

Pregnant or Open?

Getting Cows Pregnant and the Money it Makes

Paul M. Fricke, Ph.D.

Professor of Dairy Science
University of Wisconsin-Madison



DEPARTMENT OF
DAIRY SCIENCE
University of Wisconsin-Madison

Oscar Wilde

1854 – 1900

Physician, Author, Poet,
Playwright

1891

The Picture of Dorian Gray



**“A cynic is a man who knows
the price of everything but
the value of nothing.”**

**Dairy Cattle
Reproduction
is a lot like...**



**...playing
Roulette**

Assessing Risk vs. Return

Three Questions to Answer:

What does it cost to play?

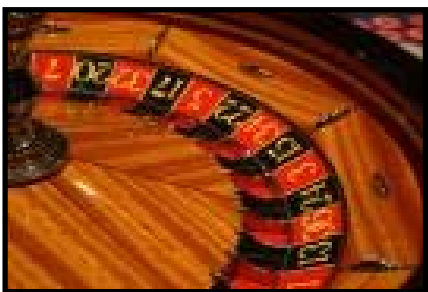
What is the cost of an AI service?

What are my chances of winning?

What are my chances of getting a cow pregnant to an AI service?

What is the payout?

What is the value of a successful outcome of an AI service (i.e., a pregnancy)?



What does it Cost to Play?



Roulette

Minimum bet?

Maximum bet?

The sky is the limit!



Repro

Anyone can estimate these inputs for their farm

Semen (\$10)

Labor for AI (\$5)

Labor for estrus detection
or hormone injections (\$5)

Hormones (\$10)

Average cost per AI: \$30



What are My Chances of Winning?



Roulette

Outside bets

Odd/Even; Black/Red;
High/Low

47.4% (18/38) chance of winning

Column; 12 numbers

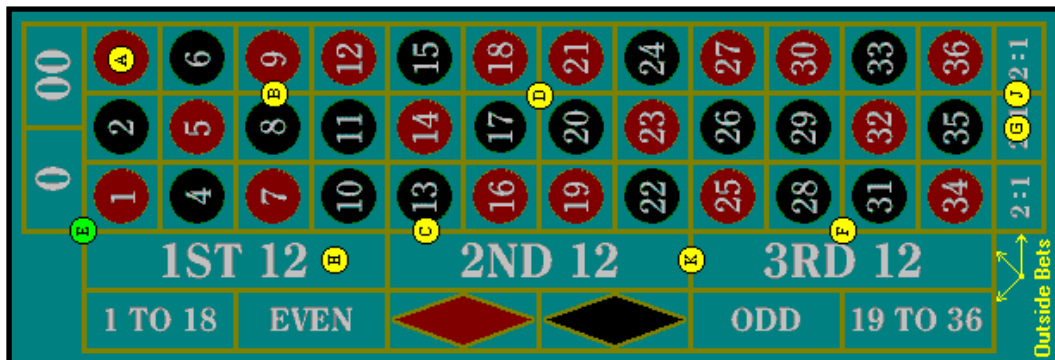
31.6% (12/38) chance of winning

Repro

It depends on the **conception rate** (i.e., conception risk) of the herd in question

Conception rate varies among herds, but is around **33.3%** on average

A pregnancy occurs 1 in every 3 AI services





What is the Payout?



Roulette

Outside bets

Odd/Even; Black/Red;
High/Low

Payout of 1:1 (even money)

Column; 12 numbers

Payout of 2:1

Repro

A pregnancy

Actually, a pregnancy
that goes to term

**What is the value of
a pregnancy???**

00	A	6	9	12	15	18	21	24	27	30	33	36	2:1
0	2	5	8	11	14	17	20	23	26	29	32	35	2:1
	1	4	7	10	13	16	19	22	25	28	31	34	2:1
	1ST 12			2ND 12			3RD 12						
	1 TO 18		EVEN				ODD		19 TO 36				Outside Bets

