

Sistemas de Apoyo en la toma de Decisiones Económicas para la Selección de Programas de Manejo Reproductivo en Explotaciones Lecheras



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Preñez vs. Dinero

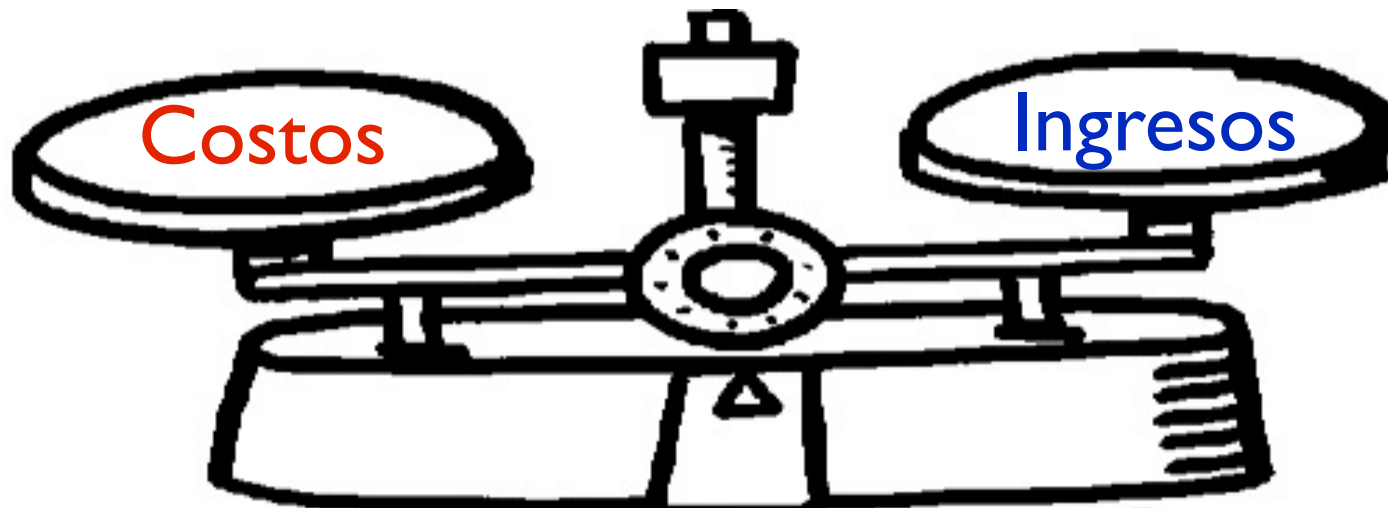
Labor

Semen

Hormonas

Leche

Recría



Objetivo



- Desarrollar una ***Herramienta de Apoyo para las Decisiones*** para analizar el ***Valor Económico*** de ***Programas de Manejo Reproductivo*** en explotaciones lecheras

Sistema de apoyo para las decisiones

Realiza tus propios analisis

El valor de programas reproductivos es específico

Cada explotación lechera es diferente



Las condiciones en la explotación lechera cambian dinámicamente

El valor de programas reproductivos cambia

Las condiciones de mercado cambian permanentemente

Podrían impactar las decisiones



Herramienta que es “amigable”

