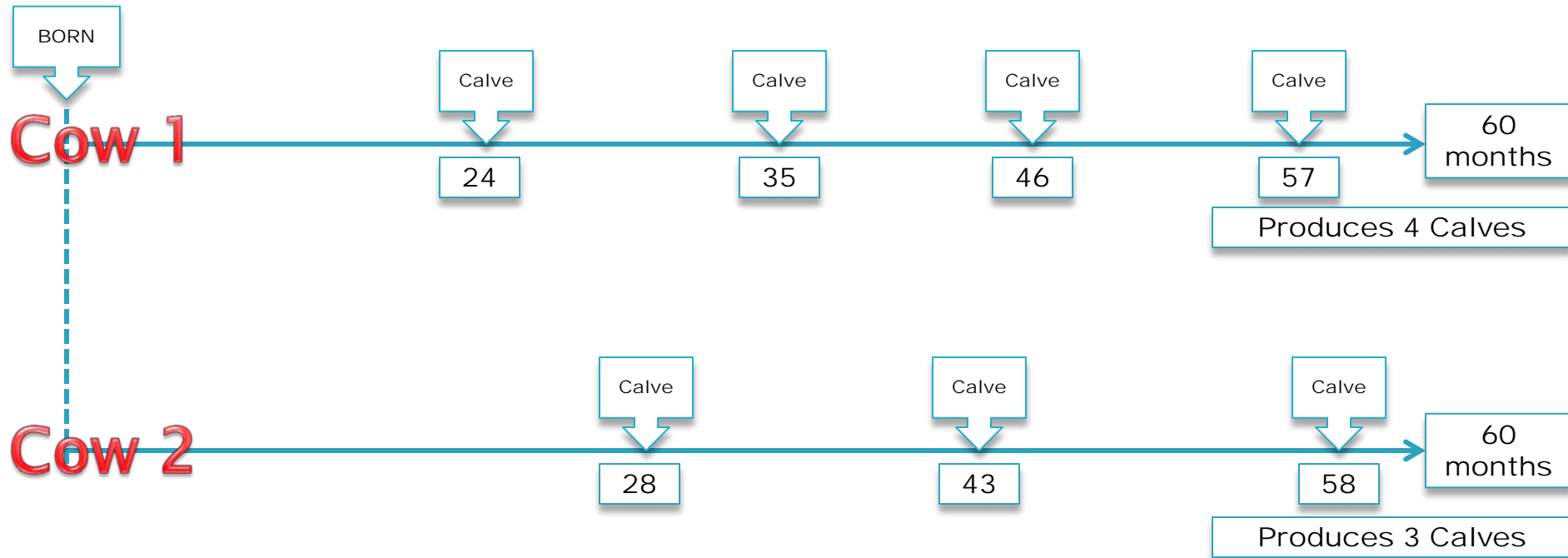
17,940

Additional MILK of earlier pregnancy = 472

200 Cow Herd = 944 cwt x \$18/cwt ~\$17,000!



2. ↗ Calves

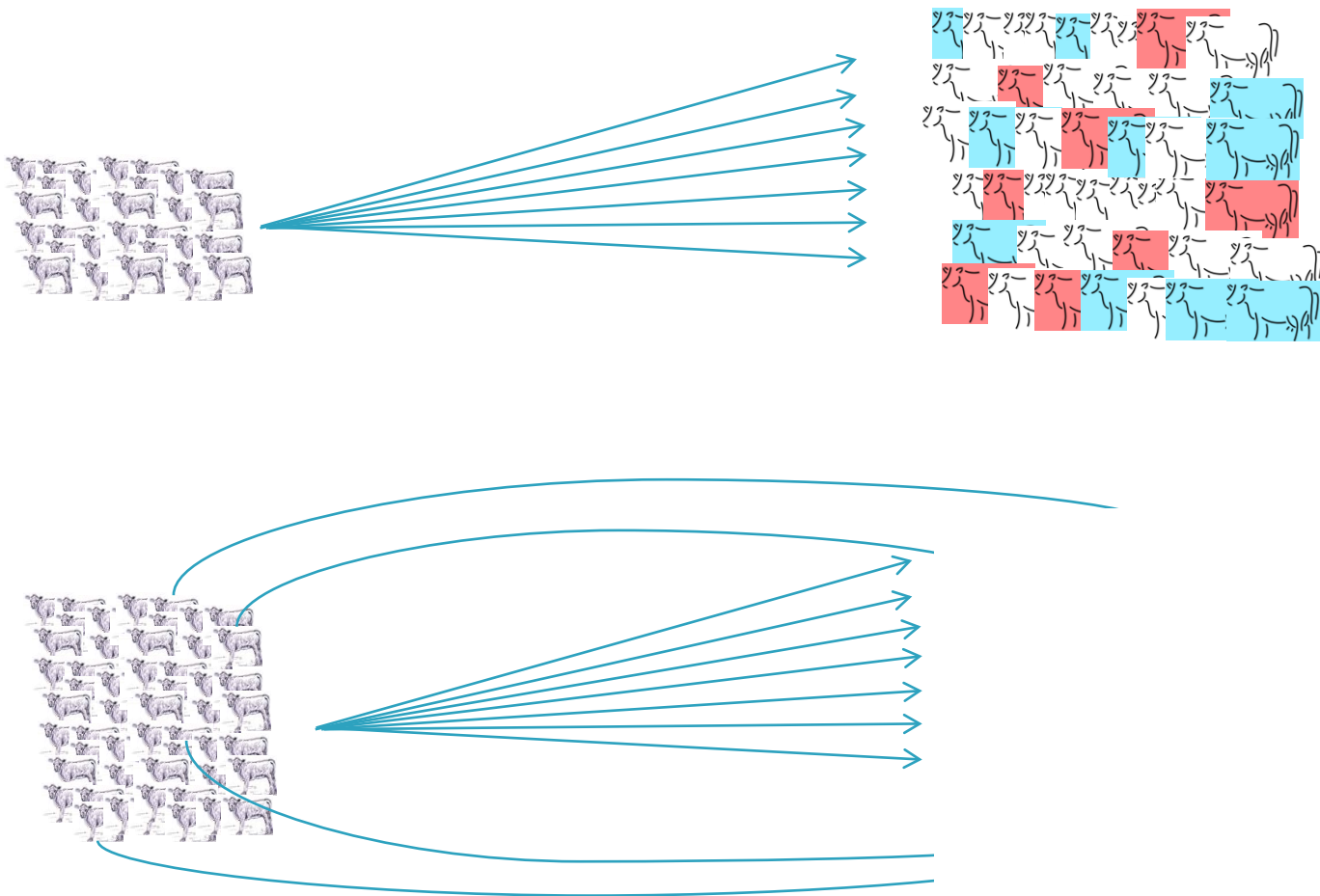


Additional CALVES of earlier pregnancy = 0.2/year

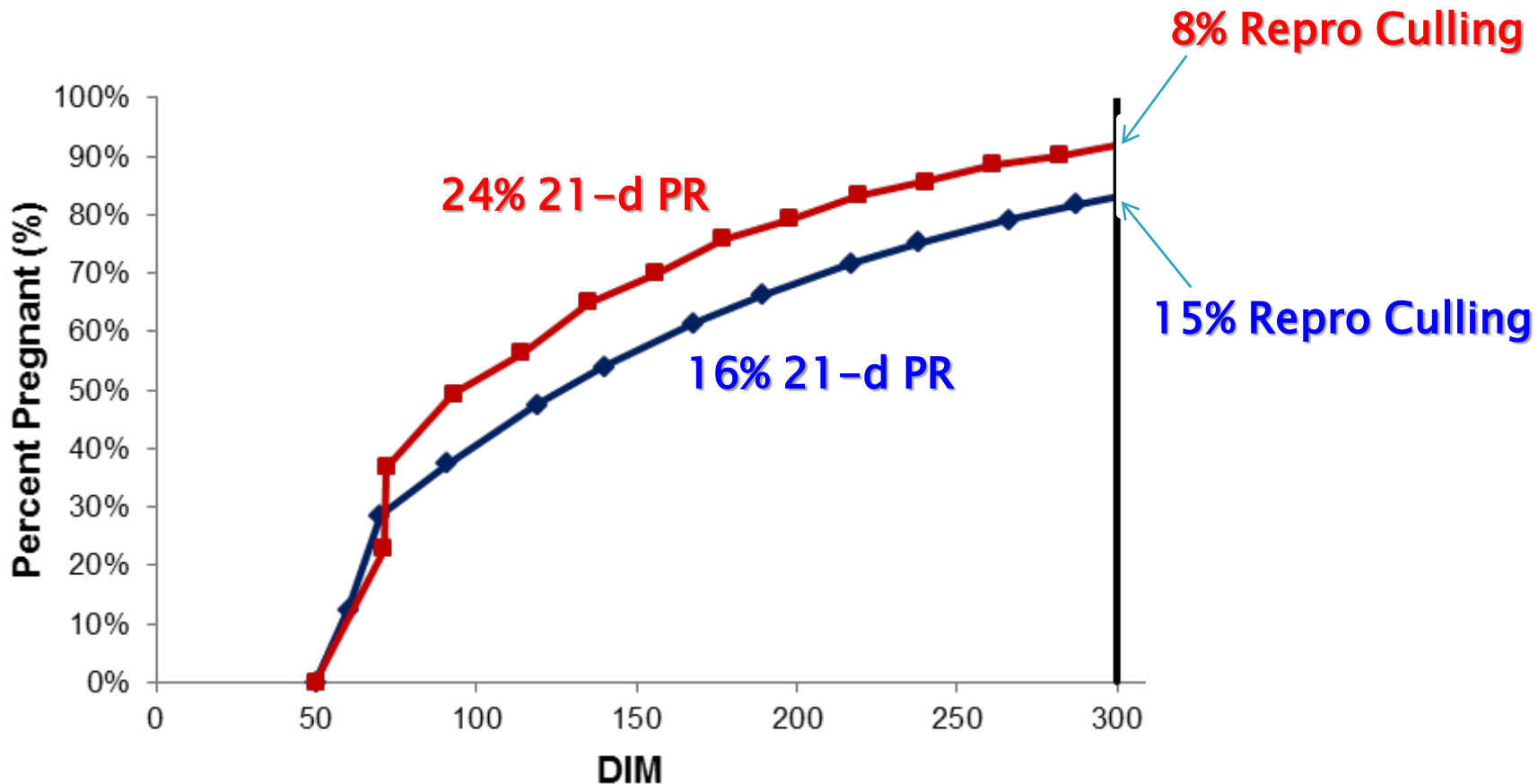
200 Cow Herd = 40 x \$100 ~\$4,000!



