

Seasonal occurrence of mirid bugs in edible beans and soybeans in Manitoba

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Edible beans and Soybeans in Manitoba



Crops affected by mirid bugs in Manitoba



Objective

To assess the seasonal pattern of occurrence and species composition of mirid species

Season long sampling

Crop	Number of fields		
	2008	2009	2010
Navy beans	9	4	4
Pinto beans	2	4	4
Soybeans	0	5	4
Total	11	13	12



Sweep net samples: 20, 180 sweep/sampling point
Tap tray samples: 3 taps/ sampling point

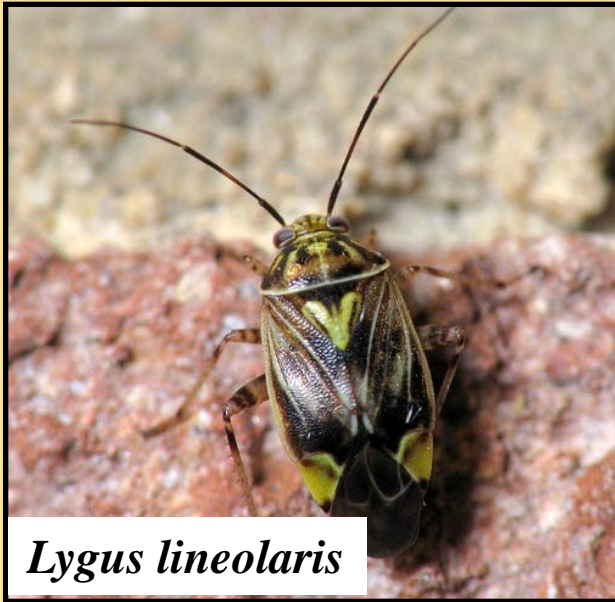
Insect identification



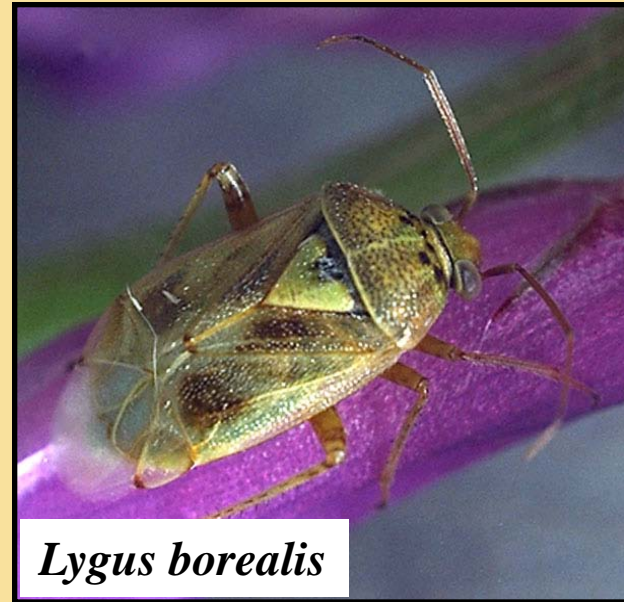
Yield assessment



Results and Discussion



Lygus lineolaris



Lygus borealis



Lygus elisus



Adelphocoris lineolatus

Species composition of adults

Species	2008	2009	2010
<i>Lygus lineolaris</i>	86%	83%	92%
<i>L. borealis</i>	2%	2%	2%
<i>L. elisus</i>	3%	3%	0.3%
<i>Adelphocoris lineolatus</i>	4%	4%	3%
Other <i>Lygus</i> spp.	5%	5%	0.7%
Total adults	423	362	1022

