

Victor E. Cabrera  
Extension Dairy Specialist



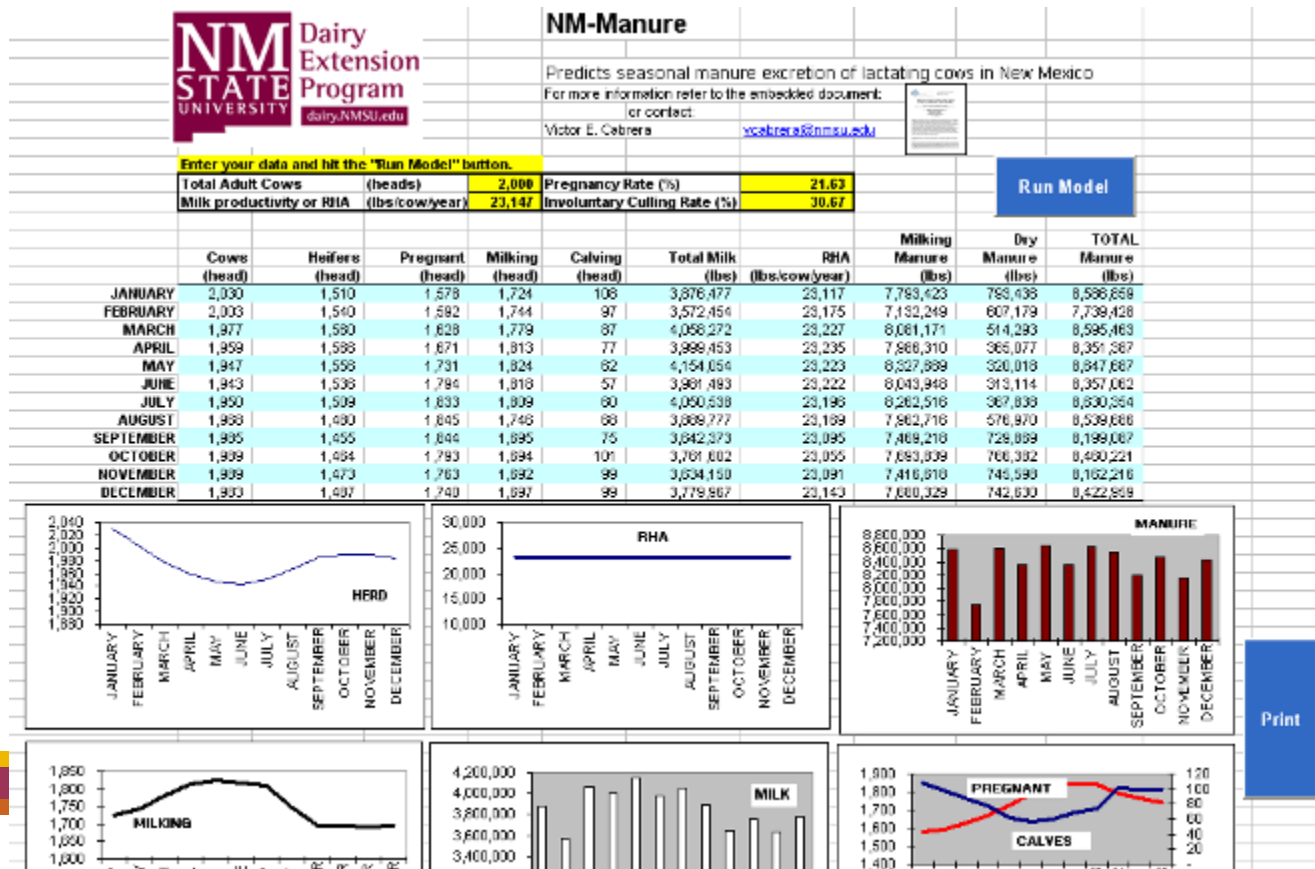
# Grazing-N

Grazing-N: A Nitrogen Balance Model for Grazing Dairy Heifers and Dry Cows in New Mexico. NMSU Cooperative Extension Service Publication. Las Cruces, NM. [Circular 611](#). [Guide D-209](#). [Software](#). November WDN. Available at: <http://dairy.nmsu.edu>: Tools