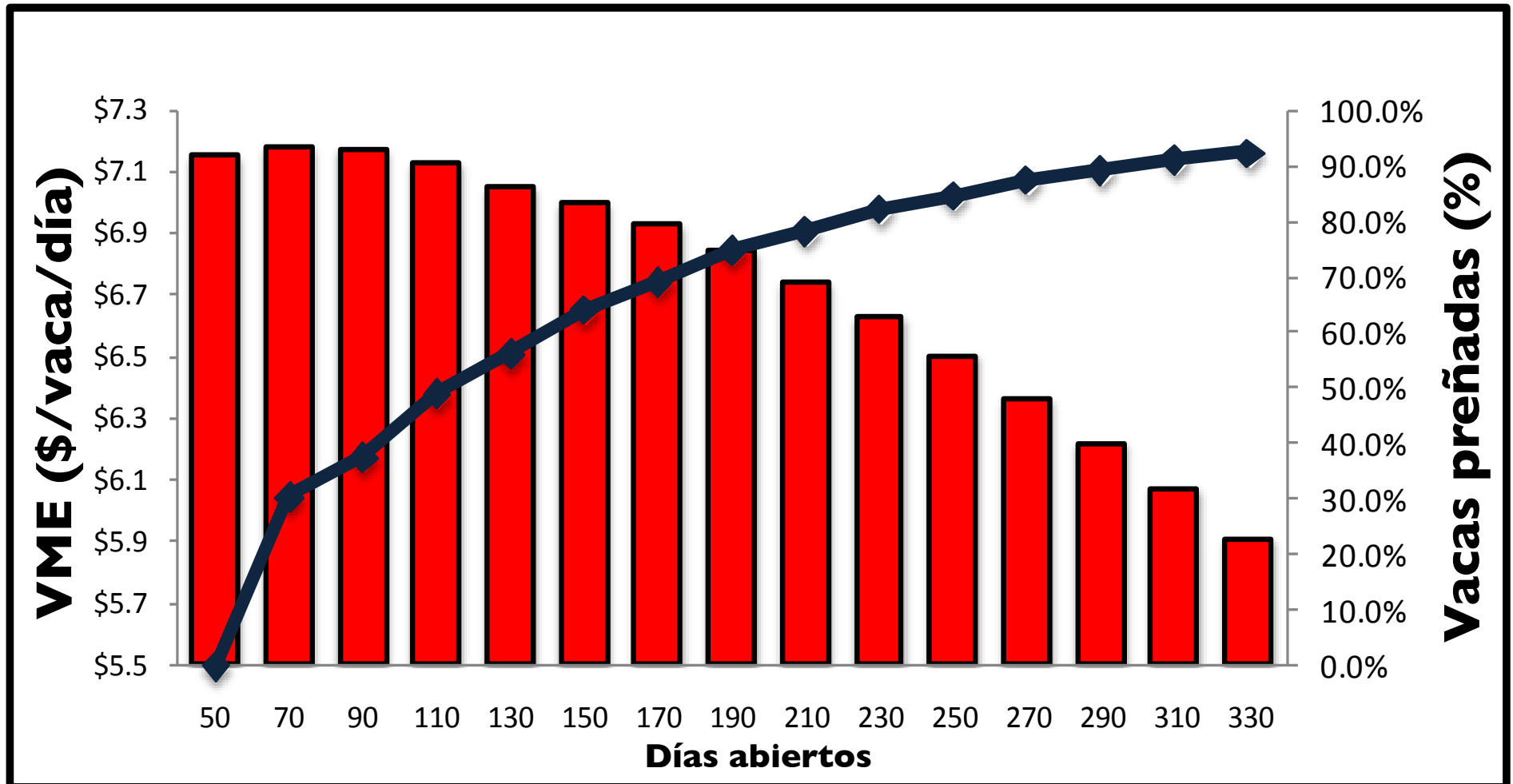
Fácil de usar pero sólida y robusta

Valor Monetario Esperado (VME)

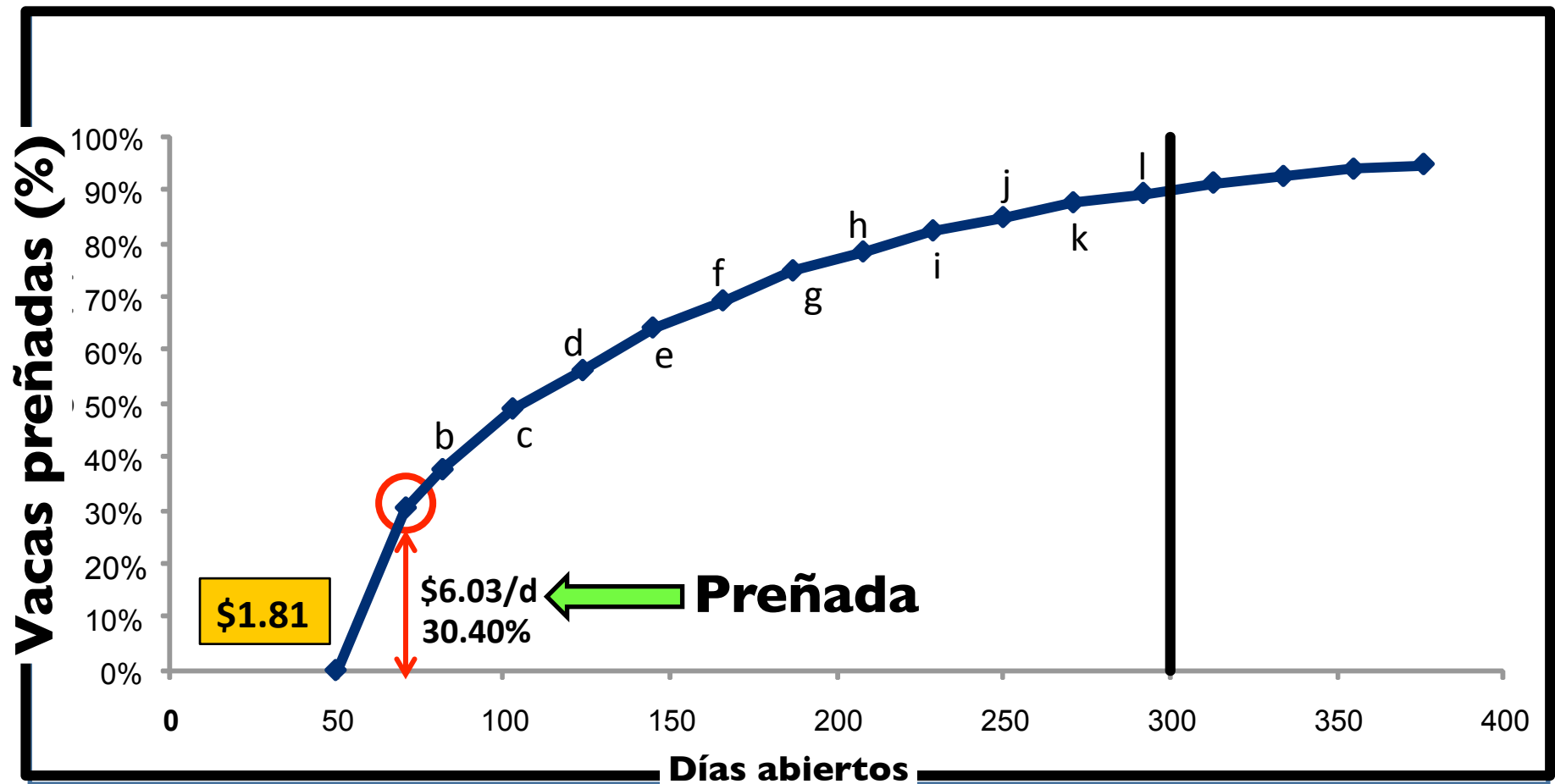
- Diferencia en el valor de **ingresos efectivos** y **costos efectivos** de acuerdo a diferente **programas de manejo reproductivo**