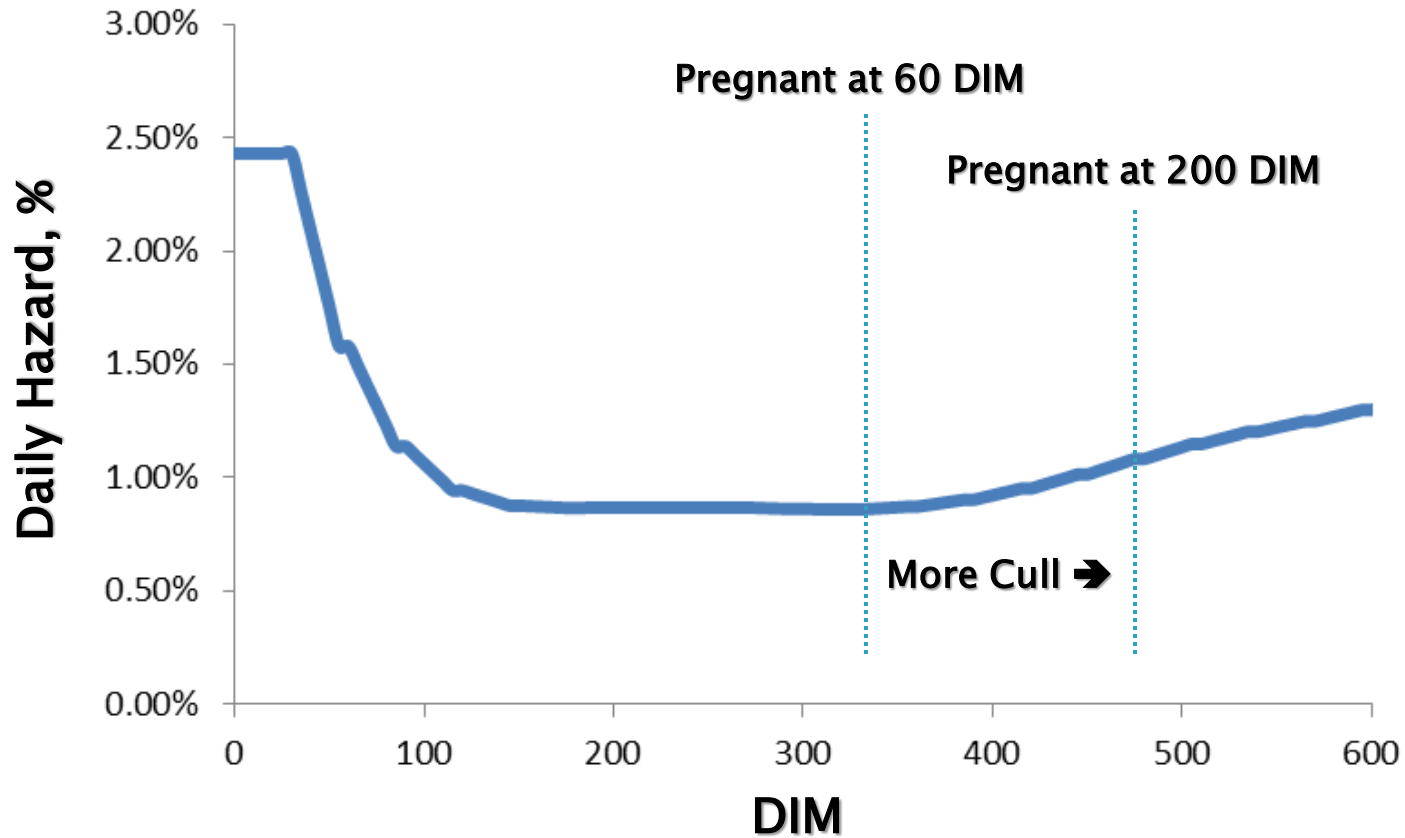
3. ↗ Selective Culling



4. ↙ Repro Culling

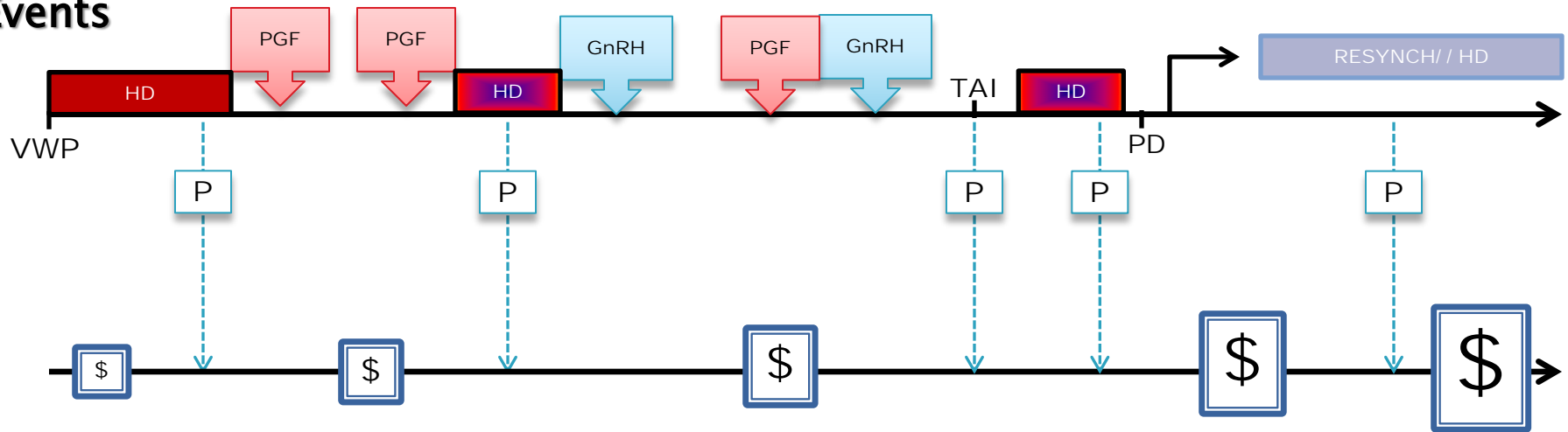


5. ↙ Involuntary Culling



6. ↙ Repro Costs

Events



Costs



Some Examples for Wisconsin...