Grazing-N: A Nitrogen Balance for Grazing Dairy Heifers and Dry Cows													
Victor E. Cabrera, Ph.D., Extension Dairy Specialist, New Mexico State University													
Dairy	Field #		Permit #		Report Period		10/1/2006	to	4/1/2007				
Weight (lbs)	DMI	CP intake	N intake	N excretion	N remain	Net Balance	Carrying Capacity (CC) animals/acre	Grazing Management					
	ADG (lbs)	%CP Grass	(lbs/day/animal)		% Volat.	DM		Animals (#)	Days (#)	Acres (#)	N Supplement (lbs/day/animal)	N removal (lbs/acre)	Exceeds CC ?
	1.98	26.5			50	(tn/ac/month)						Meaning	
<b>Heifers</b>							0.75						
<b>Unbred</b>													
330	9.89	2.62	0.42	0.10	0.05	-0.37	5.1	100	170	100		-62.59	NO
440	12.36	3.28	0.52	0.14	0.07	-0.46	4.0						
550	14.68	3.89	0.62	0.17	0.09	-0.54	3.4	10	5	1		-26.87	YES
660	16.89	4.47	0.72	0.20	0.10	-0.61	3.0						
770	18.99	5.03	0.81	0.24	0.12	-0.69	2.6						
880	21.02	5.57	0.89	0.27	0.14	-0.75	2.4						
<b>Bred</b>													
990	22.99	6.09	0.97	0.31	0.15	-0.82	2.2						
1100	24.90	6.60	1.06	0.34	0.17	-0.89	2.0						
1200	26.76	7.09	1.13	0.37	0.19	-0.95	1.9						
1320	28.59	7.58	1.21	0.41	0.20	-1.01	1.7						
1430	30.37	8.05	1.29	0.44	0.22	-1.07	1.6	40	95	10		-405.07	YES
<b>Dry</b>													
	%BW												
	1.8												
1600	28.80	7.63	0.72	0.58	0.29	-0.43	1.7	300	120	200	0.5	-77.96	NO
											Total	-572.49	PRINT

