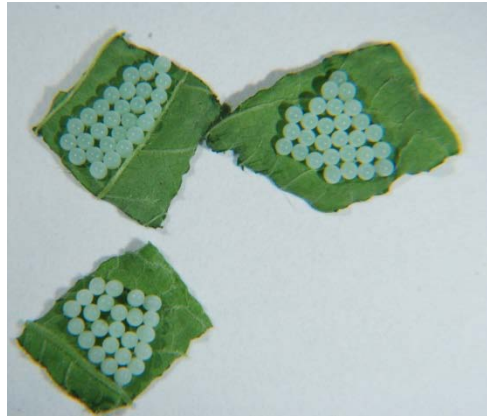


Fate of BMSB Sentinel Eggs in NC Agroecosystems

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Assessing Natural Enemy Impacts on BMSB Populations





Hatched



Chewing predator



Sucking predator

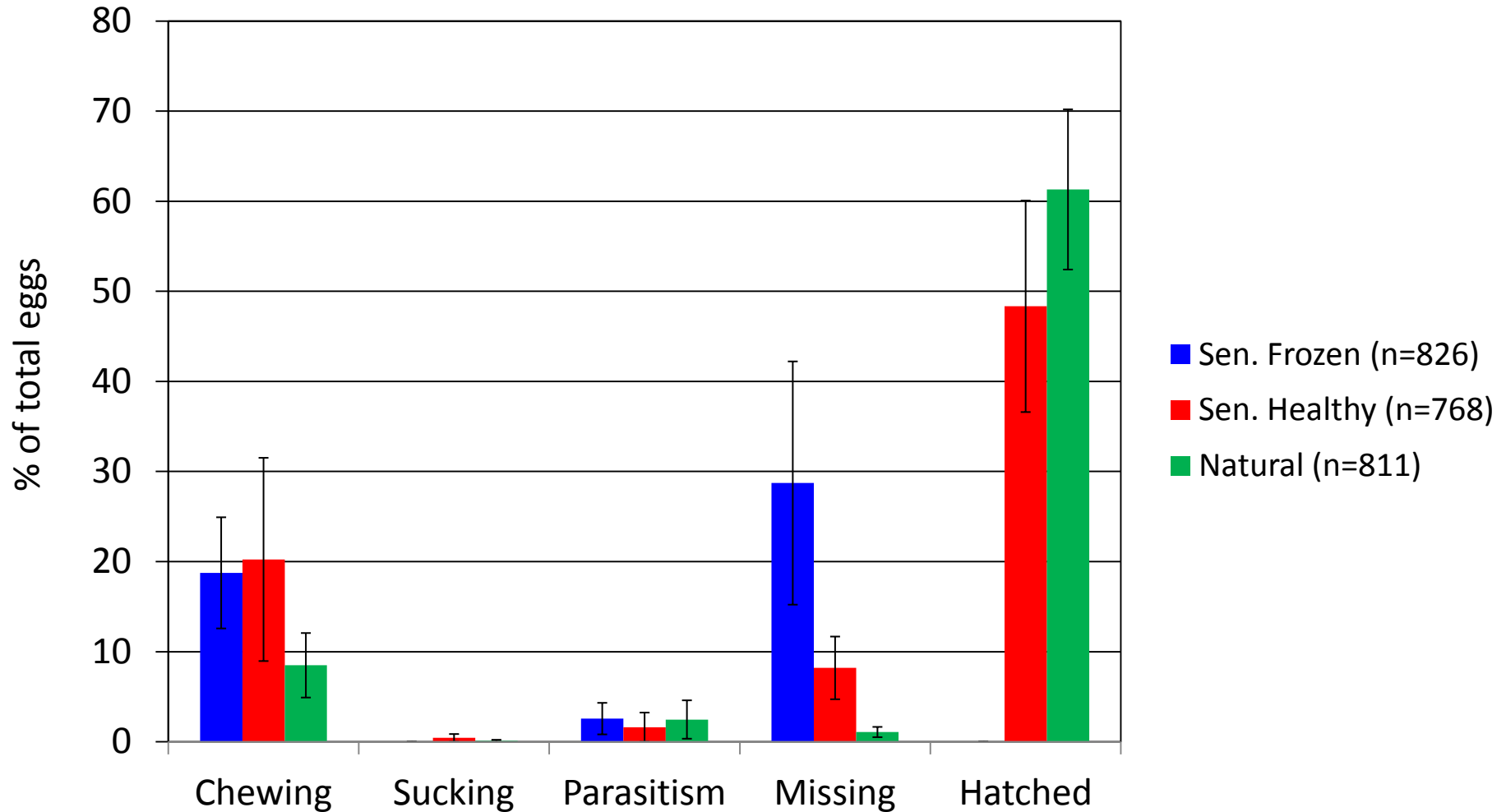