Dairy Management UW-Extension
University of Wisconsin-Madison

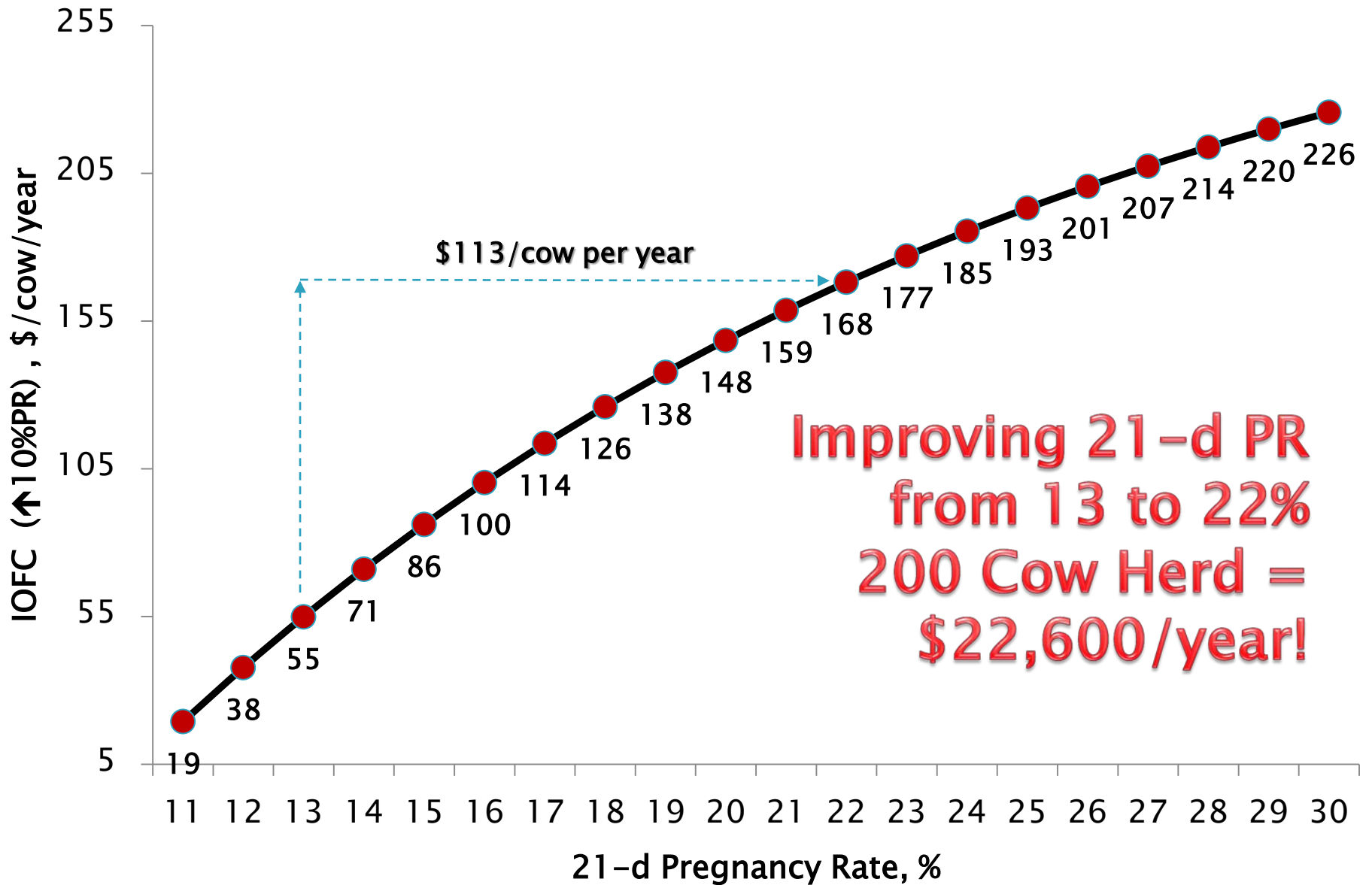


THE UNIVERSITY
WISCONSIN
MADISON

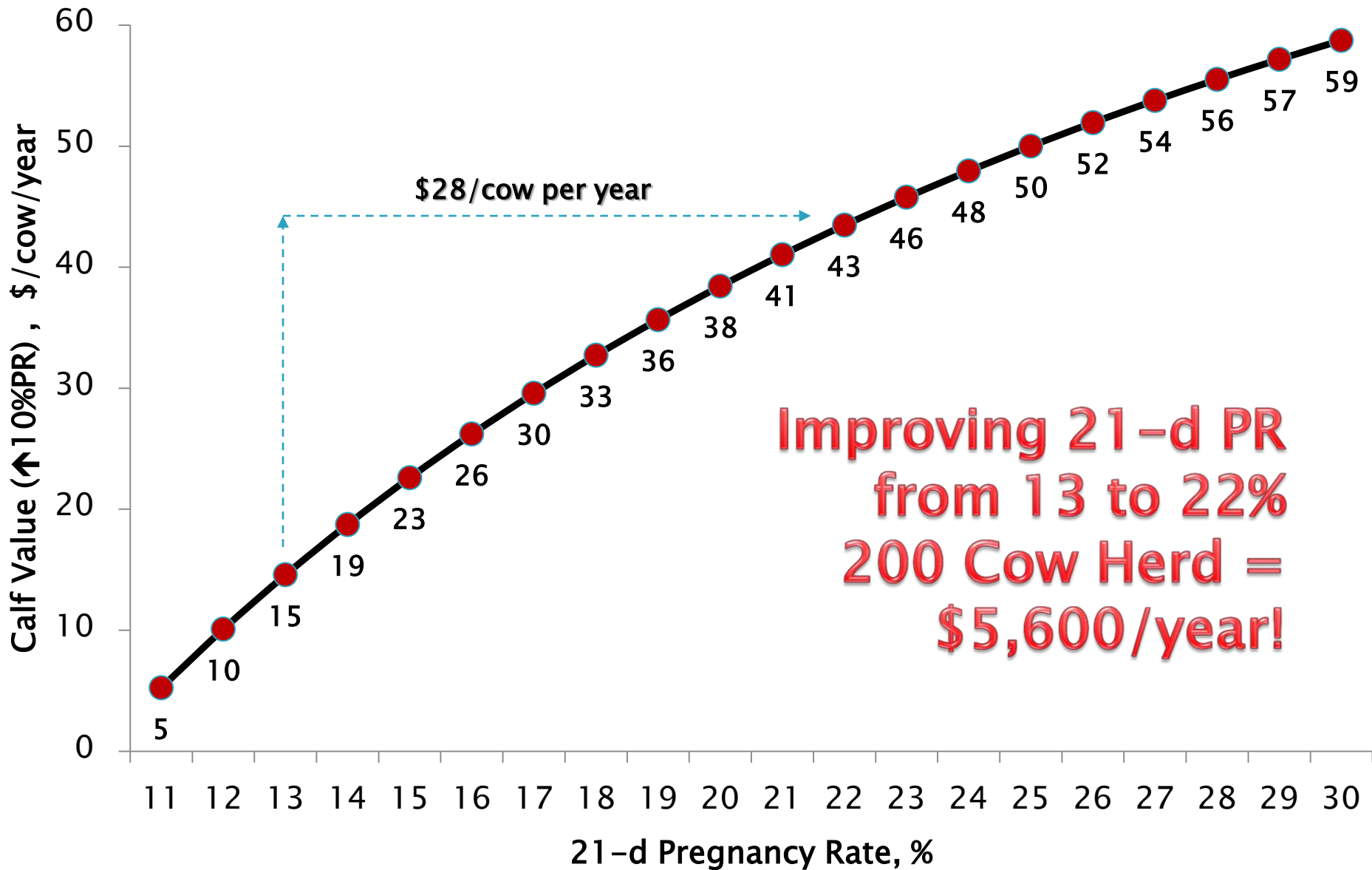
UW
Extension



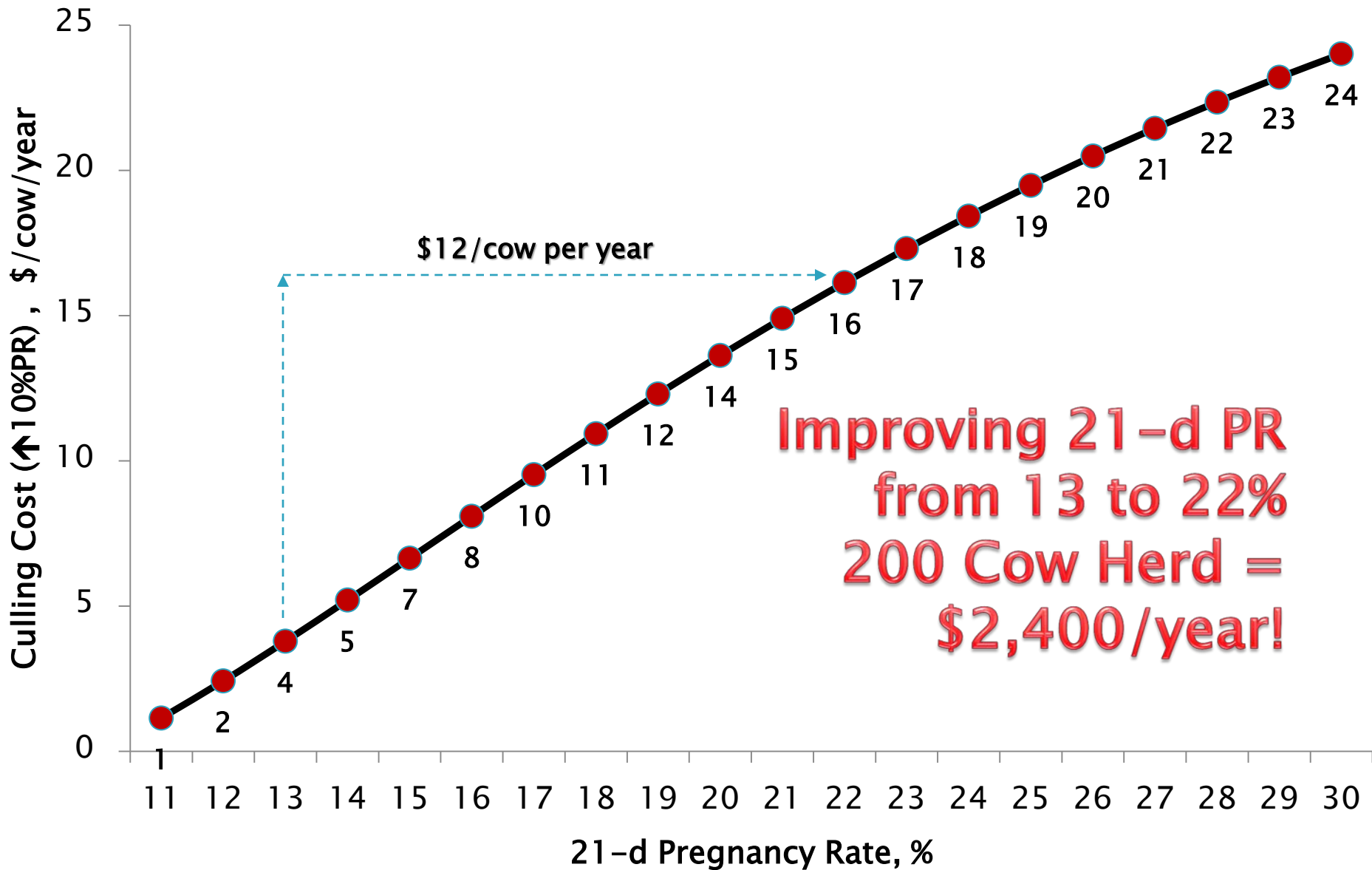