Edible bean growth stages

Vegetative



R1-R3



R4-R5



R6-R7

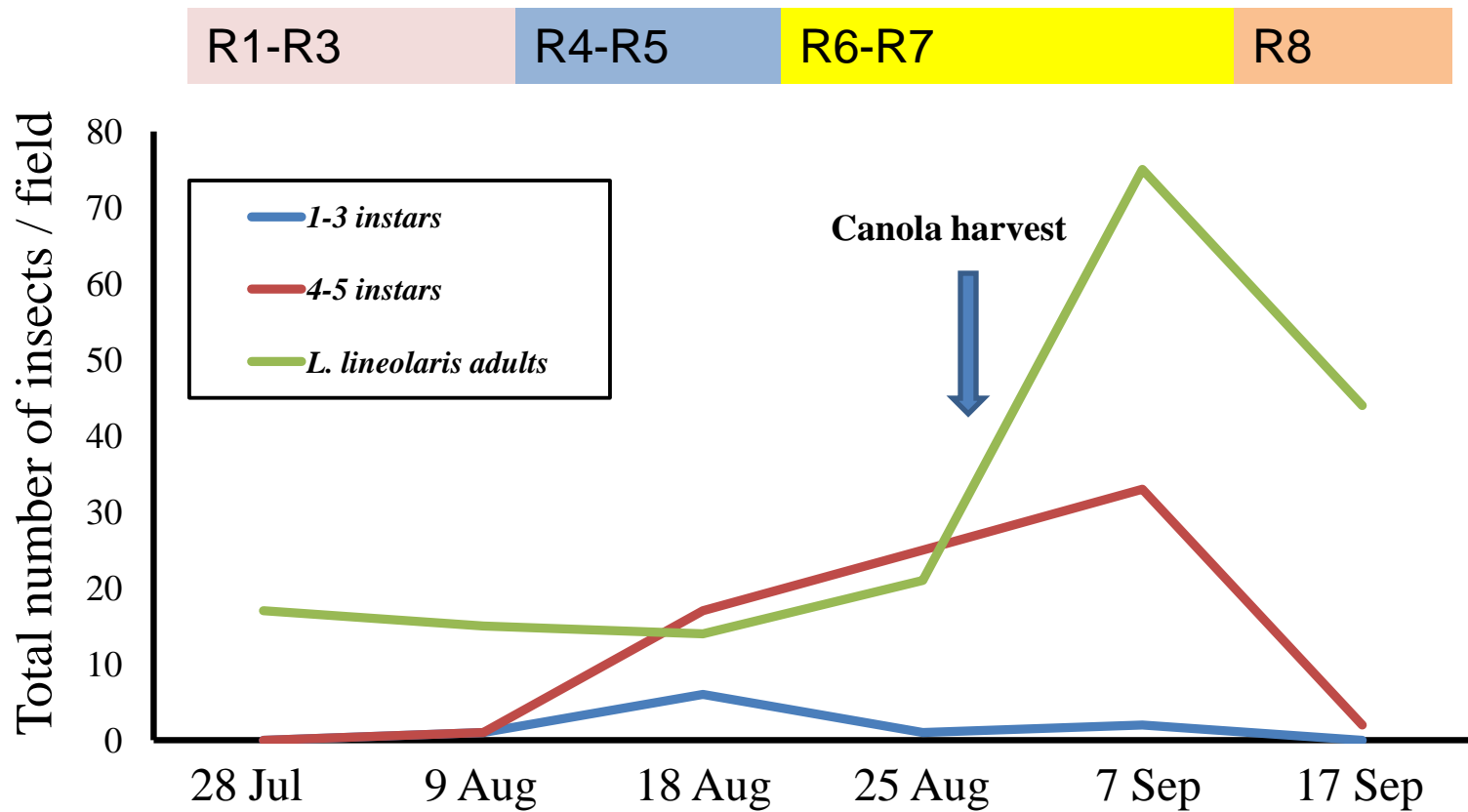