Parasitized

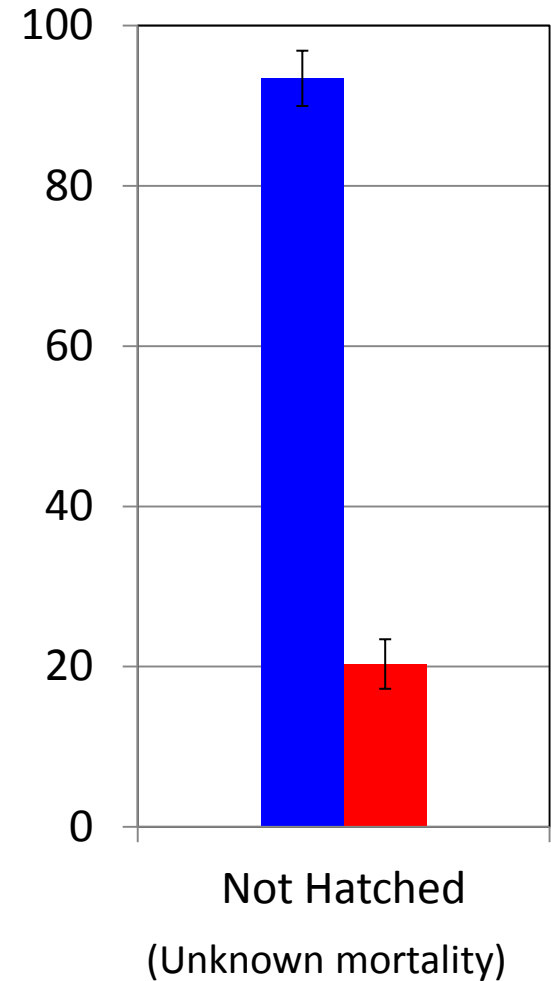
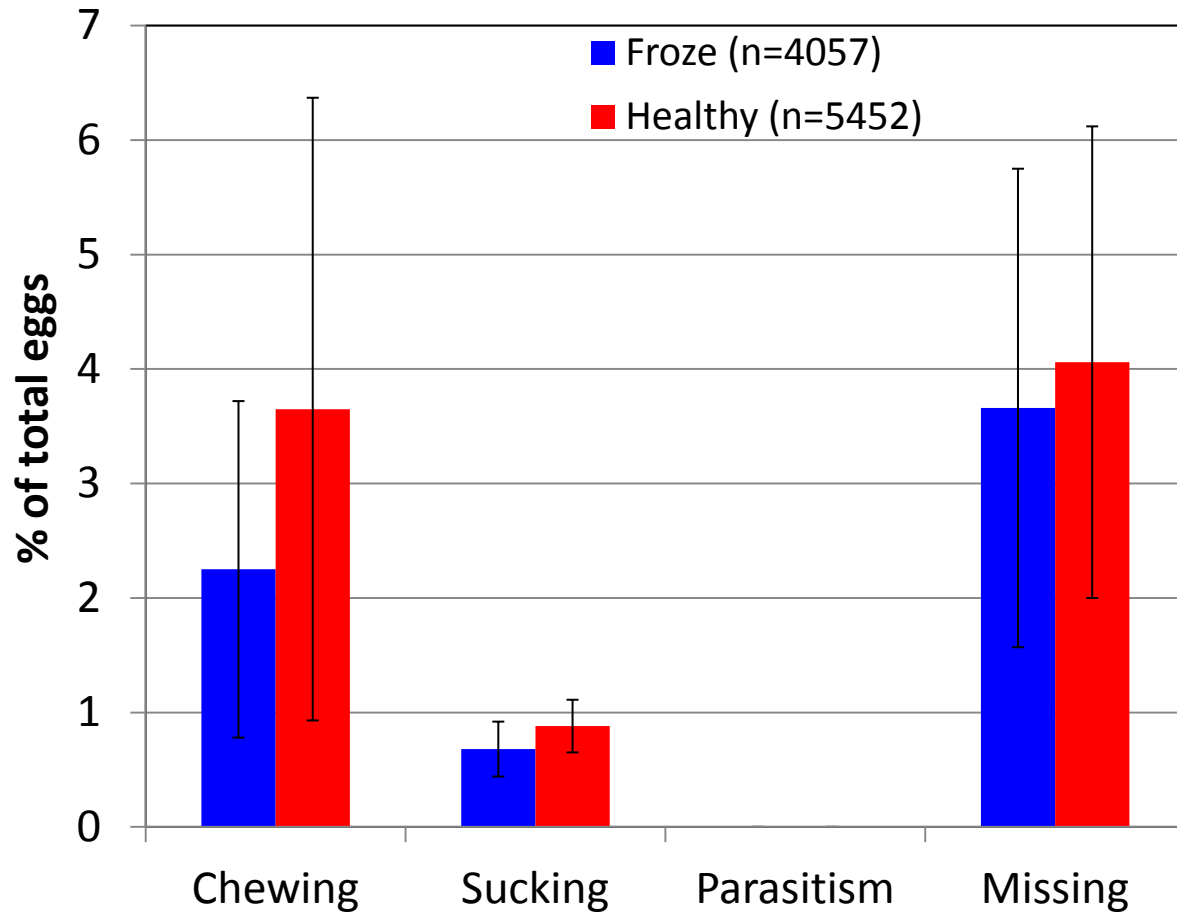
Sources of Variation