Estimating the Value of a Pregnancy



Two identical cows, both are 150 dim



60 days pregnant



Open

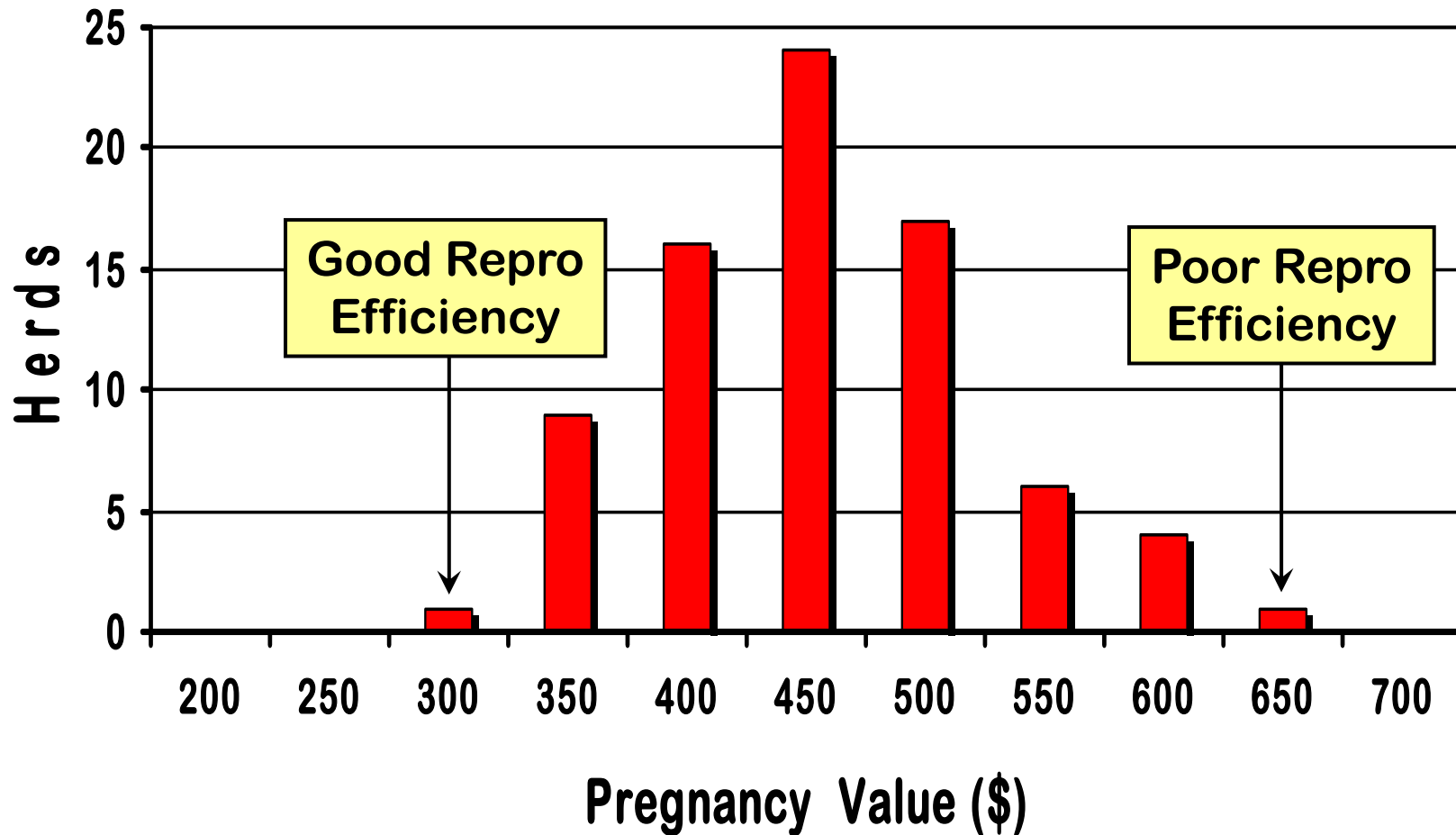
Variables to be Considered for Calculating Preg Value

- Current milk production
- Future expected milk production
- Age of the cow
- Current days in milk
- Current reproductive status
- Price of milk
- Value of cull cows
- Cost of the average replacement