# NM-Manure

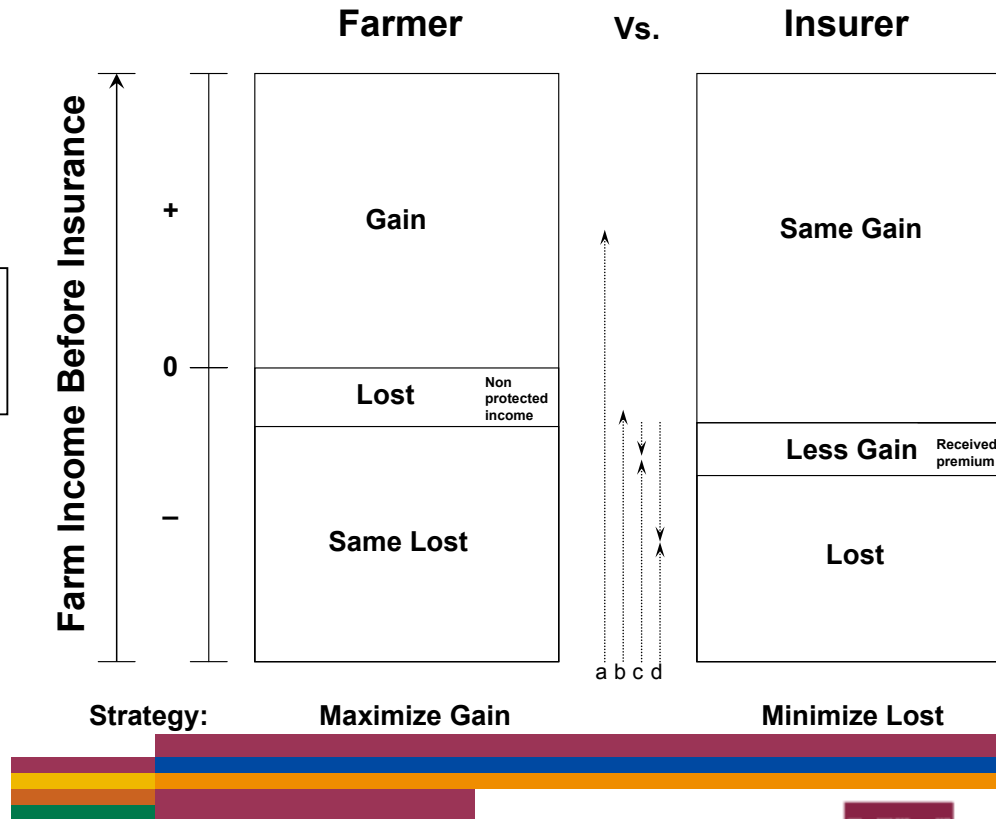
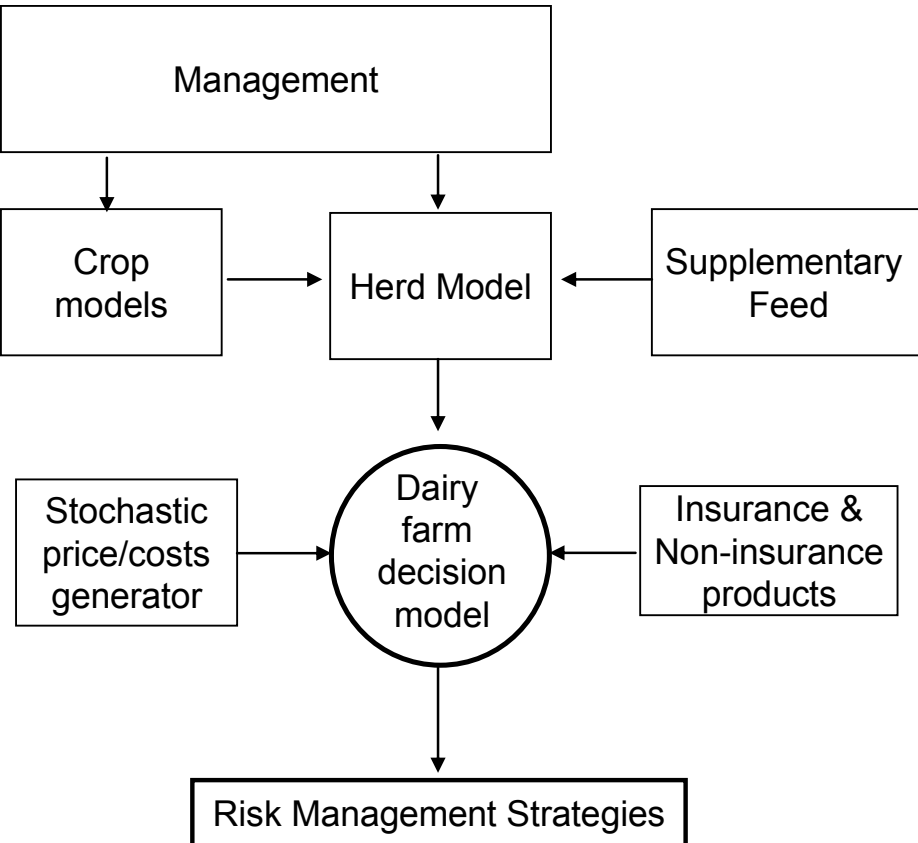
NM-Manure: a seasonal prediction model of manure excretion for lactating dairy cows in New Mexico. [ASABE Annual Meeting](#). NMSU [Bulletin](#) (in prep). [The Professional Animal Scientist](#) (in review).  
NMSU-VPR Grant Proposal



# Risk Assessment


Optimal crop-insurance strategies under climate variability:  
 Contrasting insurer and farmer interests. [AAEA Annual Meeting](#). [J Transactions of the ASABE](#). (submitted).

RMA-USDA Grant Proposal



# Alfalfa Yield Prediction

Prediction of alfalfa yield in New Mexico. [Circular](#). [Guide](#). [Software](#). [J Paper](#) (in prep).



## ALFALFA YIELD PREDICTOR

Victor E. Cabrera, Leonard M. Lauriault, Mark. Marsalis

Fall Dormancy (FD)