- Type of egg mass
 - Sentinel Fresh
 - Sentinel Frozen
 - Natural
- Habitats
 - Organic and conventional vegetables
 - Organic and conventional apples
 - Woodlands (native eggs)

Impact of Egg Type on Fate of BMSB Eggs in Field Weed Border



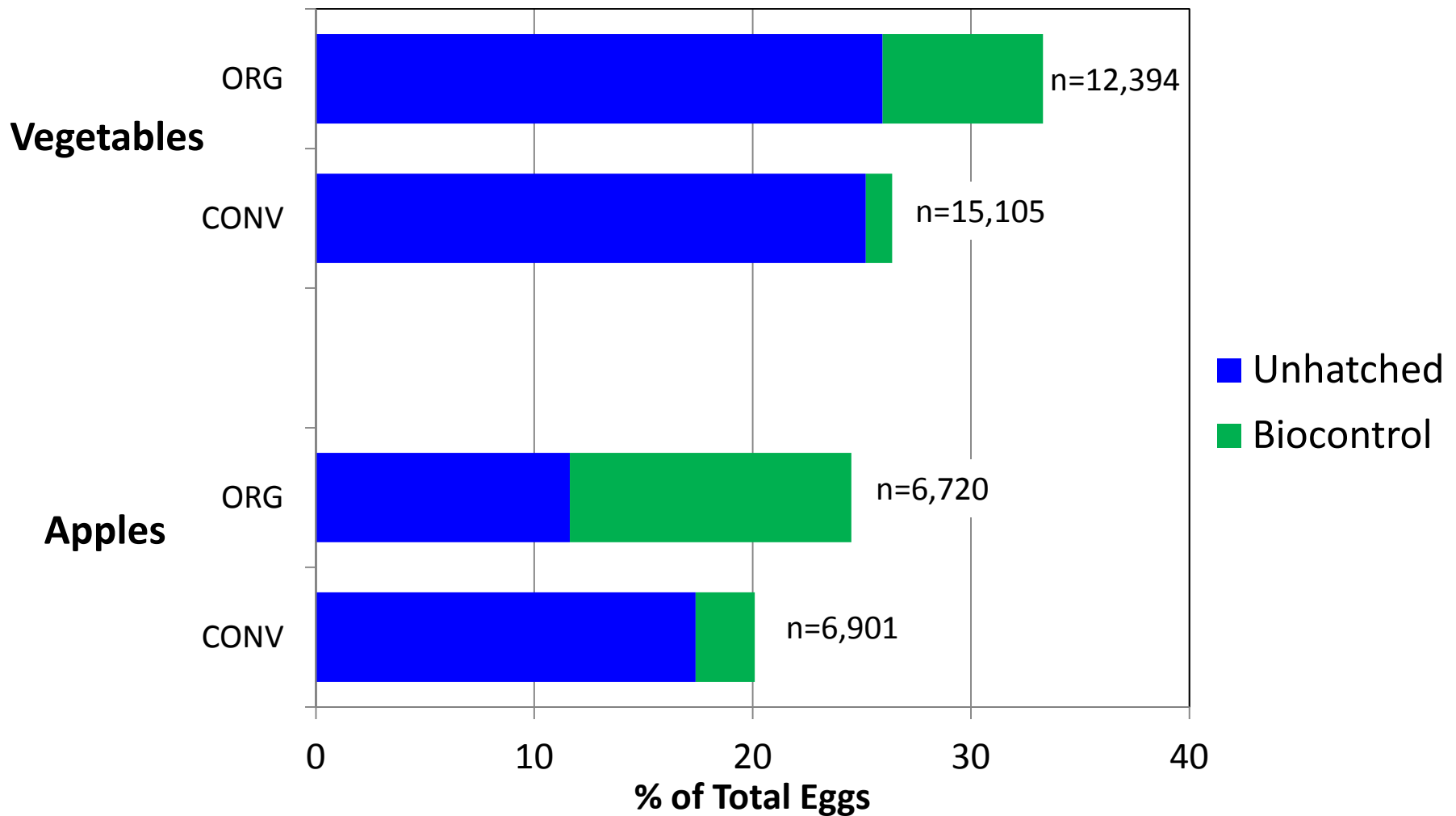
Fate of Sentinel Fresh vs. Healthy Egg Masses in Crops