The IOFC \$ Value of ↗ 21-d PR



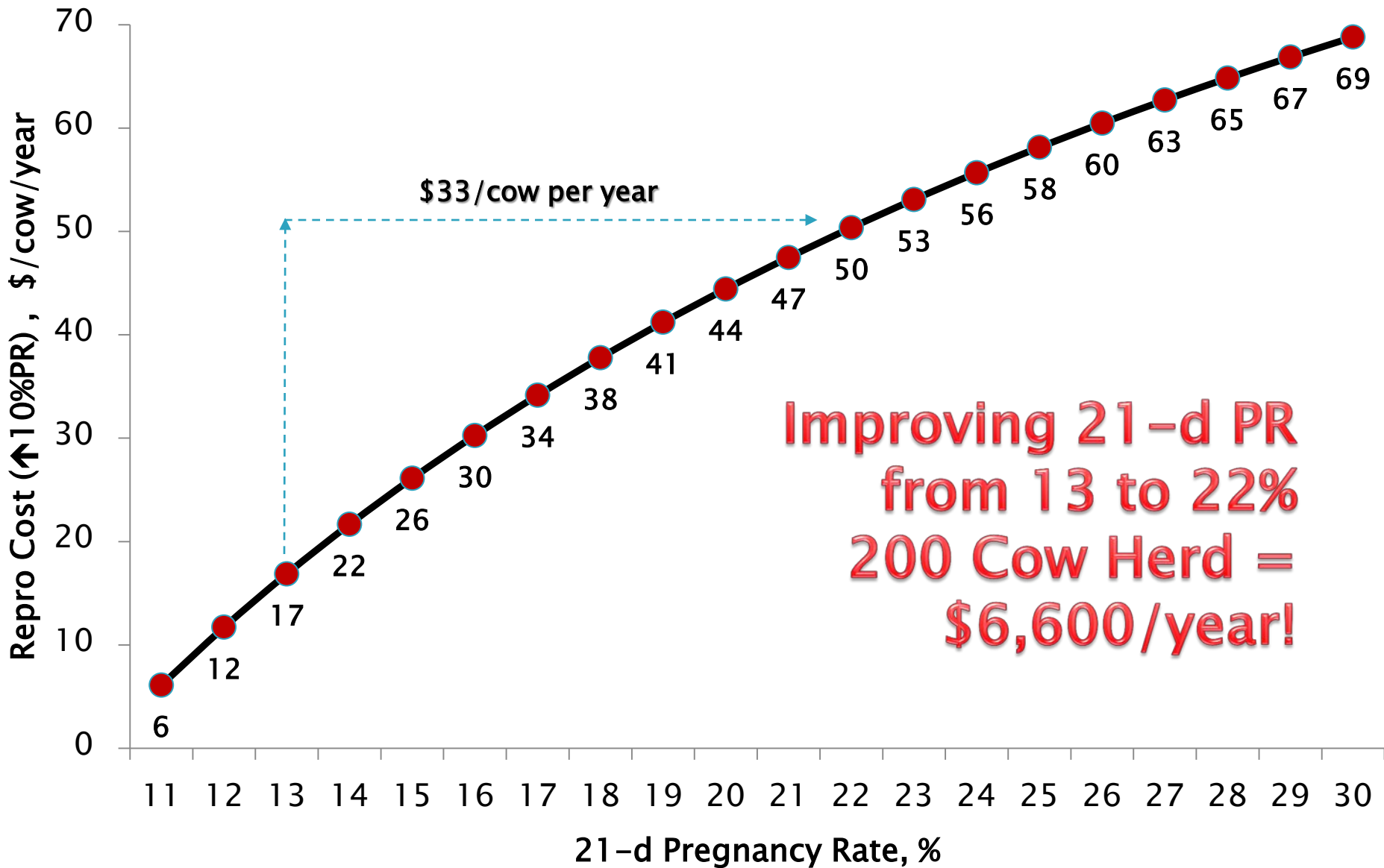
The Calf \$ Value of ↗ 21-d PR



The Culling \$ Value of ↗ 21-d PR



The Repro Cost \$ of ↗ 21-d PR



Let's Combine All Factors...