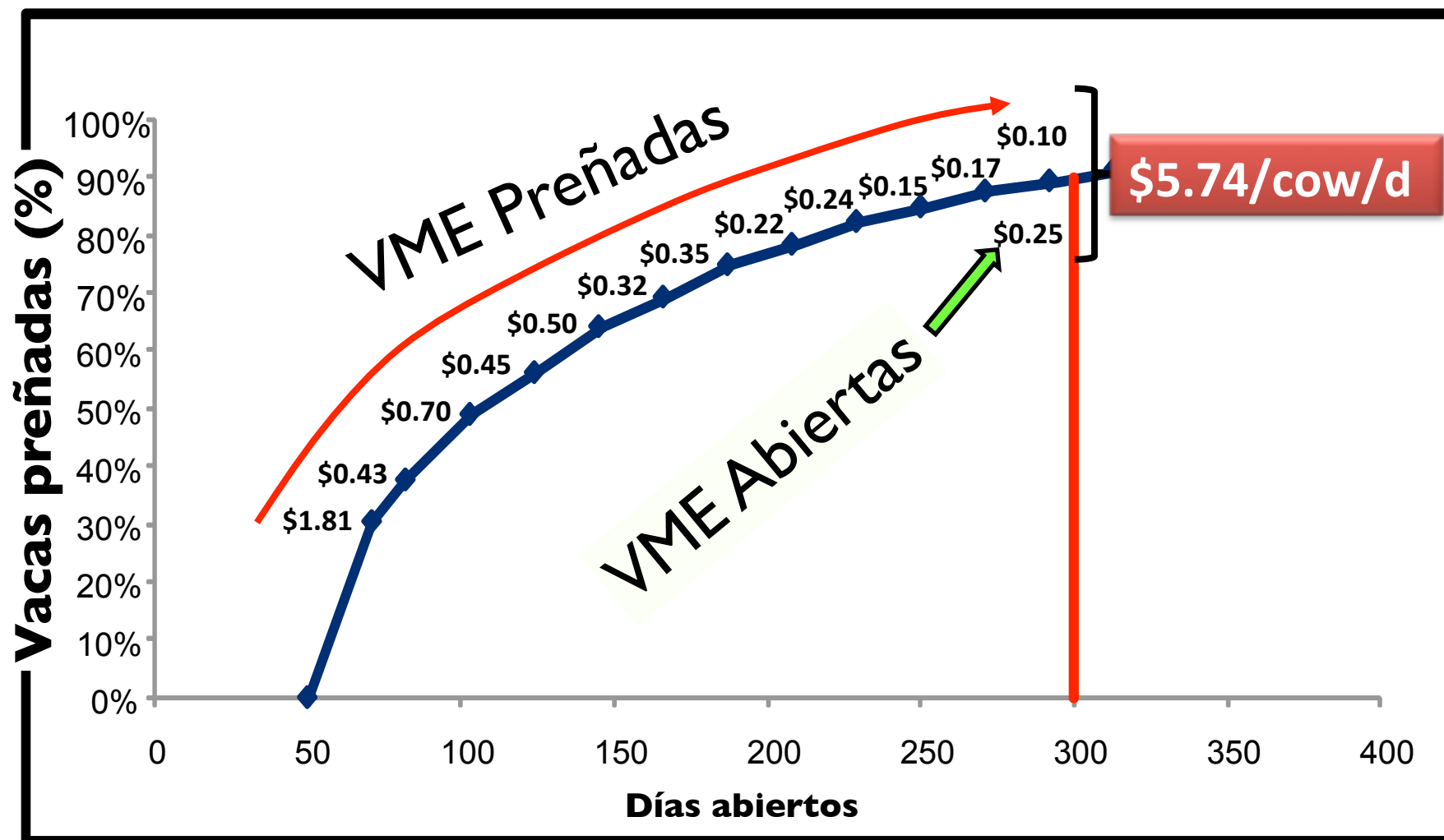
VME y Desempeño Reproductivo



Valor Reproductivo



Reproductive Value



UW-DairyRepro\$Plus



Define tu Explotación

Hato lechero

Vacas adultas #	500
Parity 1	175
Lactaciones	125
Parity ≥ 3	200
Peso vivo lb/cow	
Parity 1	1,350
Lactaciones	1,400
Parity ≥ 3	1,450
Desecho involuntario	20.0%
Mortalidad	6.0%
Natimuertos	6.0%

Precios y costos

Precio leche	15.00
Costo alimento producción	0.10
Costo alimento secas	2.20
Valor ternera \$	125
Valor ternero	50
Valor reemplazo due, \$	1,250
Valor descarte \$	650
Labor inyecciones \$/hr	15.00
Labor detección celo	15.00
Labor inseminación	15.00
Tasa de interés	5.0%

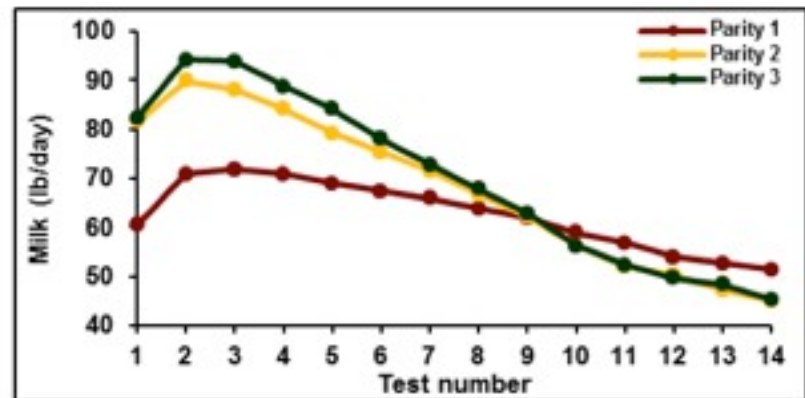
Define tu Explotación

Entra tus propios valores
o selecciona curvas
predefinidas

Curvas de lactancia

own Farm Lactations (Enter/Edit NUMBERS Below) ▼

Mes lactancia	Lactancias		
1	77	105	107
2	91	120	126
3	94	120	128
4	94	116	125
5	93	112	120
6	91	107	112
7	89	98	104
8	87	91	94
9	83	82	86
10	79	75	81
11	76	68	71
12	72	61	61
13	70	57	60
14	60	53	55



Define tu Explotación

Programas de manejo reproductivo

	Programa actual	Día inicio
Primer servicio después del parto	Ovsynch	Tue
Segundo y siguientes servicios	Ovsynch	Tue
Repeticiones sin chequeo preñez	YES	

	Programa alternativo	Start day
1 st Service postpartum	Presynch-Ovsynch-12	Thu
2 nd and subsequent services	Ovsynch	Tue
Resynch before preg check	YES	

Define tu Explotación

Programas reproductivos

	Current	Alternative
Tiempo de espera voluntaria ^d	60	72
Duración ciclo estral ^d	22	
Ultimo servicio ^d	330	
Primer servicio ^d	60	72
Intervalo entre servicios ^d	49	35
Detección celo antes IA [%]	50%	50%
Tasa concepción celo 1 [%]	35%	35%
Detección celo después IA [%]	40%	40%
Tasa concepción celo 2+ [%]	35%	35%
Tasa concepción IA 1 [%]	33%	42%
Tasa concepción IA 2+ [%]	30%	30%
Costo sincronización 1 ^{\$}		
Costo sincronización 2+ ^{\$}		
Costo servicio celo ^{\$}		
Costo re-sincronización sin chequeo ^{\$}		
Intervalo entre partos ^d	13.7	
Periodo seco ^d	60	

Define tu Explotación

Desempeño esperado de programas de tiempo definido (sincronización) primer servicio