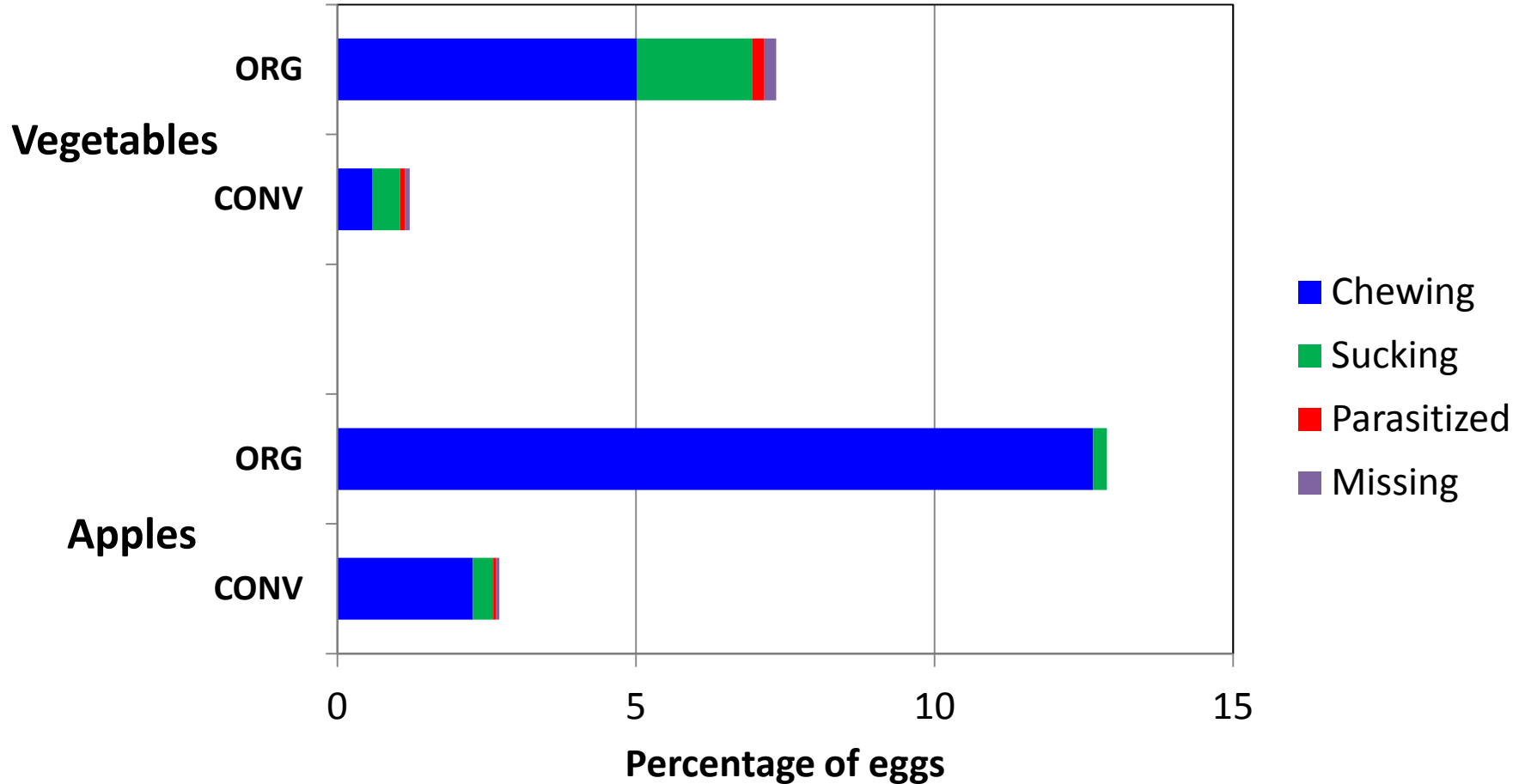
How many Non-Hatched Eggs are Parasitized?