Dairy Management UW-Extension
University of Wisconsin-Madison

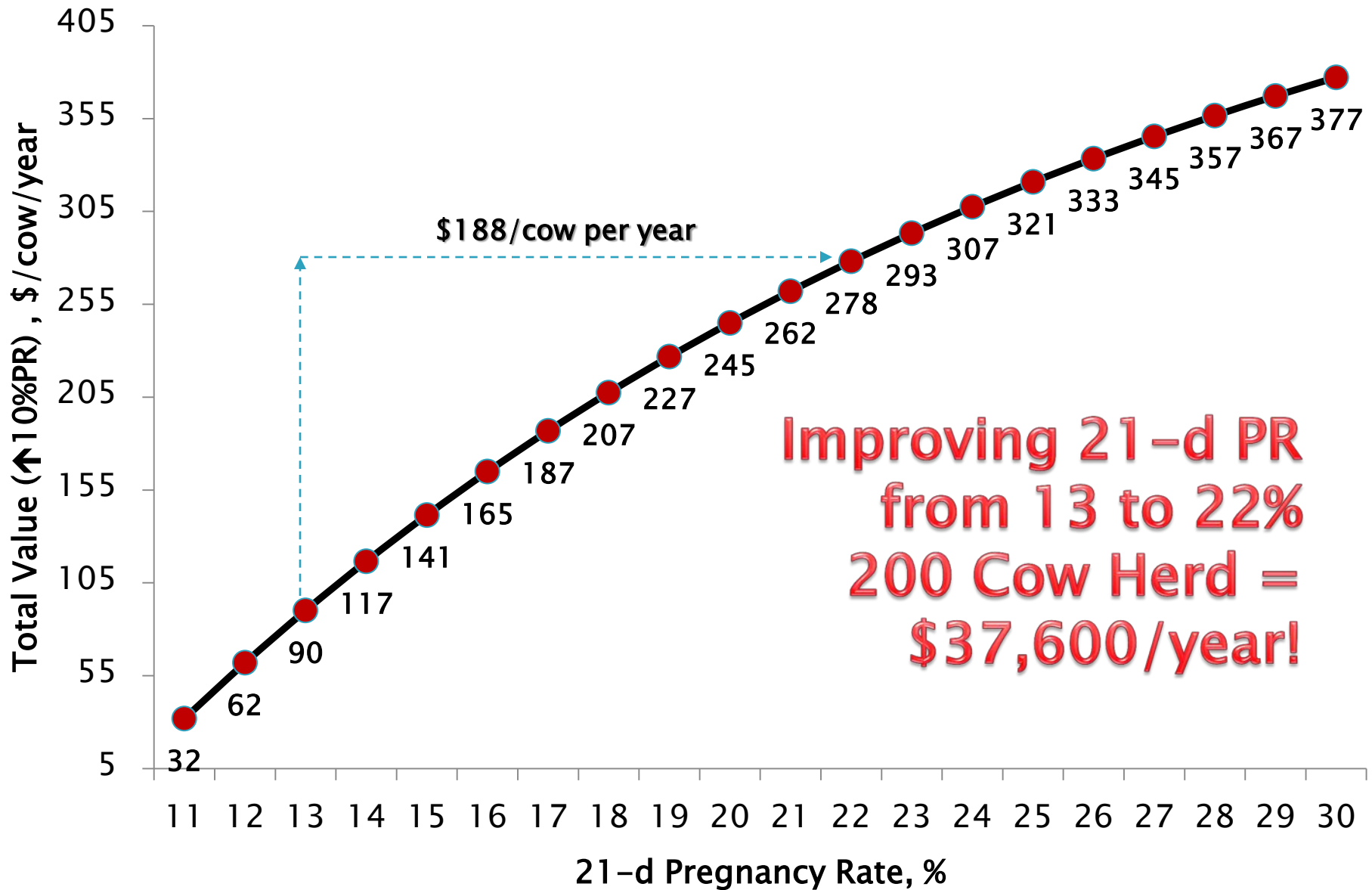


THE UNIVERSITY
WISCONSIN
MADISON

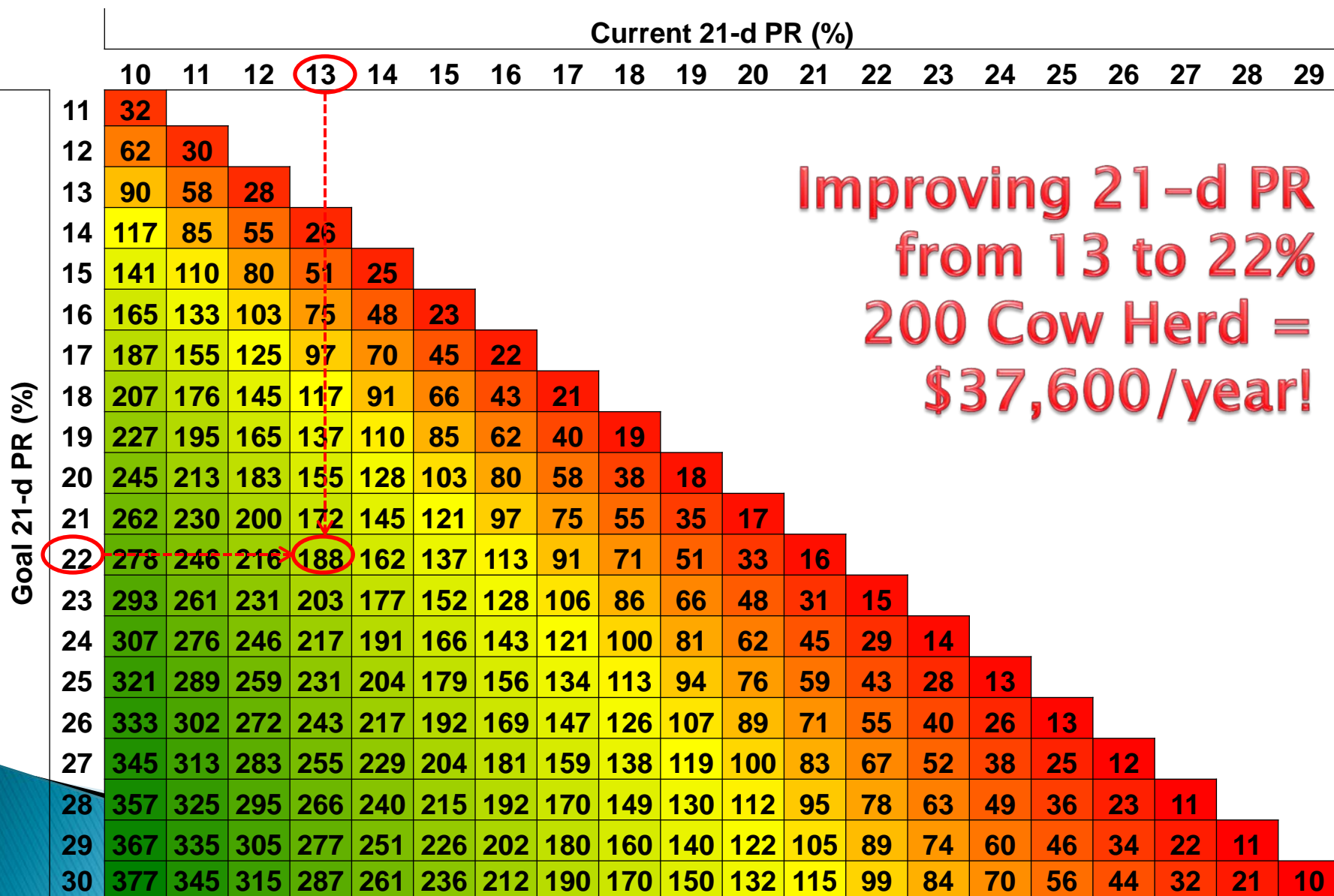
UW
Extension



The Total \$ Value of ↗ 21-d PR



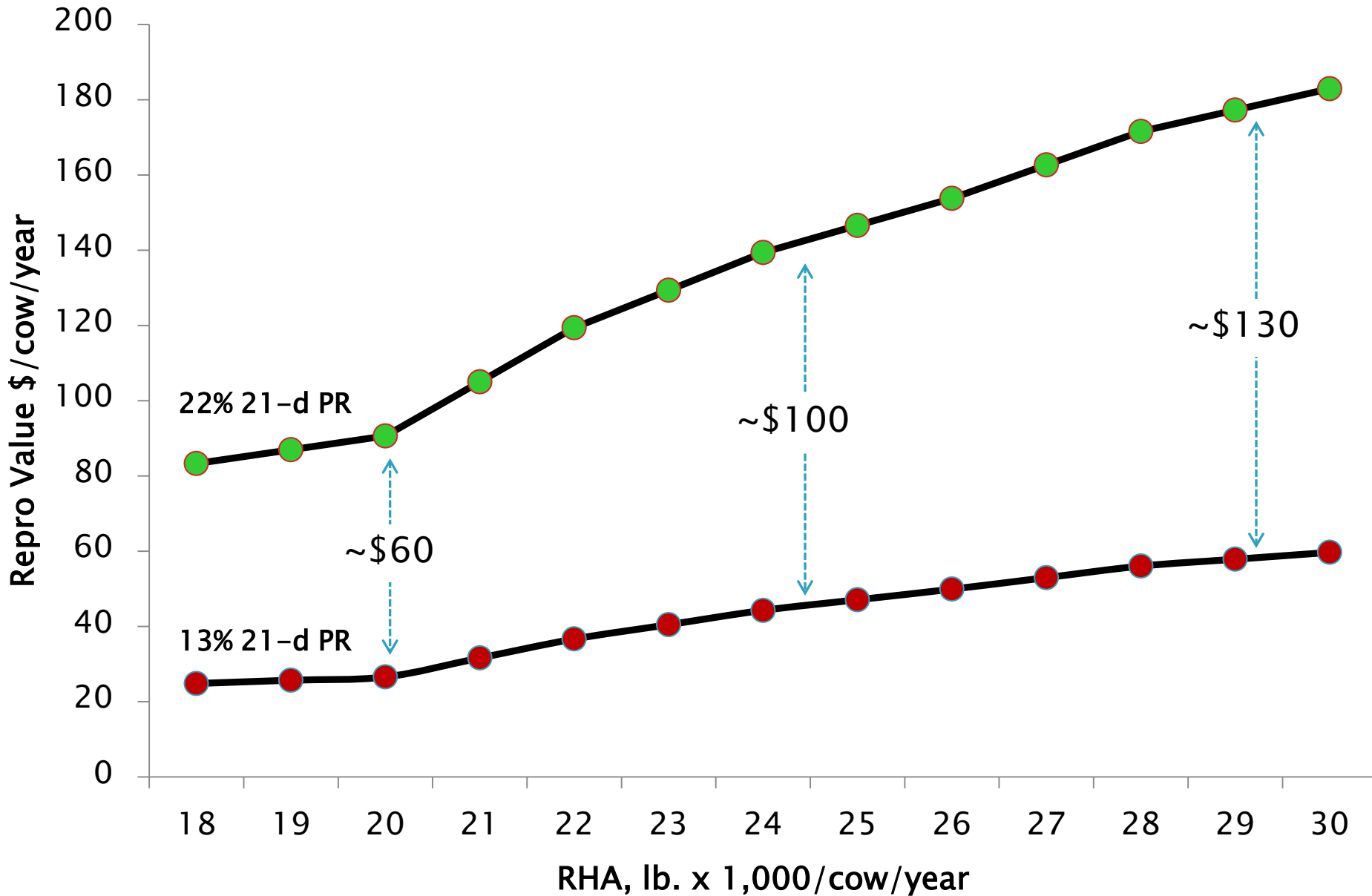
What to Expect Then?... \$/cow/year



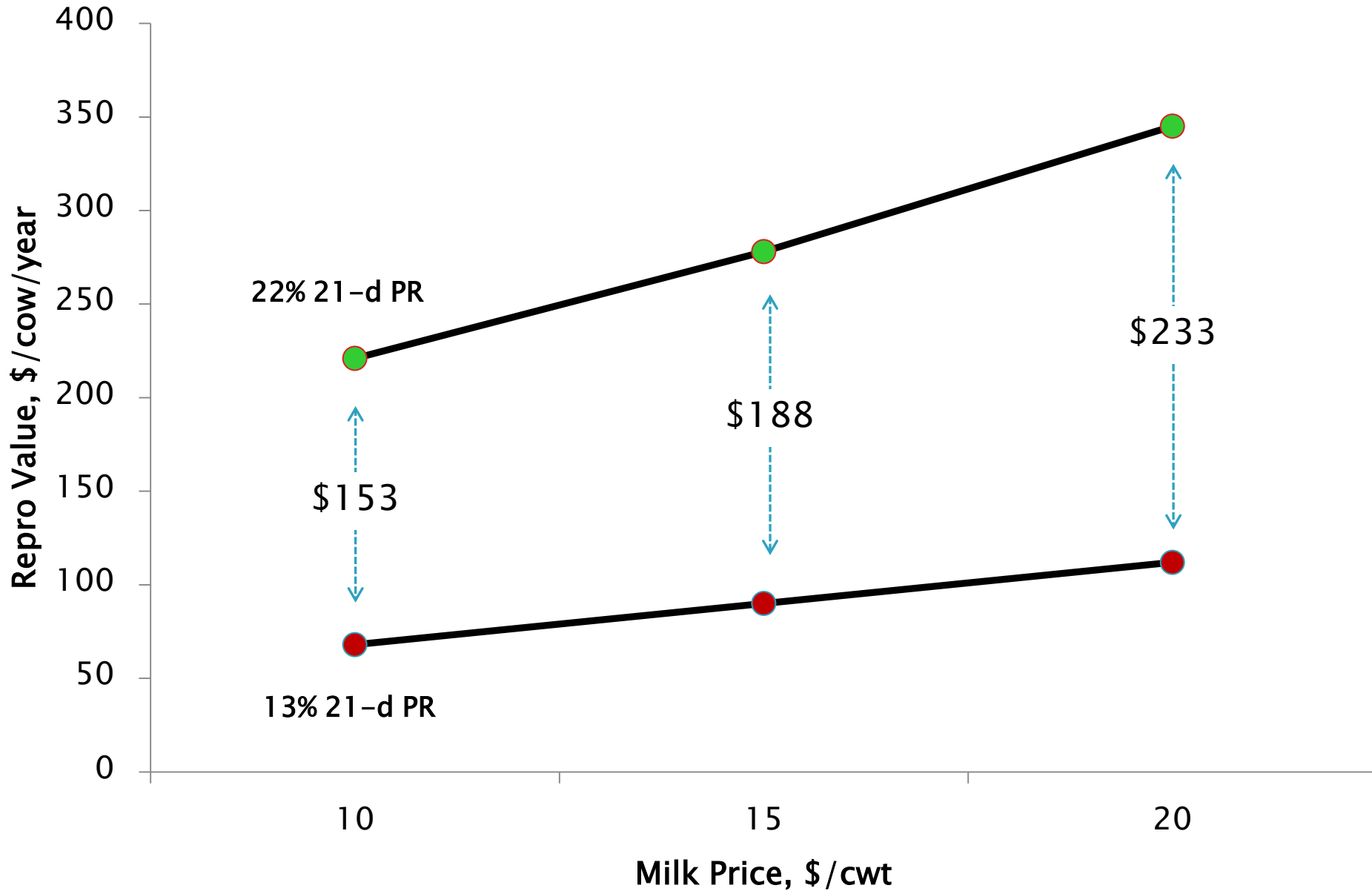
Impact of Farm and Market Factors



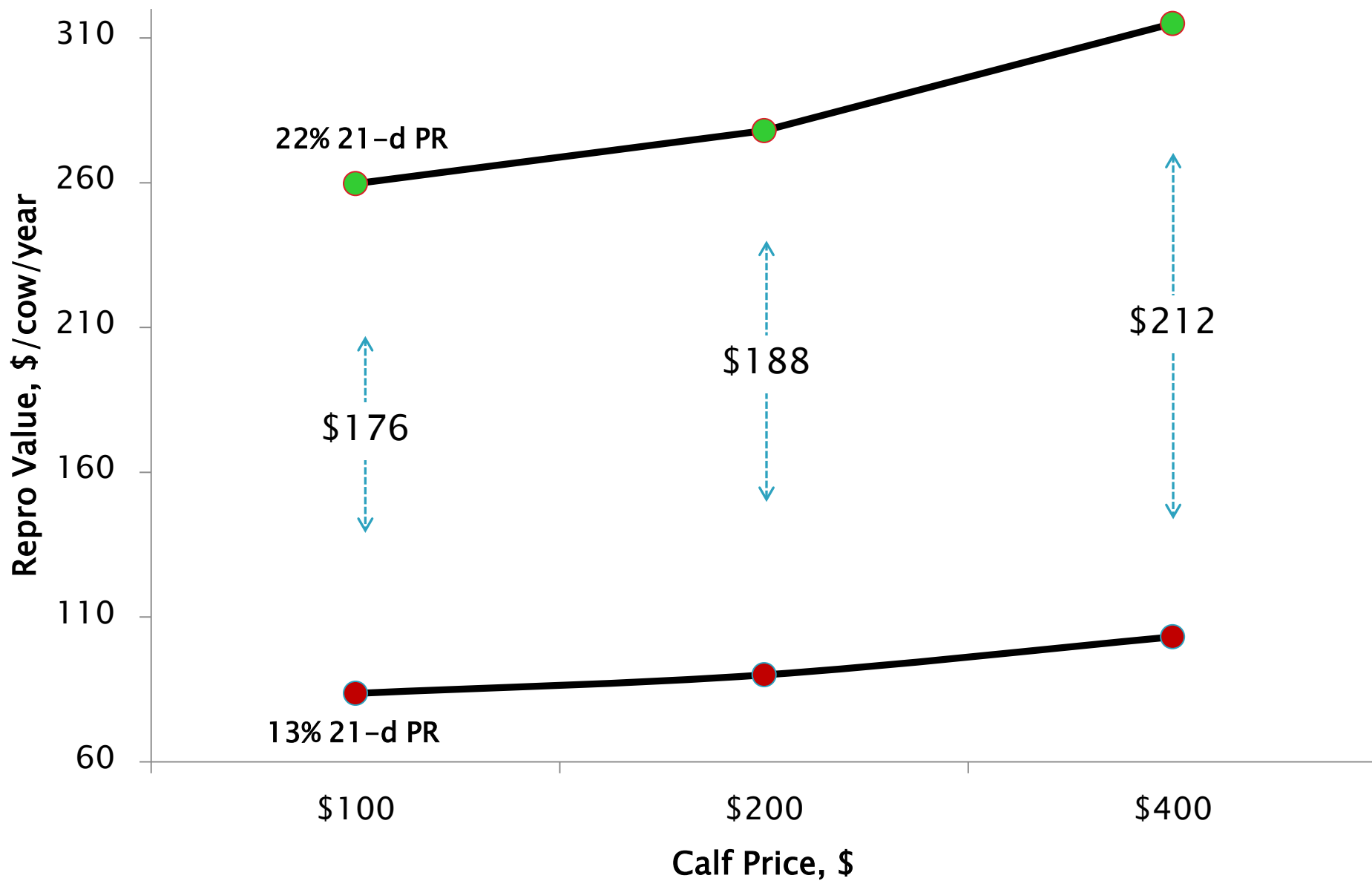
Effect of RHA



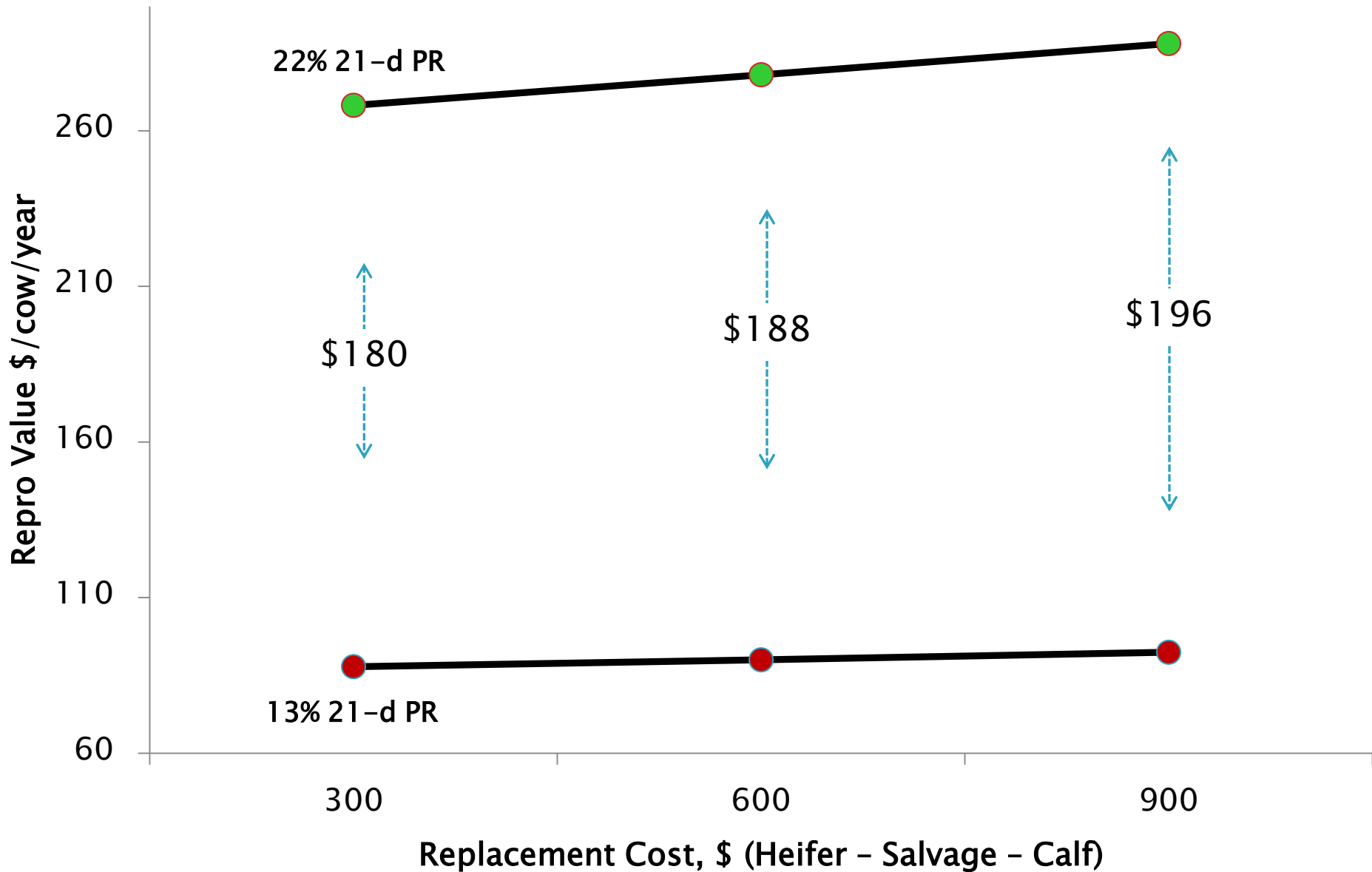
Effect of Milk Price



Effect of Calf Price



Effect of Replacement Cost



Would These Apply to My Farm?

- **Short Answer: YES in trends and relative values**
- **More important than absolute values are differences and trends**
- **Market and Farm specific conditions can be evaluated with Decision Support Systems**



UW–Madison Dairy Management

DairyMGT.info → Tools