Maturity



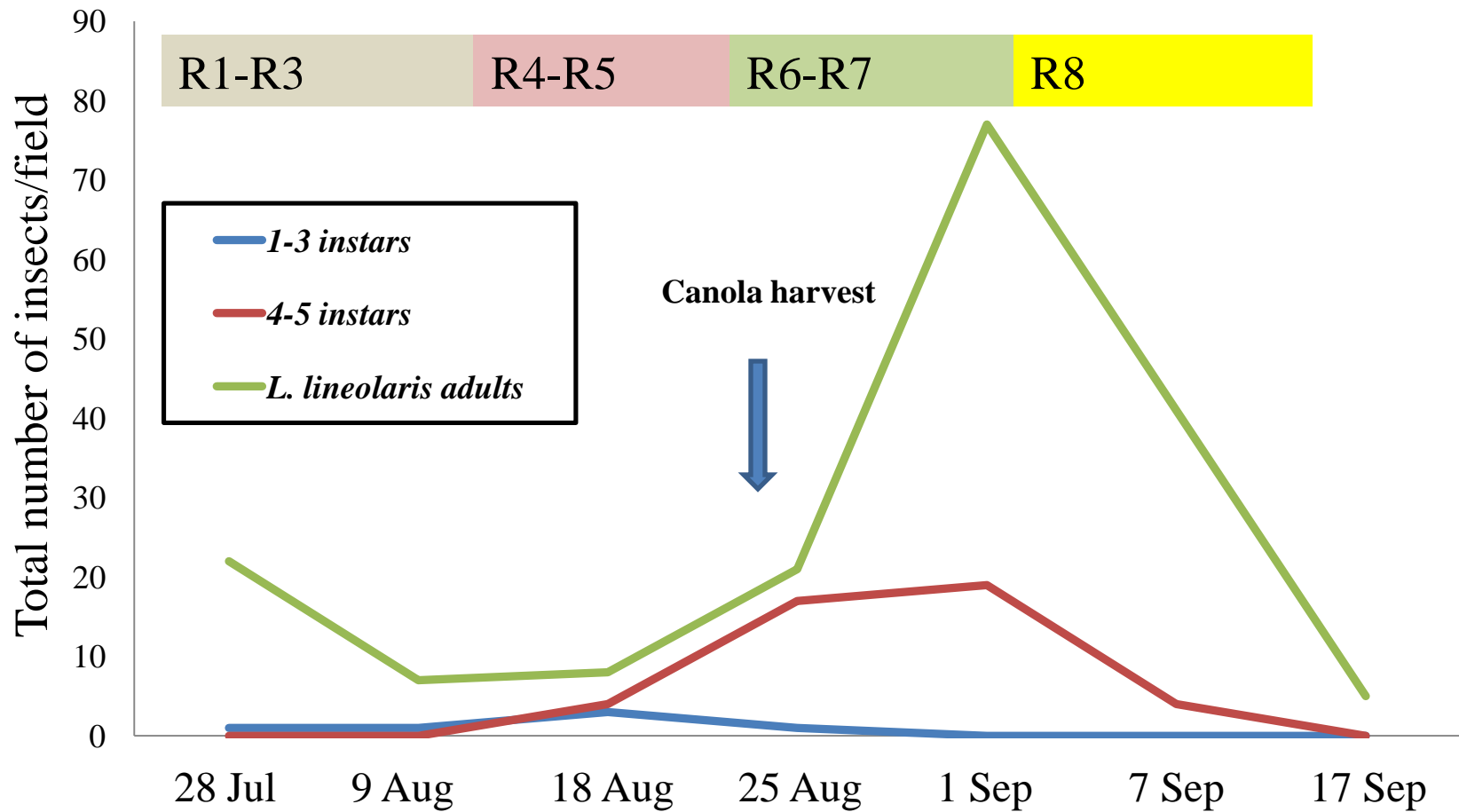
Seasonal pattern of occurrence

Navy beans, 2010