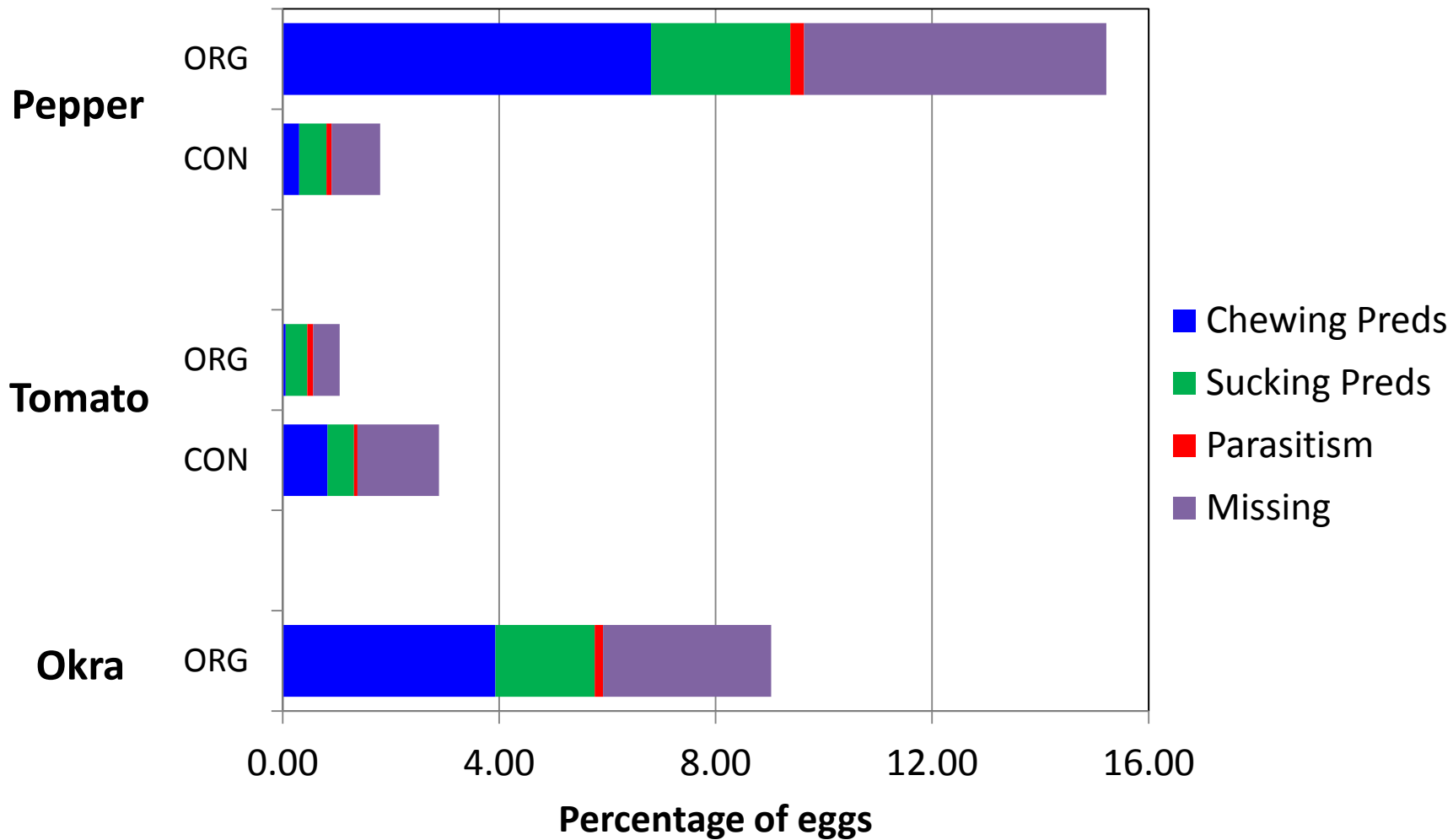
Fate of Healthy BMSB Sentinel Egg Masses in Different Agroecosystems