Dairy Reproduction Economic Analysis



Dairy Reproductive Economic Analysis

V.E. Cabrera



United States
Department of
Agriculture

National Institute
of Food and
Agriculture



THE UNIVERSITY
of
WISCONSIN
MADISON

Farm and Market Specific Data

Analyze a Farm

Overview Upload Repro Abort Cull Milk Economics Run Model Results Analyze

Find the economic value of improving reproductive performance

	21-d Preg Risk (%)	Repro Cost (\$/cow/mo)
Current Repro Program	13	25
Goal Repro Program	22	25

Analyze

Analysis Results

Program	21-d Preg Risk (%)	Repro Cost (\$/cow/mo)	IOFC (\$/cow/year)	Cull (\$/cow/year)	Repro (\$/cow/year)	Calves (\$/cow/year)	Net Return (\$/cow/year)
Current Repro Program	13	25	1769.57	-171.76	-134.41	109.37	1572.78
Goal Repro Program	22	25	1882.84	-159.42	-100.91	138.27	1760.79

Economic value of improving pregnancy risk from **13% to 22%** is **\$188.01/cow/year.**

UW-DairyRepro\$: A Reproductive Analysis Tool



Highly Detailed Repro Program

5.a. Reproductive Program

	Current	Start day	Alternative	Start day
1 st Service Postpartum	Ovsynch	▼ Mon	▼ Presynch-Ovsynch-12	▼ Wed
2 nd and Subsequent Services	Ovsynch	▼ Mon	▼ Ovsynch	▼ Mon
Resynch before preg check	NO		▼ YES	▼

5.b. Reproductive Program Parameters

		Current	Alternative	100% HD
Voluntary Waiting Period	(d)	50	50	50
Estrus Cycle Duration	(d)	21		
Maximum DIM for Breeding		270		
DIM to 1 st TAI	(d)	70	72	
Interbreeding Interval	(d)	49	42	
Heat Bred Before 1 st TAI	(%)	50%	60%	53%
CR Heat Bred Before 1 st TAI	(%)	33%	35%	33%
Heat Bred After 1 st TAI	(%)	50%	60%	53%
CR Heat Bred After 1 st TAI	(%)	30%	30%	30%
CR 1 st Service TAI	(%)	32%	35%	
CR 2 nd + Services TAI	(%)	28%	28%	
Calving Interval	(mo)	14.1		
Dry Period	(d)	62		