Programa	TEV (d)	Tasa concepción(%)	
		Promedio	Rango
Presynch-Ovsynch-14	70-85	37	(32-42)
Presynch-Ovsynch-12	70-85	42	(37-47)
Presynch-Ovsynch-11	70-85	43	(37-47)
Presynch-Ovsynch-10	70-85	44	(37-47)
Double-Ovsynch	70-85	47	(40-50)
G-6-G	70-85	45	(37-47)
Ovsynch	60-75	33	(30-37)
Cosynch-72	60-75	26	(25-33)
Presynch-Ovsynch-12 w/CIDR	70-85	45	(40-50)
Double-Ovsynch w/ CIDR	70-85	50	(43-53)
Ovsynch w/ CIDR	60-75	36	(40-50)
Cosynch-72 w/ CIDR	60-75	32	(33-40)

Define tu Explotación

Desempeño esperado de programas de tiempo definido (sincronización) 2+ servicios

Synchronization Program	Intervalo	Conception Rate (%)	
	de servicio (d)	Mean	Range
Ovsynch-Day 25	35	27	(24-30)
Ovsynch-Day 32	42	30	(25-35)
Ovsynch-Day 39	49	28	(25-32)
Double-Ovsynch	49	38	(33-42)
Short-Double-Ovsynch	42	34	(30-38)
HGPG (hCG-7d-Ovsynch)	35	37	(33-41)
GGPG (GnRH-7d-Ovsynch)	35	34	(27-37)
G-6-G	49	35	(32-38)
Cosynch-72-Day 25	35	23	(20-25)
Cosynch-72-Day 32	42	28	(24-32)
Cosynch-72-Day 39	49	25	(23-28)
Ovsynch-Day 32 w/ CIDR	42	33	(28-38)
Double-Ovsynch w/ CIDR	49	41	(36-45)
Short-Double-Ovsynch w/CIDR	42	37	(33-41)
HGPG (hCG-7d-Ovsynch) w/CIDR	35	40	(36-41)
GGPG (GnRH-7d-Ovsynch) w/ CIDR	35	35	(30-40)
G-6-G w/CIDR	49	38	(33-41)
Cosynch-72-Day 32 w/CIDR	42	31	(27-35)

Define tu Explotación

Labor para detectar celo

	Current	Alternative
Laborers	1	1
hr/d	2.5	2.5

Chequeo de preñez

	Current	Alternative
Rectal \$/hr	105	
Ultrasonido, \$/hr		135
Prueba química \$/cow		

Detección de celo con monitores de actividad o métodos alternativos

Nuevo!

	Current	Alternative
Costo de sistema, \$	0	7,000
Número monitores	0	350
Costo monitor \$	0	110
Mantenimiento, \$/yr	0	350
Tiempo de vida, yr	0	10
Valor salvado %	0%	25%

Define tu Explotación

Labor para inyecciones y detección de preñez

			Mon	Tue	Wed	Thu	Fri	Sat	Sun
Current	Injections	Laborers	1		1				
		hr/d	2		1				
		# Cows	50		30				
	Pregnancy Diagnosis	hr/d	1						
		# Cows	30						

Alternative	Injections	Laborers		2		1			
		hr/d		2.5		2			
		# Cows		75		60			
	Pregnancy Diagnosis	hr/d		1					
		# Cows		30					

Define tu Explotación

Costos de hormonas


			Frasco, \$	# Dosis
GnRH	Factrel	▼	20	10
PGF	Estrumate	▼	25	10
P4 Insert	CIDR	▼		
hCG	Chorulon	▼		