Seasonal pattern of occurrence

Pinto beans, 2010



Soybean growth stages



Young pods



Pod fill

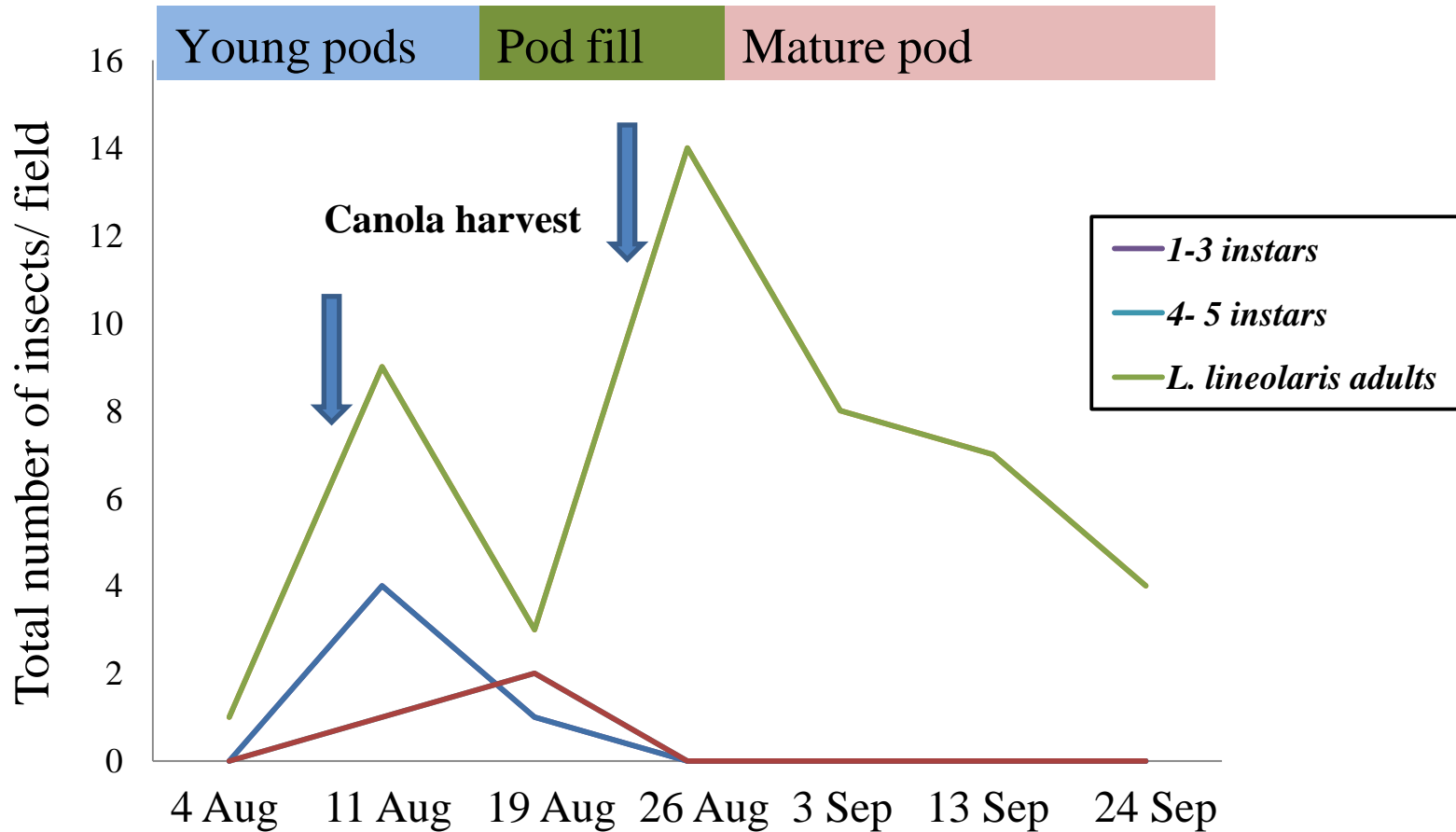


