



## Field Safety in Female Cattle Receiving Express® FP MLV Vaccine in Combination with *Leptospira* serovars *canicola*, *grippotyphosa*, *hardjo*, *icterohaemorrhagiae*, *pomona* – *Campylobacter fetus* (Vibrio) bacterin

### Express® FP 3-VL5

#### Key Points

- Female dairy and beef cattle vaccinated with the Express FP-VL5 combination exhibited no systemic reactions.
- Mild to moderate local injection site reactions were seen in a minor number of animals for just one day.
- The results of this study indicate Express® FP 3-VL5 is safe for use in dairy and beef cattle.

STUDY DESIGN	
<b>Study Animals</b>	Missouri – 151 yearling beef heifers Nebraska – 156 yearling beef heifers Florida – 165 open dairy cows
<b>Injections</b>	Animals randomly assigned to treatments Injections given subcutaneously or intramuscularly Test Animals: Express FP-VL5 combination given on Day 0 and repeated between Days 14-20 Controls: Placebo given on Day 0 and repeated between Days 14-20
<b>Observations</b>	Observers blinded to treatment group All cattle observed for injection site reactions and systemic adverse reactions Daily observations until no swellings noted Observations continued until 14-21 days after second vaccination

## Treatment Groups and Number of Cattle at Each Site

Trial Site	Test Vaccine Innoculation Route		Placebo Control Innoculation Route	
	IM	SQ	IM	SQ
Missouri - beef	51	49	0	51
Nebraska - beef	52	52	52	0
Florida - dairy	57	49	0	59
<b>Total</b>	<b>160</b>	<b>150</b>	<b>52</b>	<b>110</b>

## Results

- No systemic reactions were seen at any of the three test locations.
- No local injection site reactions were seen at the Missouri or Nebraska locations.
- Some mild to moderate injection site reactions were seen for one day only at the Florida location as indicated below:

Innoculation Route	Initial Injection	Second Injection
SQ	2	7
IM	0	4
Placebo	0	1

## The Bottom Line

The results of this study demonstrate that Express® FP 3-VL5 is safe for use in dairy and beef cattle with no systemic reaction in more than 300 cows and heifers and minimal injection site reaction only in dairy animals.