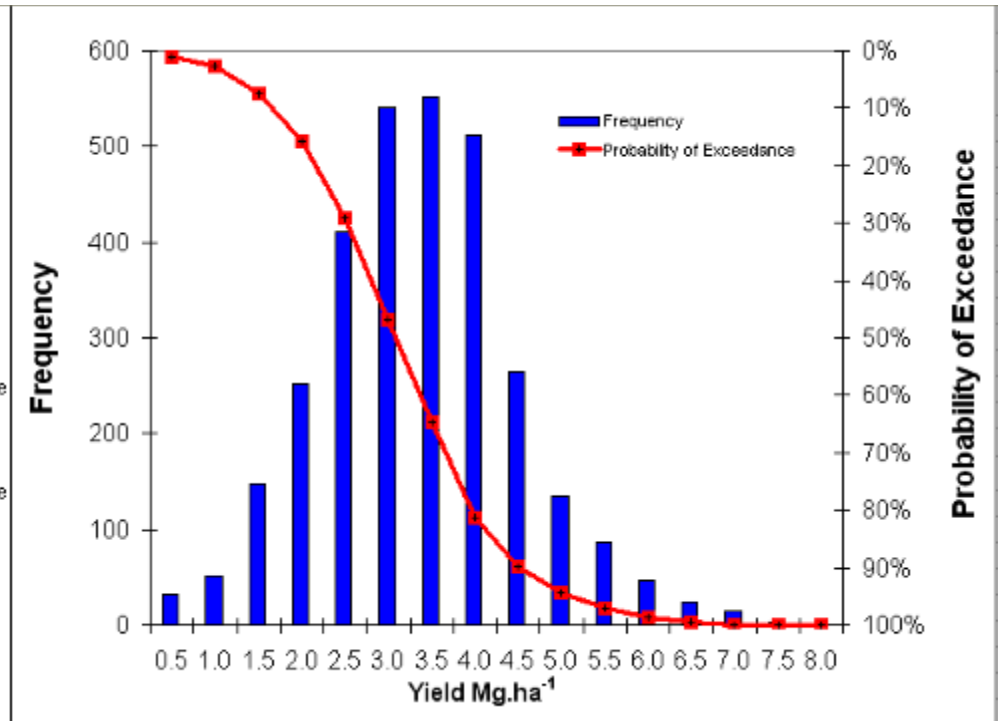
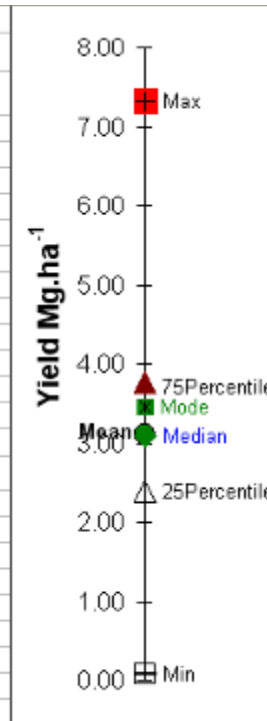
Variety

Harvest

Winter Irrigation

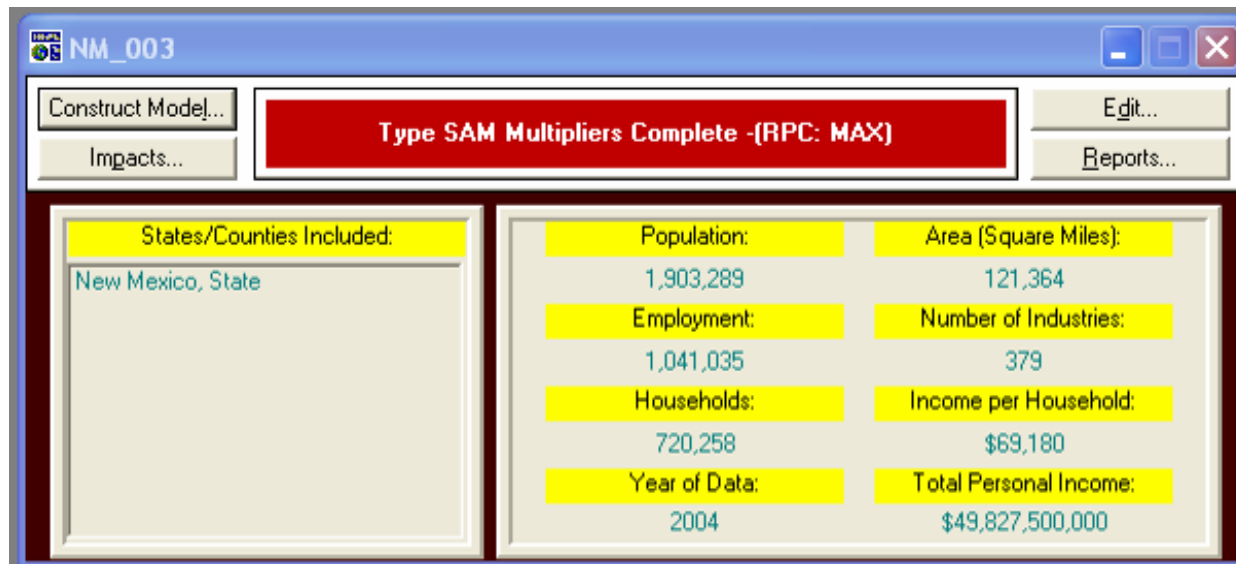
Predict

	Min	Max	Statistics	
	761	1766	n	2072
GDD (°C)	<input type="text" value="760"/>	<input type="text" value="1765"/>	Mean	3.12
	0.04	3.86	Mode	3.46
Rain (In)	<input type="text" value="0"/>	<input type="text" value="3.86"/>	Median	3.09
	12.2	79.8	SD	1.14
Height (Cm)	<input type="text" value="12.2"/>	<input type="text" value="79.8"/>	Min	0.07
			Max	7.33
			Kurtosis	0.46
			Skewness	0.31