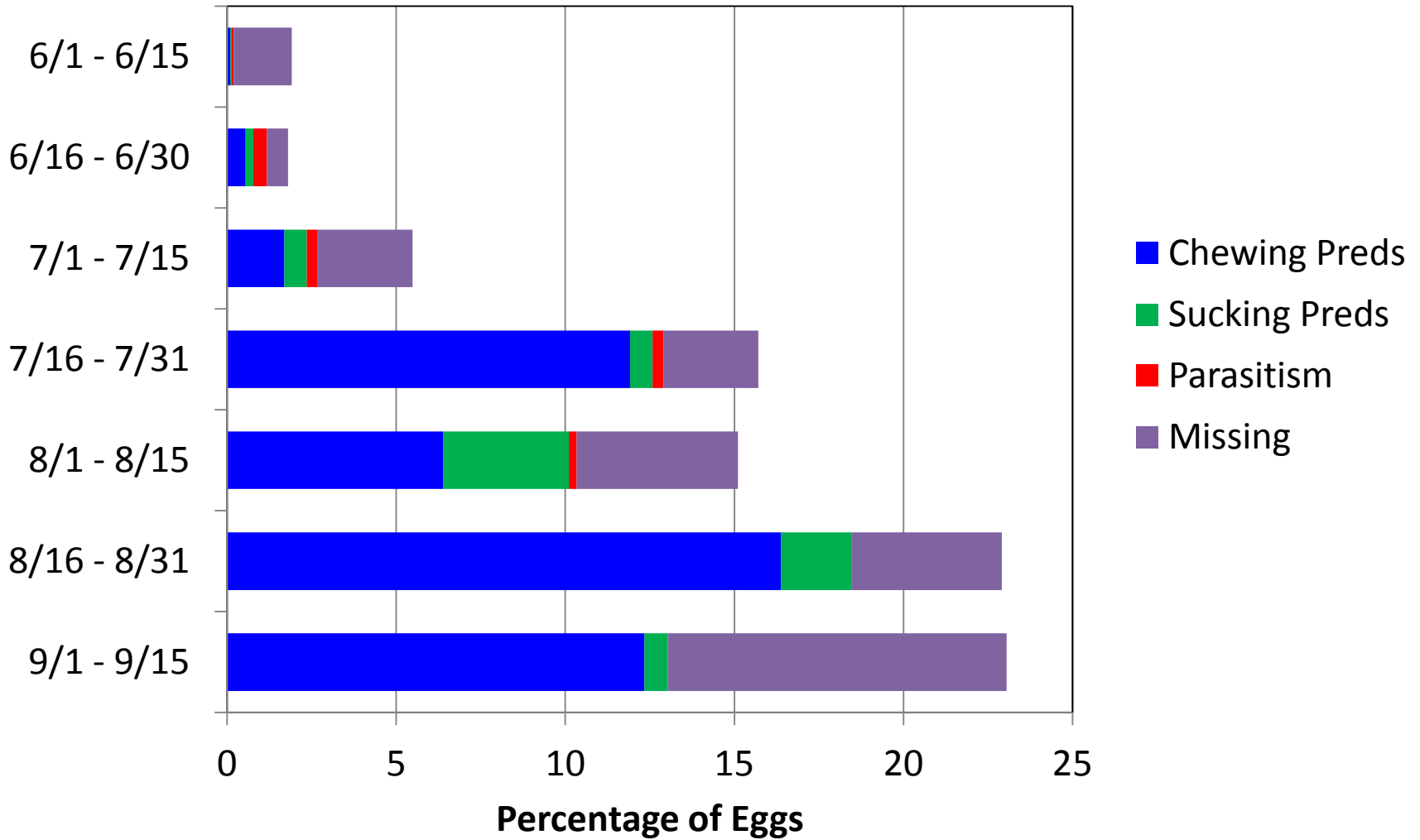
Fate of Sentinel BMSB Eggs in Conventional and Organic Crops