Performa un Análisis

Parity Group to ANALYZE

All

Run ANALYSIS



Analiza los Resultados

Resumen de los programas reproductivos estudiados

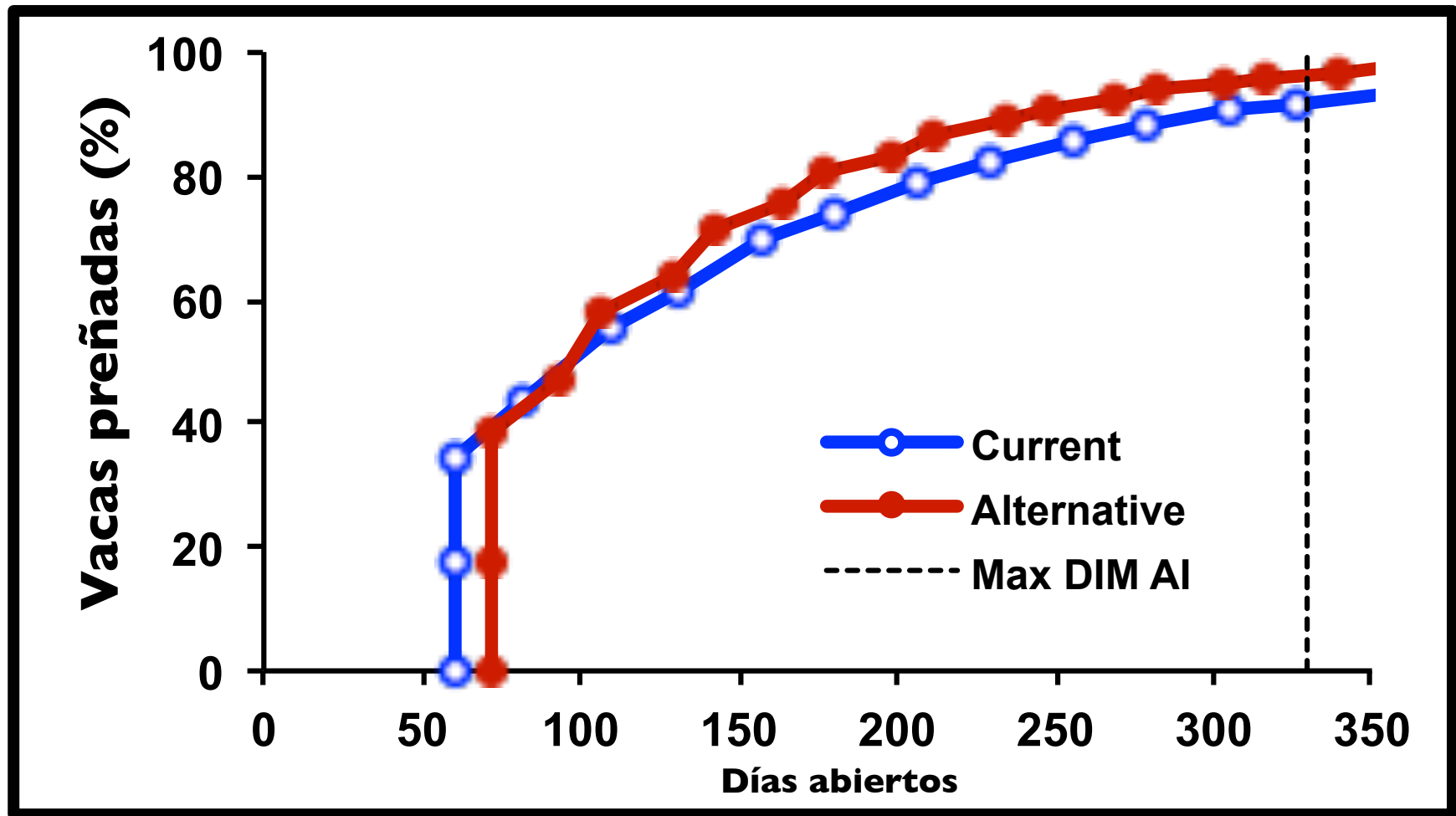
	Current	Alternative
1 st Service Postpartum	Ovsynch	Presynch-Ovsynch-12
2 nd and Following Services	Ovsynch	Ovsynch
Voluntary Waiting Period, d	60	72
Maximum DIM for Breeding, d	330	
DIM 1st TAI, d	60	72
Interbreeding Interval, d	49	35
Heat Bred Before 1 st TAI, %	50%	50%
CR Heat Bred Before 1 st TAI, %	35%	35%
Heat Bred After 1 st TAI, %	40%	40%
CR Heat Bred After 1 st TAI, %	35%	35%
CR 1 st Service TAI, %	33%	42%
CR 2 nd + Services TAI, %	30%	30%
Cost 1st Service Breeding, \$	26.7	34.5
Cost Resynch Breedings, \$	26.7	28.5
Cost Heat Breedings, \$	18.5	19.5
Pregnancy Diagnosis Method	Palpation	Ultrasound
Pregnancy Diagnosis Cost, \$	3.5	4.5