Mathematical computer models

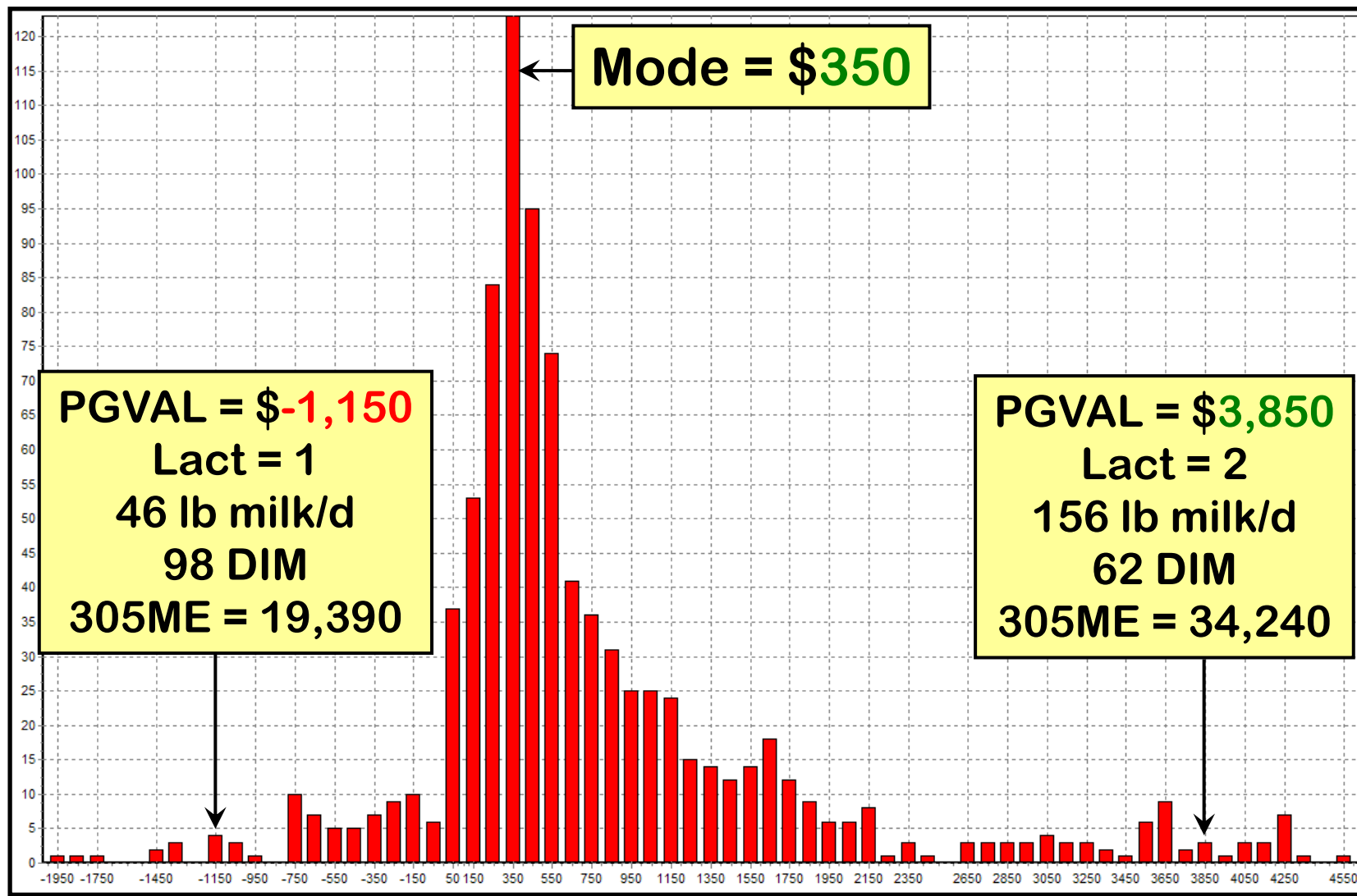
Pregnancy Value Among Herd Variation

(DC305, 77 herds)