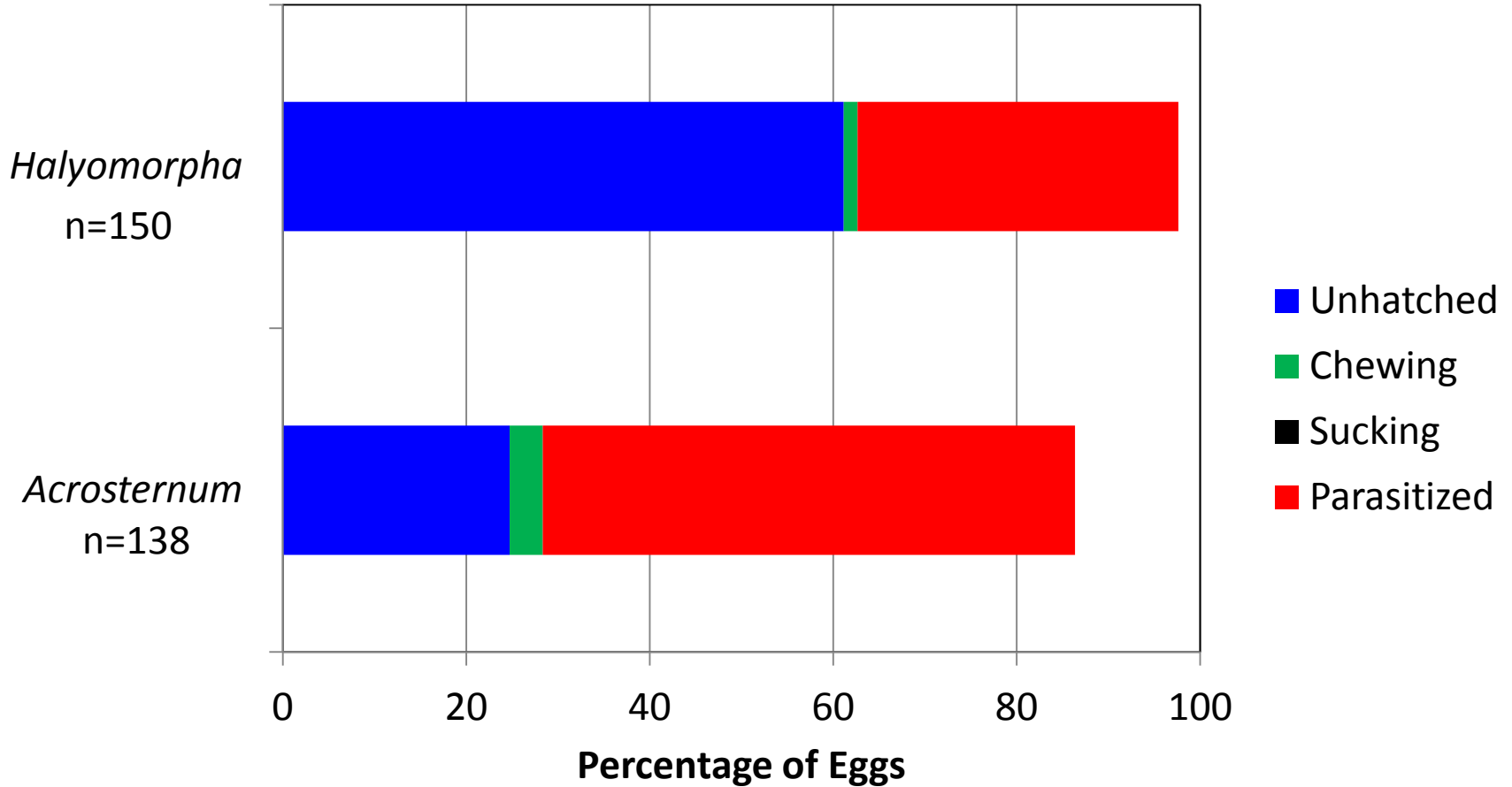
Fate of Sentinel BMSB Eggs in Organic and Conventional Vegetables (Healthy + Frozen Eggs)



Fate of BMSB Sentinel Eggs vs. Time



Fate of Naturally Laid Stink Bug Eggs in Wooded Habitat



No. of parasitized egg masses and number of parasites emerging from parasitized masses.

Stink Bug sp	Habitat	# masses Parasitized	# parasites emerged	Parasite species
<i>Euschistus</i>	Woods	4	63	<i>Telenomus podisi</i> (51) <i>Trissolcus euschisti</i> (2) Unknown (7)
	Vegetables	4	20	<i>T. podisi</i> (20)
<i>Acrosternum</i>	Woods	2	43	<i>Anastatus reduvii</i> (43)
<i>Halyomorpha</i>	Woods	4	57	<i>A. reduvii</i> (53) Unknown (4)
	Vegetables	25	37	<i>T. podisi</i> (35) <i>Ooencyrtus spp</i> (3)

Summary

- Sentinel egg masses (frozen or healthy) had comparable levels of predation and parasitism as naturally laid eggs.
- Impact of parasites in agricultural settings may be underestimated due to low rates of parasite development in BMSB eggs.
- Predation was generally higher in organic vs. conventional agriculture, but overall rates were low in both systems ($\leq 10\%$).
- *Telenomus podisi* was the most common parasite of BMSB encountered in agriculture settings, but *Anastatus redivivus* may be more effective against BMSB.