Analiza los Resultados

Monitores de actividad para detectar celo

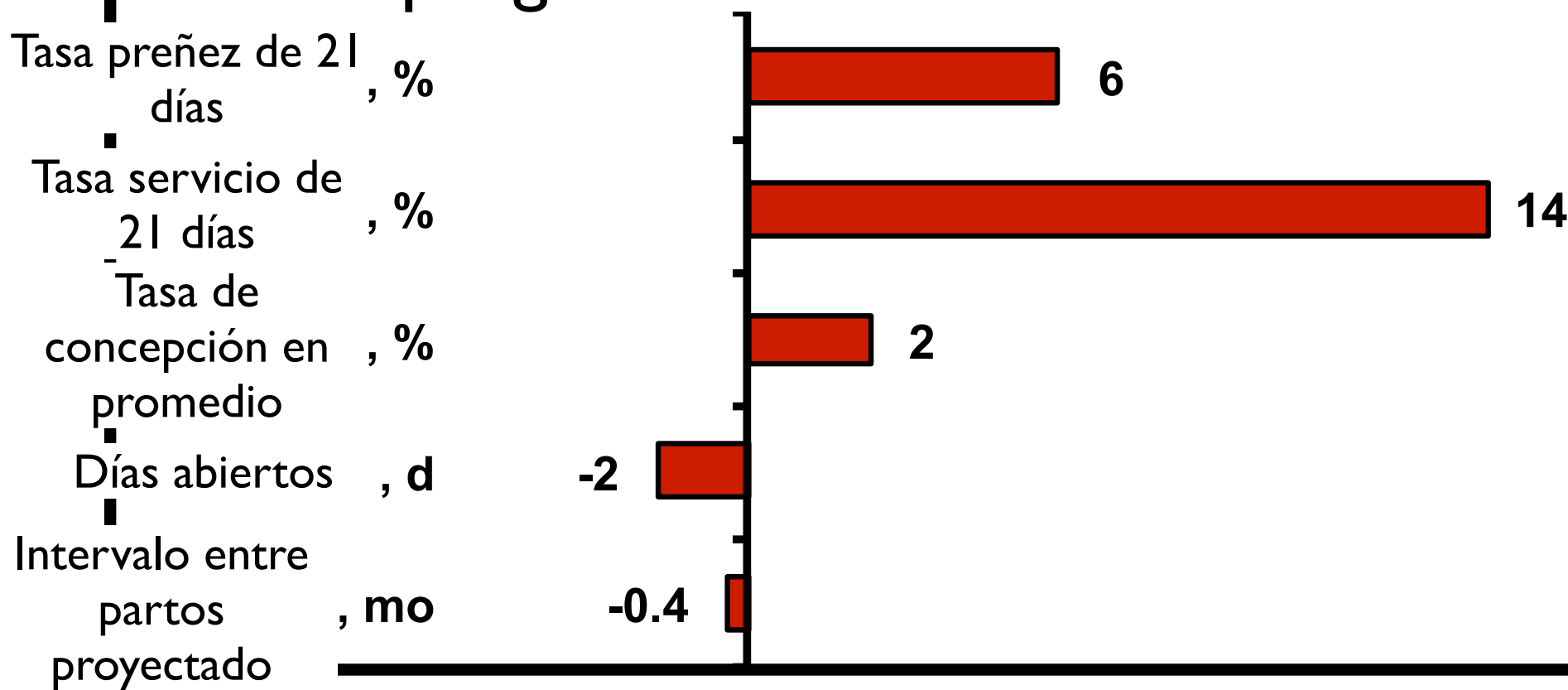
	Current	Alternative
System + monitors cost, \$	0	32000
Salvage value, \$	0	8000
Value after depreciation, \$	0	24000
Total cost per d of period, \$/d	0.00	6.58
Maintenance, \$/d	0.00	0.68
Costo por vaca/día, \$	0.000	0.017