# Economic Impact

Importance of the New Mexico dairy industry. NMSU Cooperative Extension Service Publication. Las Cruces, NM. Circular 613, PR, Brochures, Bullet Lists, J Dairy Science Paper (in prep), Texas. Available at: <http://dairy.nmsu.edu>: Publications

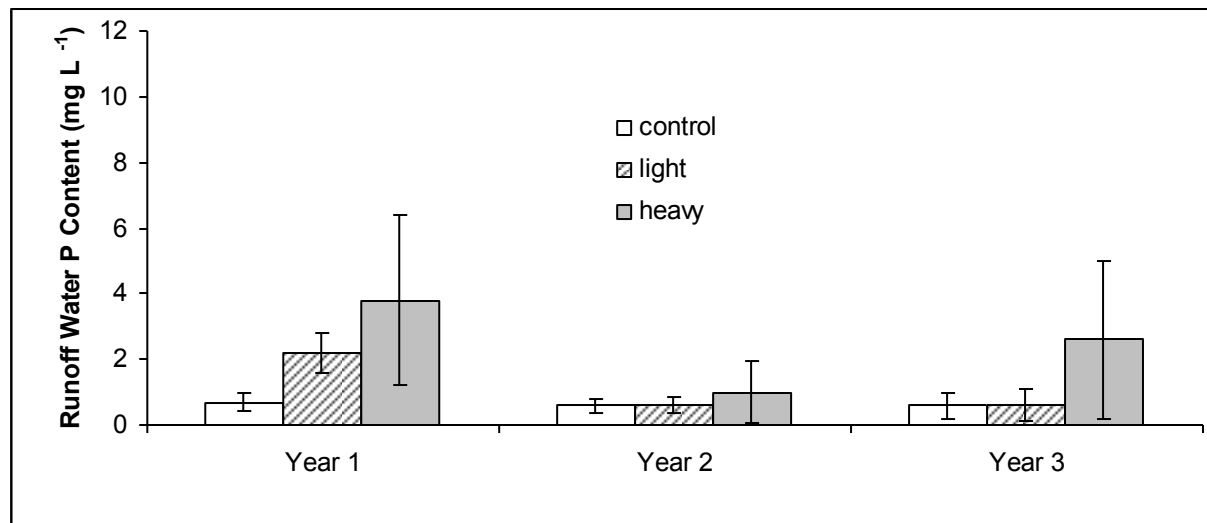


States/Countries Included:	Population:	Area (Square Miles):
New Mexico, State	1,903,289	121,364
	Employment:	Number of Industries:
	1,041,035	379
	Households:	Income per Household:
	720,258	\$69,180
	Year of Data:	Total Personal Income:
	2004	\$49,827,500,000

Impact analysis for PLANning data and analyses

# Biosolids Utilization

Soil and runoff response to dairy manure application on New Mexico rangeland. Journal of Soil and Water Conservation. (in prep).



Phosphorus content of runoff water from rangeland after treatment with one-time application of dairy biosolids. Errors bars are  $\pm 1$  SD.

# NMSU Dairy Program Webpage



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College of Agriculture and Home Economics

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**Mission** – Provide information, technology and sound science to the dairy industry in New Mexico.

