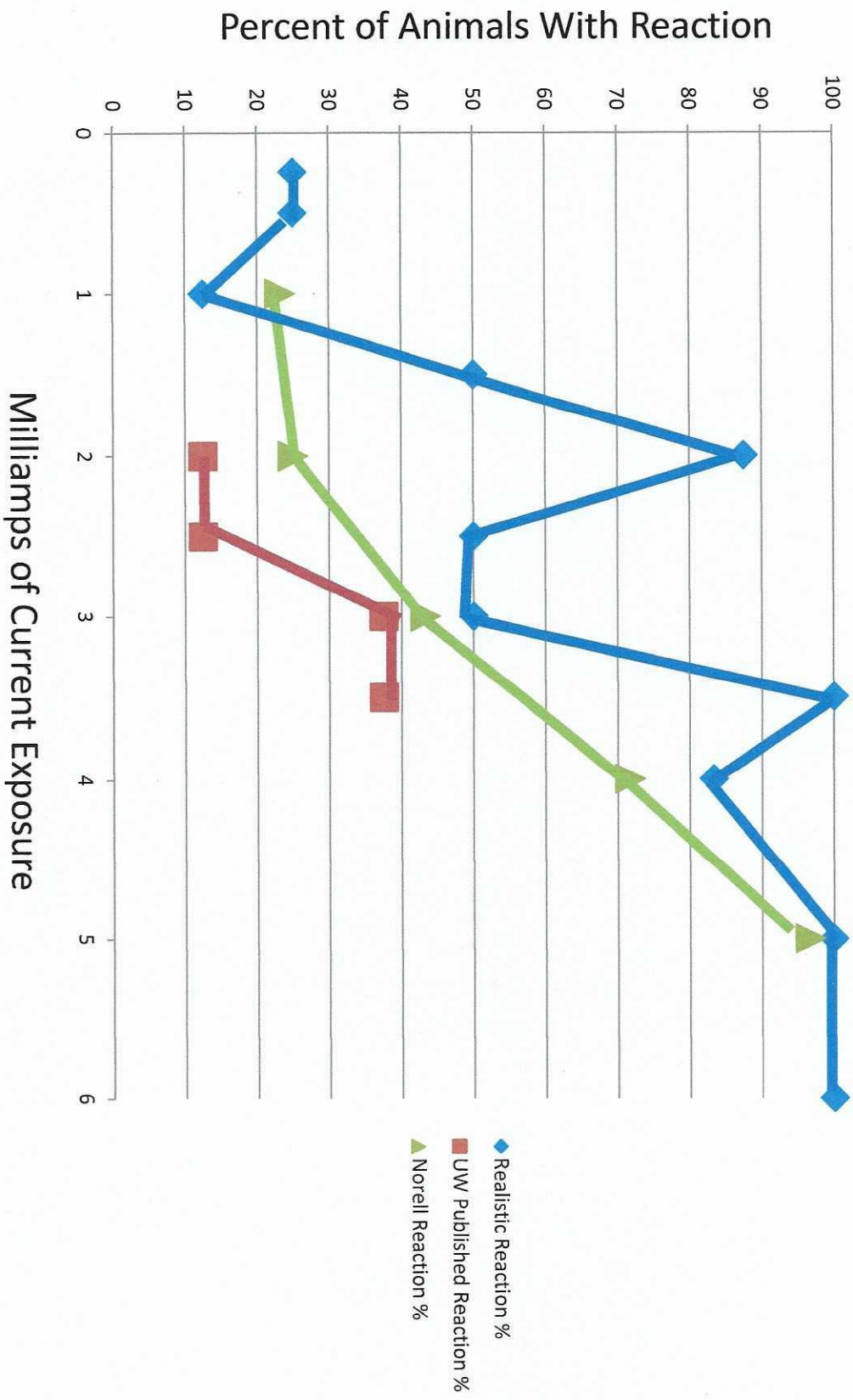


Study Comparison of Cow Reaction Times by Milliamps of Current Exposure Hoof to Hooves Pathway



8/19/1998

Exposure Record for Perception Testing

Hoof to Hooves Test

Cow ID	0.25	0.5	1	1.5	2
3963	Lift Leg Increased breath				Lift LF foot
4106					Lift LF foot
4192	Lift RF Foot & Hold	Lift RF Foot & Hold	Lift RF Foot & Hold	Lift RF Foot & Hold	Lift RF Foot & Hold
4243				Urinate RF Foot on Wood	
4205				Increased breath	Increased breath
4145					Shakey steps
4169				Lift RF Foot & Hold RF Foot on Wood	Lift RF Foot & Hold RF Foot on Wood
4102		Lift LF Foot & Hold			Small Finch Lift LF foot & Hold
Realistic Reaction Ratio	2/8=25%	2/8=25%	1/8= 12.5%	4/8= 50%	7/8= 87.5%
UW Published Reaction %	0	0	0	0	1/8= 12.5%

Reaction Level (mA RMS)
Stop Test
Reaction Level & Stop

Hoof to Hooves Reaction Data UW Subpoena Records (R000613 to 000637)

2.5	3	3.5	4	5	6
	Lift LF foot	Lift LF & RF feet	Jump Lift LF & RF Feet		
	Lift LF foot	Jerk/Flinch	Flinch		
Lift RF Foot & Hold	Lift LF & RF, Hold High				
		Quiver, Lift LF Foot	Muscle quiver	Lift LF Foot & Hold	
Jump, Increased breath Lift LF & RF		Small Flinch		Large Flinch Many Steps	
Lift LF & RF Feet & Hold	Lift LF & RF Feet & Hold	Tense	Small shiver	Small flinch	Large Flinch
		Lift LF Foot	Flinch, Lift LF Foot		
Small Flinch Lift LF foot & Hold					
Hesitant to put foot down					
4/8 = 50%	4/8 = 50%	6/6 = 100%	5/6 = 83.3%	3/3 = 100%	1/1 = 100%
1/8 = 12.5%	37.5% = 3/8	37.5% = 3/8	0	0	0

Behavioral Studies of Dairy Cattle Sensitivity to Electrical Currents

R. J. Norell, R. J. Gustafson, R. D. Appleman, J. B. Overmier

MEMBER
ASAE

1506

© 1983 American Society of Agricultural Engineers 0001-2351/83/2605-1506\$02.00

TRANSACTIONS of the ASAE—1983

TABLE 6. OBSERVED PERCENT ESCAPES BY CURRENT INTENSITY FOR FRONT-REAR HOOVES SHOCKS (n = 60).

Current, mA	Escapes, %	Difference, %	SE, %
0.0	18.3		
1.0	23.2	5.0	6.8
2.0	25.0	1.7	6.8
3.0	43.3	18.3*	8.0
4.0	71.7	28.4**	8.5
5.0	96.7	25.0**	6.5

* (p<0.05)

** (p<0.01)

1510

TRANSACTIONS of the ASAE—1983