Mature pod

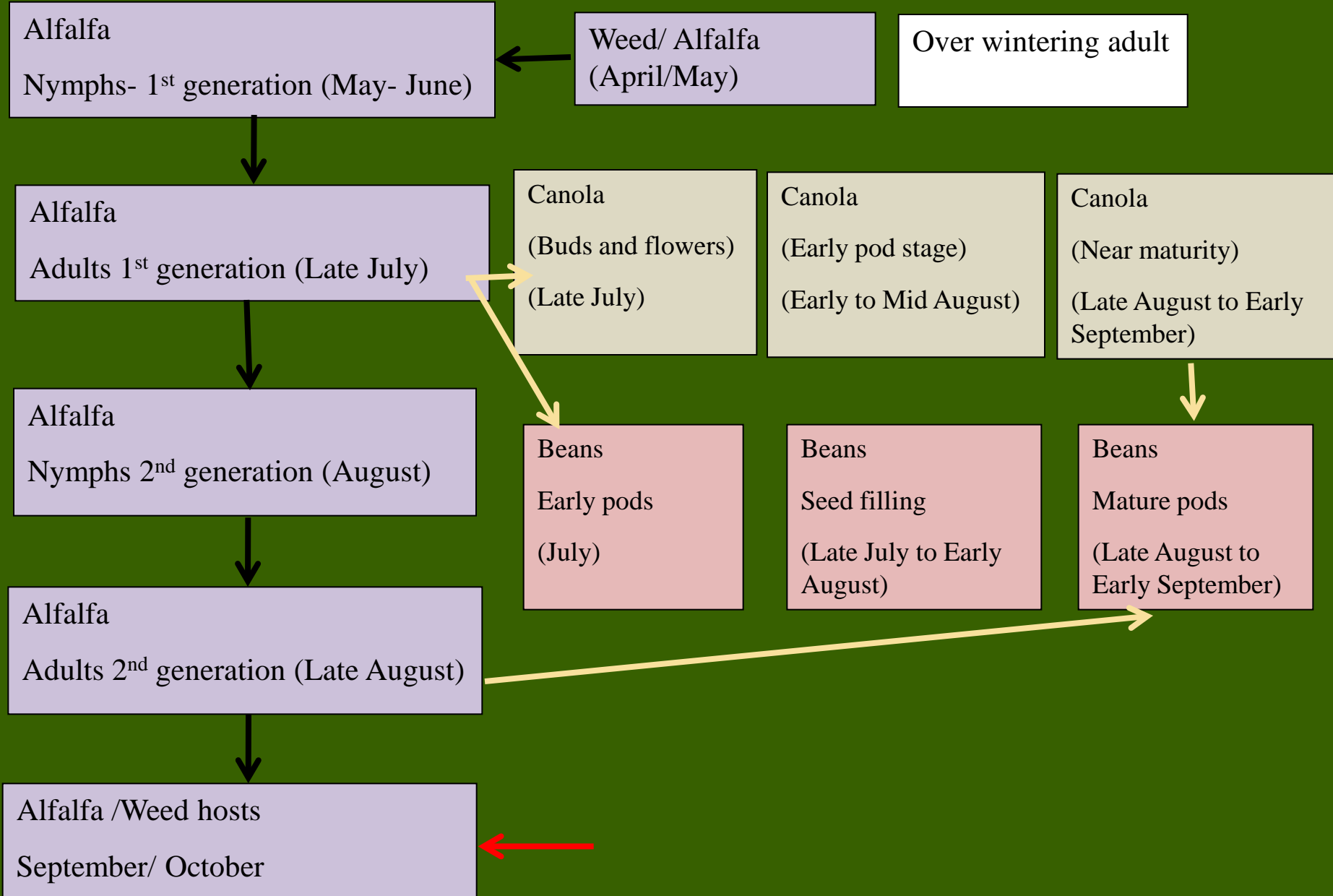
Source: Iowa State University, Extension