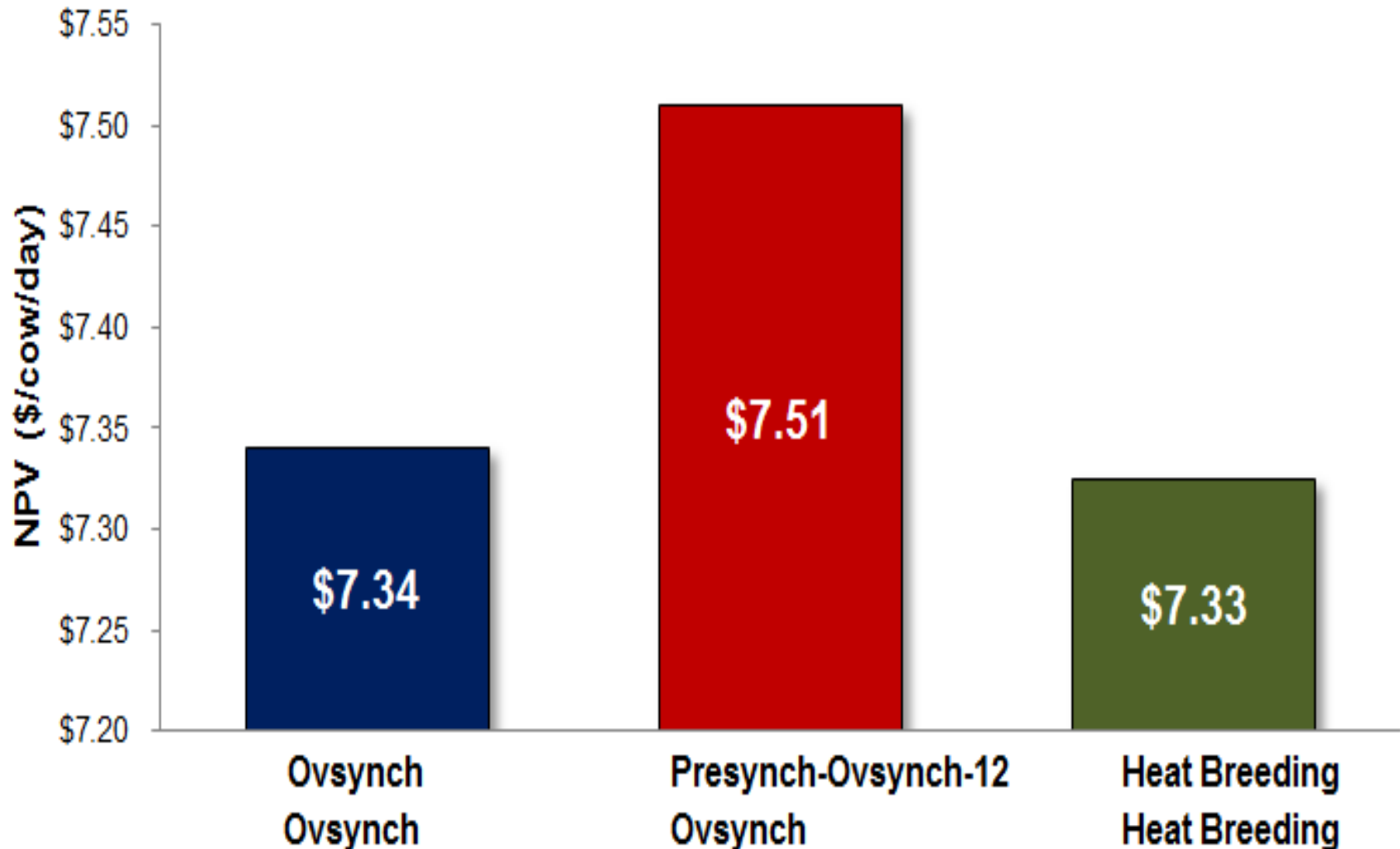
Highly Detailed Repro Results

	Current	Alternative	Baseline
1 st Service Postpartum	Ovsynch	Presynch-Ovsynch-12	Heat Breeding
2 nd and Following Services	Ovsynch	Ovsynch	Heat Breeding
Voluntary Waiting Period	50d	50d	50d
Maximum DIM for Breeding	270d		
DIM 1st TAI	70d	72d	
Interbreeding Interval	49d	42d	21d
Heat Bred Before 1 st TAI	50%	60%	53%
CR Heat Bred Before 1 st TAI	33%	35%	33%
Heat Bred After 1 st TAI	50%	60%	53%
CR Heat Bred After 1 st TAI	30%	30%	30%
CR 1 st Service TAI	32%	35%	
CR 2 nd + Services TAI	28%	28%	
21d-Pregnancy Rate	18%	22%	16%
21d-Service Rate	59%	71%	53%
Average CR all breedings	31%	32%	32%
Days Open (d)	121	120	135
Projected Calving Interval (mo)	14.1	13.8	14.4
Cost 1st Service Breeding	\$28.69	\$37.00	
Cost Resynch Breedings	\$28.69	\$31.40	
Cost Heat Breedings	\$21.05	\$23.00	\$22.00
Pregnancy Diagnosis Method	Palpation	Ultrasound	Palpation
Pregnancy Diagnosis Cost	6.00	8.00	7.00



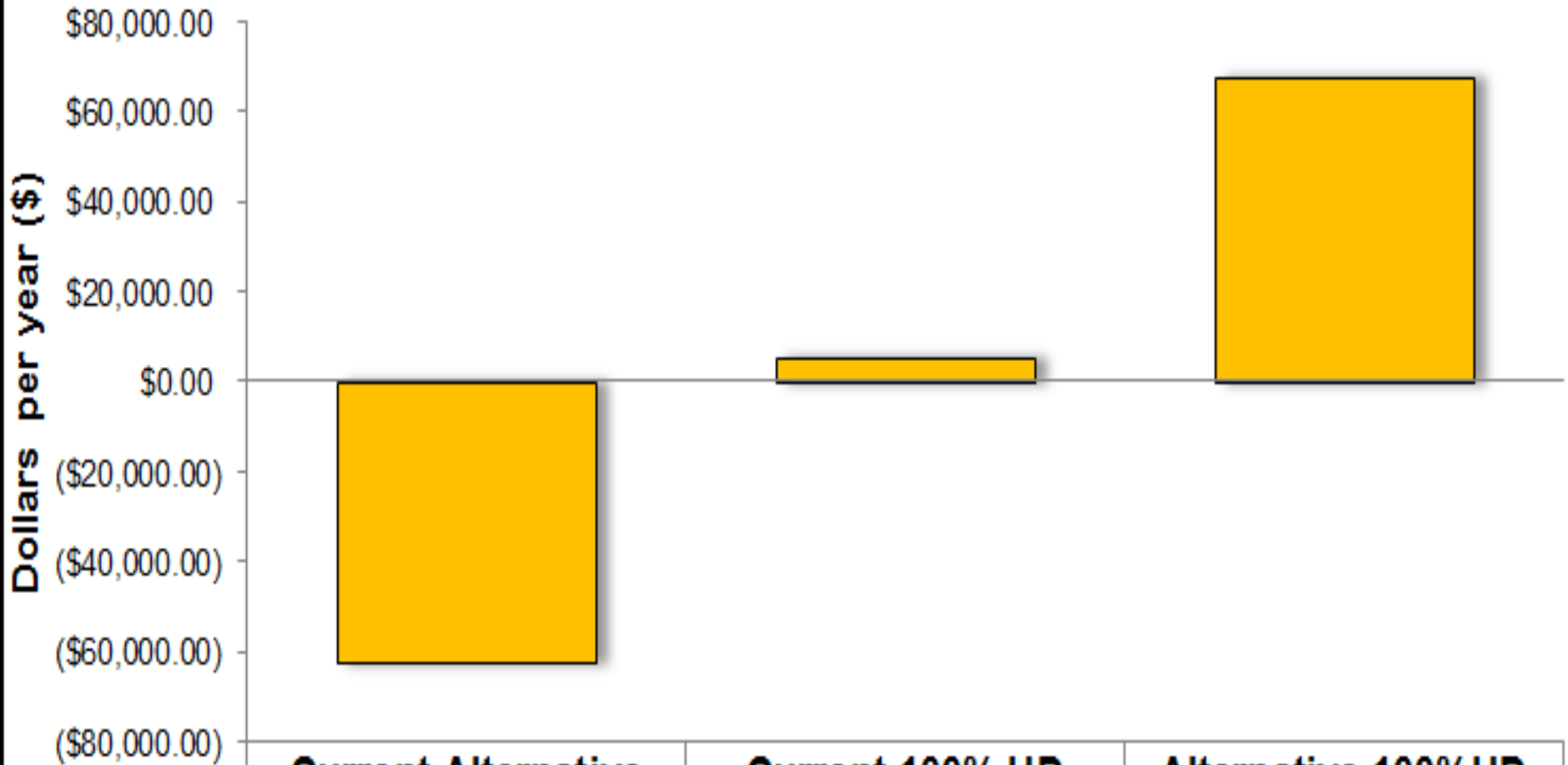
In-Depth Economic Analyses

5. Net Present Value (\$/cow/day) for Parity All



In-Depth Economic Analyses

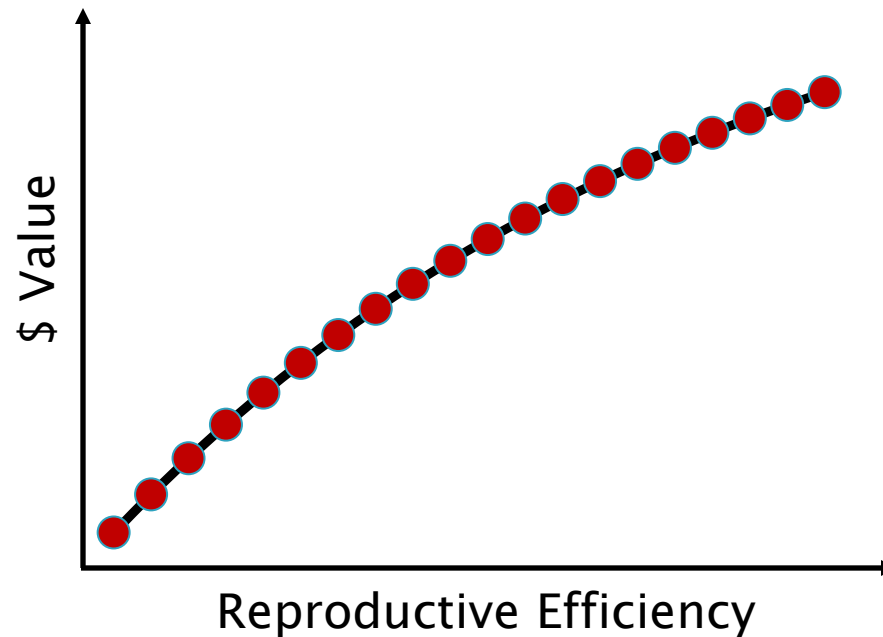
6. Difference in NPV (\$/herd/year) for Parity All



	Current-Alternative	Current-100% HD	Alternative-100%HD
NPV	(\$61,977.00)	\$5,668.45	\$67,645.45

Take Home Message!

- Large \$ Value to be Realized When Improving Reproductive Efficiency



- Improve Repro → Make More \$



Thanks



Victor E. Cabrera
DairyMGT.info