**Goal** – Ensure long term sustainability of the dairy industry in New Mexico.

**Importance of the New Mexico Dairy Industry**

Overall Economic Impact to the New Mexico Economy	\$2.6 billion	1 <sup>st</sup> in New Mexico Agriculture
Direct Economic Impact to the New Mexico Economy	\$1.02 billion	1 <sup>st</sup> in New Mexico Agriculture
Monetary Contribution to New Mexico Agriculture	40%	1 <sup>st</sup> in New Mexico Agriculture
Proportion of the New Mexico GDP	3.92%	10 <sup>th</sup> in New Mexico
Direct Employment Generation in New Mexico	4,221 jobs	\$386 Million Paid in Salaries
Overall Employment Generation in New Mexico	17,150 jobs	Jobs in 354 Industries
Number of Cows per Dairy	2,088 cows/dairy	1 <sup>st</sup> in the USA
Contribution to the Southwest Milk Production	13%	2 <sup>nd</sup> in the Southwest
Growth in the past 10 years	104%	3 <sup>rd</sup> in the US
Growth in the past year	10%	4 <sup>th</sup> in the US
Growth in the past 3 years	15%	5 <sup>th</sup> in the US
Number of Milking Cows	355,000 heads	7 <sup>th</sup> in the US
Milk Produced	7.6 billion lbs	7 <sup>th</sup> in the US
Contribution to the National Milk	4.2%	7 <sup>th</sup> in the US
Milk Productivity	21,515 lbs/cow/year	7 <sup>th</sup> in the US
Number of Dairy Operations	172 dairy farms	34 <sup>th</sup> in the US

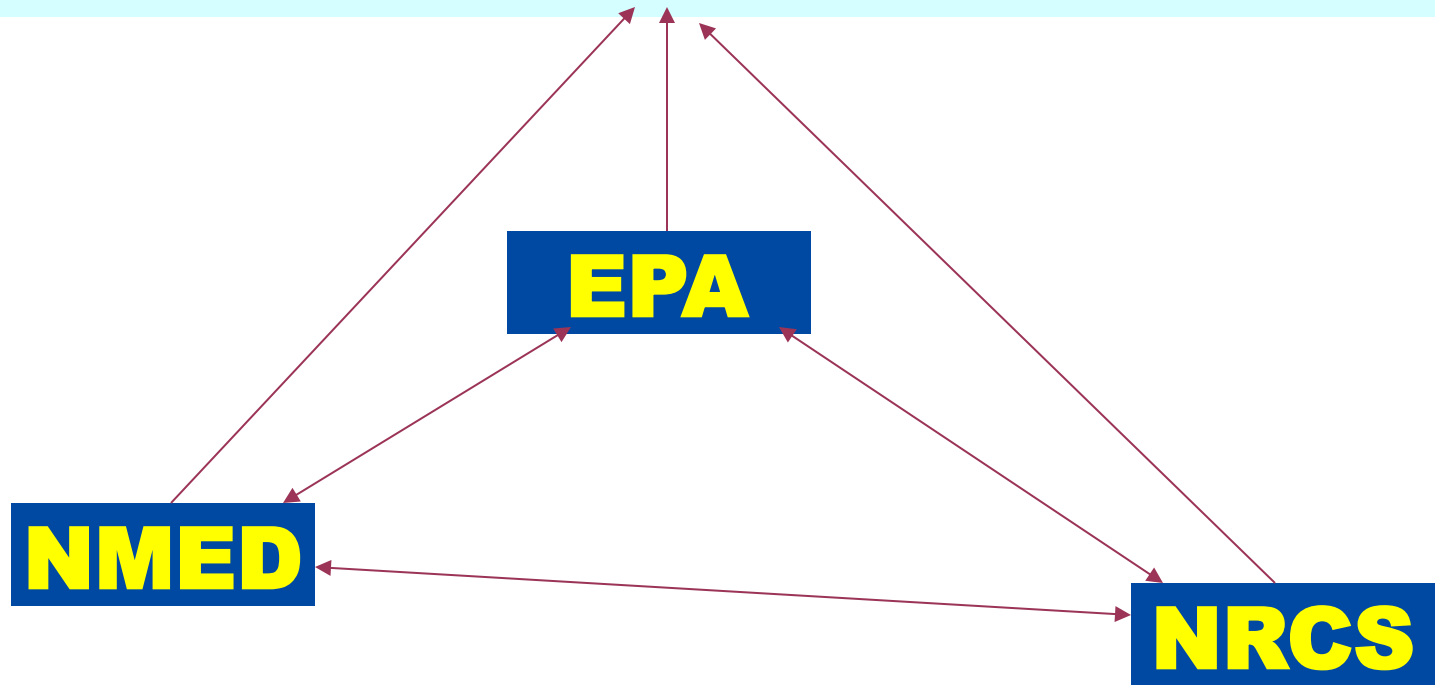


NMSU Dairy Extension





# Universal NMP



## One-Time Information Entry Look for Automatic Possibilities

Western SARE Grant Proposal  
NIWQP-CSREES Grant Proposal

# Pubs & Leverage

- 6 Refereed
- 6 Extension
- 2 Proceedings
- 3 Software
- 3 Competitive Grant Proposals