Seasonal pattern of occurrence

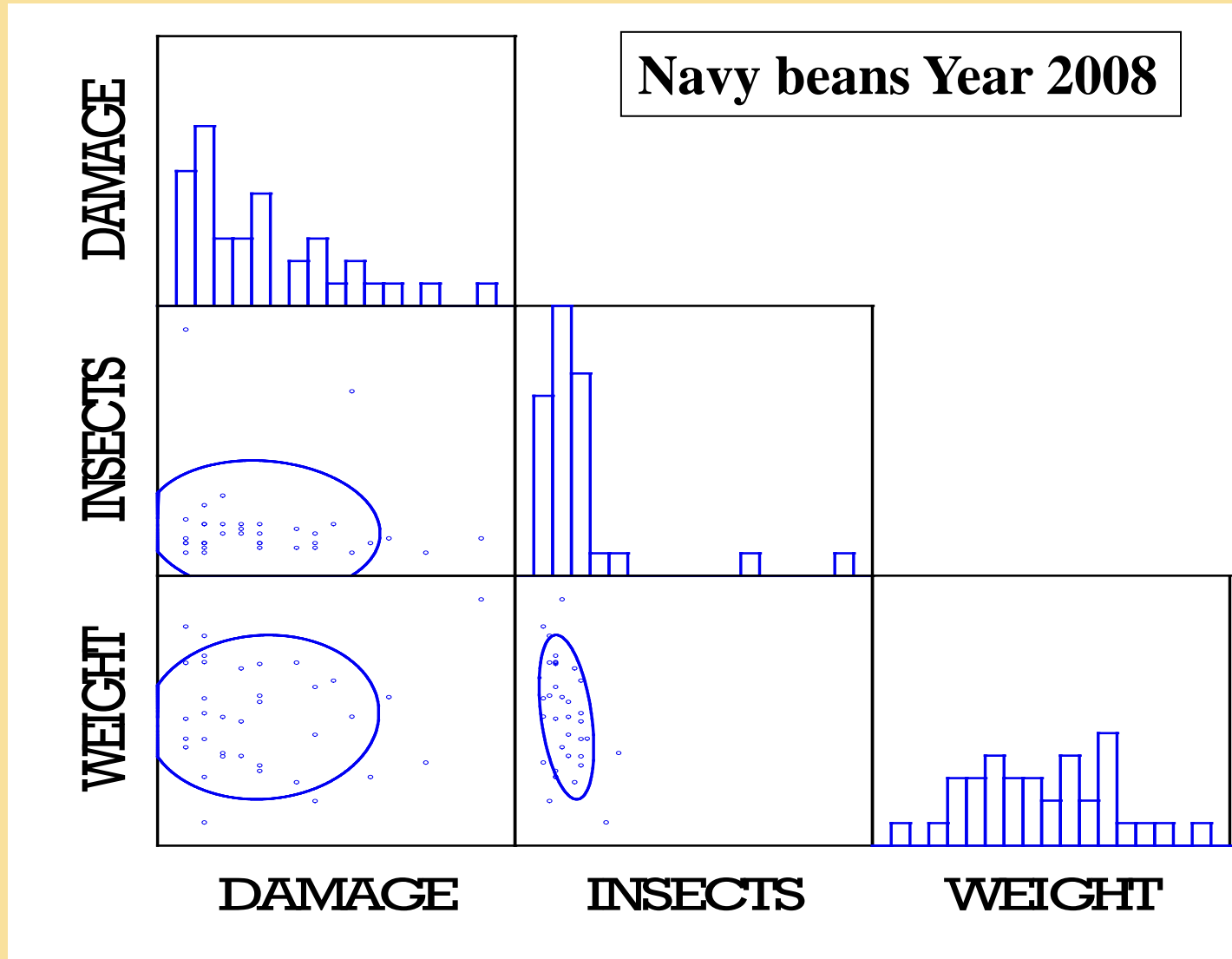
Soybeans, 2010



Pattern of *Lygus* bug occurrence in beans in Manitoba



Effect on yield



Weight- Insects $r = -0.38$ $p = 0.03$

Weight and number of insects

Year	Navy bean	Pinto bean
Year 2008	$r = -0.38$ $p = 0.03$	$r = 0.18$ $p = 0.67$
Year 2009	$r = 0.32$ $p = 0.18$	$r = -0.34$ $p = 0.41$
Year 2010	$r = 0.02$ $p = 0.930$	$r = -0.34$ $p = 0.14$

Summary

- *Lygus lineolaris* is the major mirid in beans
- *Adelphocoris lineolatus* is <5%
- Evidence for late season immigration
- *Lygus* bugs can reproduce in edible beans and soybeans in Manitoba and produce one generation
Adults : R2-R3 , R6-R7stage
Nymphs : R4-R5 and R6-R7
- Little evidence of yield loss in edible beans

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THANK YOU