Analiza los Resultados

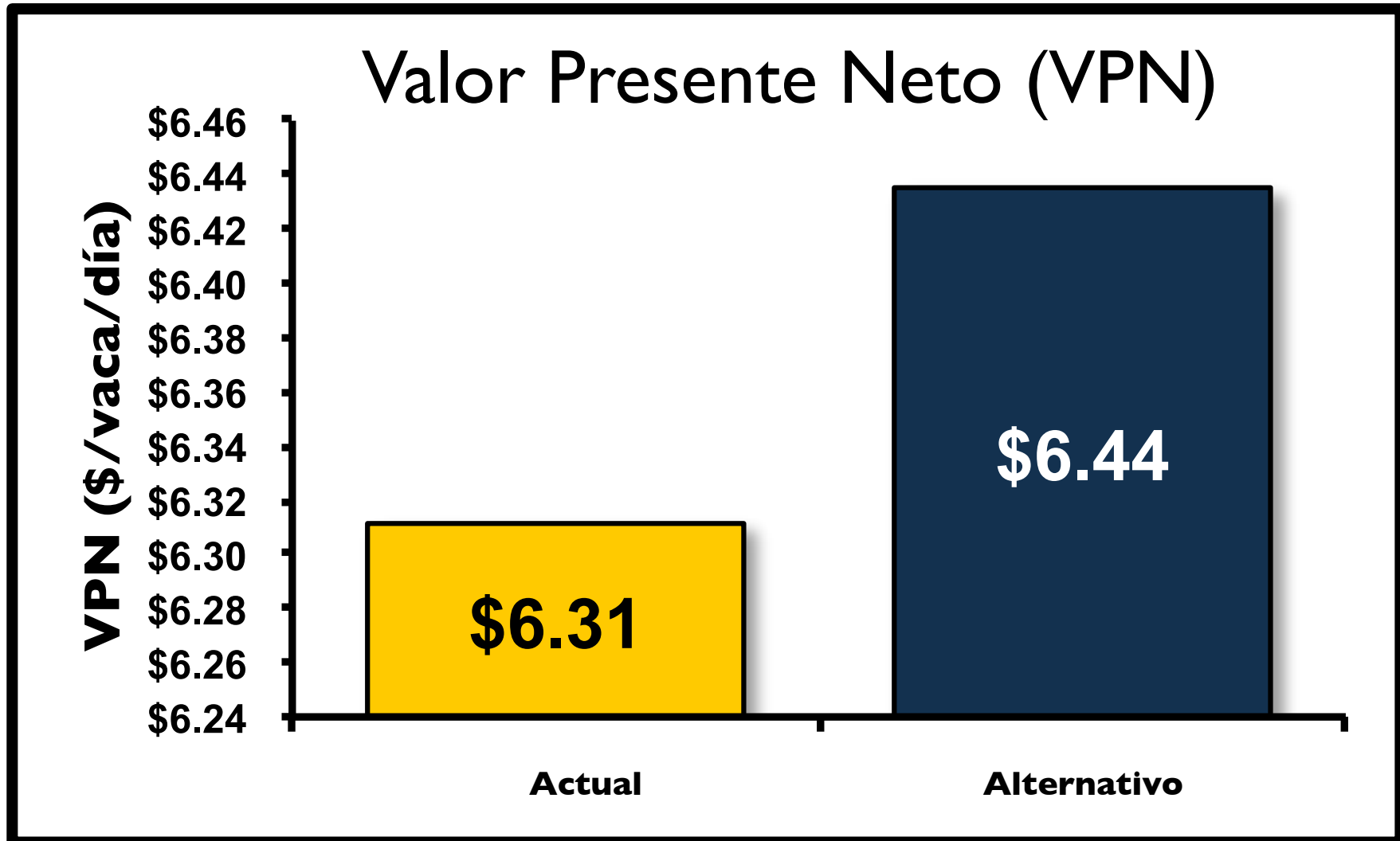


Analiza los Resultados

Cambio esperado al adoptar el programa ALTERNATIVO



Analiza los Resultados



Analiza los Resultados

Rendimiento neto (\$/hato/año) logrado al
usar el programa ALTERNATIVO



\$22,616

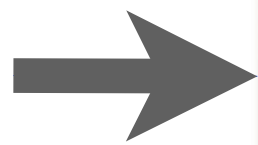
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Donde lo encuentras?

DairyMGT.info

The screenshot shows the DairyMGT.info website homepage. At the top, there is a banner image of cows in a field with the University of Wisconsin-Extension logo. Below the banner is a navigation menu with links for Home, Tools, Projects, Publications, Presentations, Links, and Find. A secondary menu includes About, Contact, Comments, News, People, Opportunities, and a Search box. The main heading is "Dairy Management". Below this, there is a paragraph describing the site's purpose: "Dairy Management site is designed to support dairy farming decision-making focusing on multidisciplinary scientific research. The ultimate goal is to provide user-friendly computerized decision support systems to help dairy farms improve their economic performance. Dr. Victor Cabrera focuses on multidisciplinary decision support in dairy cattle and in dairy farm production systems. Dr. Cabrera's primary interest is to improve cost efficiency and profitability along with environmental stewardship in dairy farms by using simulation techniques, artificial intelligence, and expert systems. Dr. Cabrera's research and Extension programs involve interdisciplinary and participatory approaches towards the resolution of cost-friendly decision support systems. As an Extension Specialist, Dr. Cabrera works in close relationships with county-based Extension faculty, dairy producers, consultants, and related industry."

On the left side, there are sections for "Latest Projects" and "UW" with various links. In the center, there is a "TOOLS" section with a "Dairy Management Tools" link and a "View More" button. On the right, there is a profile for "Victor E. Cabrera, Ph.D." with a photo and contact information.



Tools

The screenshot shows the "Tools" section of the DairyMGT.info website. It features a list of tools with descriptions and download links. The tools include:

- Economic Value of Diverse Breeding Programs for Dairy Herds**: A tool that calculates and compares the economic value of dairy reproductive programs including timed artificial insemination (TAI), heat detection (HD), and combinations of TAI and HD programs. It applies probabilistic reproduction survival curves with assigned monetary values to assess the net present value (NPV) of defined reproductive programs. The overall NPV of a specific reproduction program is the aggregation of the expected monetary values (EMV) of reproductive events according to defined economic parameters.
- Heat Detection Labor Cost**: A tool to calculate labor costs for heat detection.
- Heat Detection Labor Cost Alternative Program**: A tool to compare labor costs for different heat detection programs.

Each tool has a "Download" link and a "View More" button. There are also small charts and graphs associated with the tools.

The screenshot shows a tool interface with a data table. The table has columns for "Year", "Sun", "Wed", "Thu", "Fri", "Sat", and "Sun". The rows are labeled "Heat", "Lactation", "Preg", "# Cows", and "Cost". The data is presented in a grid format with yellow and grey cells. There is a "Run AMU FDS" button at the bottom right of the table.

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Muchas gracias!