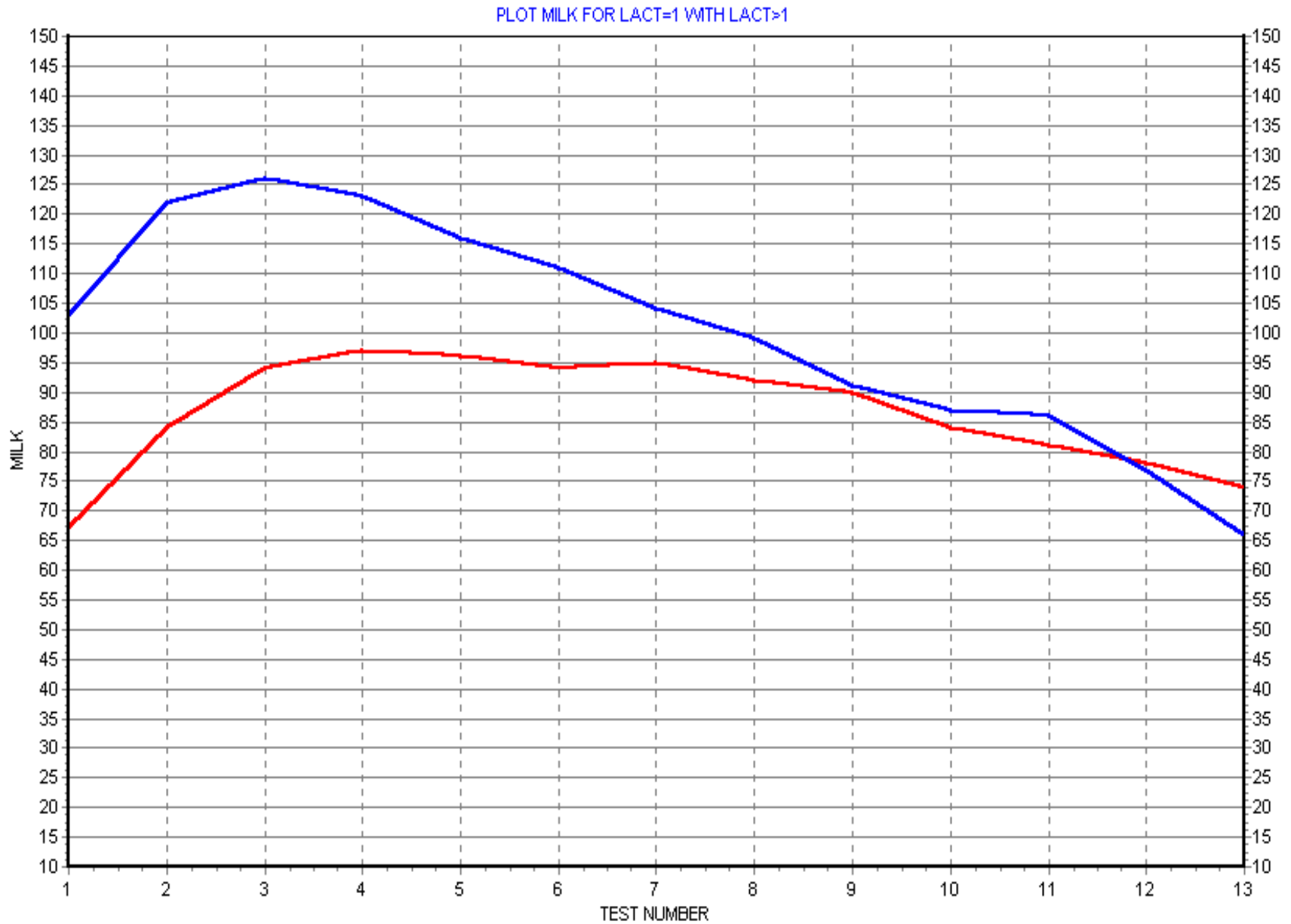


Pregnancy Value Within Herd Variation

(DC305, 1,100-cow herd)



Lactation Curves – Primiparous vs. Multiparous Cows



New Game: Repro Roulette

- What will it cost me to play?
 - What is the cost of an AI service? **\$30**
- What are my chances of winning?
 - What are my chances of getting a cow pregnant **33.3%**
- What is the payout?
 - What is the average value of a pregnancy?
\$300

The Key – You Have to Play to Win!