

**Brown Marmorated Stink Bug  
IPM Working Group Meeting**



**Carvel Research and Education Center  
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Submitted by:

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## ***Research Priorities***

<b>Rank</b>	<b>Research Priority</b>	<b>Mean Score</b>	<b># Responders</b>
1	Development of IPM-friendly management tactics	87	33
2	Biocontrol agents—identification and study of parasitoids, fungal pathogens, and predators (native and foreign)	82	33
3	Evaluate efficacy and host range of candidate classical biological control agents	76	33
4	Evaluation of parasitoid host specificity	75	33
5	Response of indigenous natural enemies in relation to BMSB densities and their potential for management	73	33
6	Studies of basic BMSB behavior (host preferences, movement, responses to visual cues)	72	33
7	Determine factors affecting population densities	70	33
8	Impact of landscape and habitat on population (local)	69	33
8	Further study of pheromone-based monitoring (e.g. active space, trap design, attractants)	69	33
9	Define damage diagnostics, economics of injury and threshold	68	33
10	Standardized sampling methods	65	33
11	Host utilization, preference, and range	64	33
12	Examine overwintering biology (e.g. triggers for seeking and leaving sites; overwintering mortality factors)	63	33
12	Crop susceptibility and timing	63	33
12	Investigation of host-plant volatiles as attractants	63	33
13	Role of the gut symbionts and their potential for management	62	33
13	Evaluate effects of BMSB management plans on beneficial agents, including pollinators	62	33
14	Studies of basic BMSB biology (physiology, generations)	61	33
14	Develop economic models that include injury, monitoring and management costs	61	33
15	Identification of potential repellents	59	33
16	Examination of potential for trap-cropping	58	33
17	Mapping and assessment of distribution	57	33
18	Develop forecasting models to ID new risk areas, presence and where BMSB is and will not be	56	33
19	Develop baseline insecticide toxicity data for resistance monitoring	55	33
20	Assess secondary pest outbreaks related to chemical control of BMSB	53	33

***Research Priorities (continued)***

21	Evaluate potential impacts of cultural control measures	52	33
22	Determine how far will BMSB travel to overwintering sites	51	33
23	Standardize multiple methods for screening of new insecticide materials	49	33
23	Validate current physiology and phenology models in laboratory	49	33
24	Determine low and high temperature thresholds for all stages	48	33
24	Study potential for damage of harvested/value-added crops by contamination with BMSB	48	33
25	Evaluate impact of orchard groundcover management	47	33
25	Assessment of displacement of native stink bugs	47	33
26	Evaluate long term sub-lethal effects on BMSB (e.g. effects on reproduction)	45	33
26	Risk analysis of overwintering populations in natural landscapes	45	33
26	Determine why BMSB appears to not be present in coastal plains	45	33
26	Determine the impact of elevation on overwintering sites	45	33
27	Evaluate landscape-level/watershed-scale population distribution (regional—not local)	42	33
27	Determining monitoring strategies for urban areas	42	33
27	Determine conservation bio control efforts for indigenous natural enemies	42	33
28	Development of toxicants and inhibitors for plant transgenic delivery	40	33
29	Use of toxins in combination with attractants	36	33
30	Examination of cross-attractancy of BMSB and green stink bugs	35	33
30	Assessment of economic impact in urban environment	35	33
31	Evaluate potential impact of vertebrate predation	33	33
32	Methods development and improve rearing protocol for long term sustainable colonies	32	33
33	Examine interactions between native and exotic parasitoids (additive, synergistic or antagonistic)	3	33

***Priority rank is based on scores provided by individual Working Group participants (importance of a particular priority on a scale of 0–100), calculating the mean value for each, and ranking them accordingly.***

## *Extension Priorities*

<b>Rank</b>	<b>Extension Priority</b>	<b>Mean Score</b>	<b># Responders</b>
1	Develop revised and unified management plans	75	33
2	Education programs to growers and the general public	74	33
3	Deliver economic injury thresholds	71	33
4	Coordinate efforts of state and regional extension programs	69	33
4	Educating professionals to pest ID and diagnosis of injury	69	33
5	Education programs relevant to development of biological control projects	66	33
6	Demonstrate field application techniques for chemical control	54	33
6	Include education programs relevant to classical biological control	54	33
7	Educational programs relevant to invasive biology using BMSB	53	33
7	Educational programming for structural and landscape industries	53	33
8	Initiate public awareness campaigns—posters, public service announcements, educational materials, etc.	51	33
9	Develop treatment recommendations and guidelines for urban environments	50	33
9	Raise awareness of importance of BMSB as pest—APHIS, local political channels, etc.	50	33
10	Extension outreach and education programming for urban environment/homeowners	46	33
11	Use BMSB as an opportunity to educate children	37	33
12	Structure extension groups by commodity or region	31	33
13	Establish links between eXtension community of practice (COP) and stopBMSB.com	25	33
14	Direct homeowners to local politicians for complaints	12	33

*Priority rank is based on scores provided by individual Working Group participants (importance of a particular priority on a scale of 0–100), calculating the mean value for each, and ranking them accordingly.*

### ***Regulatory Priorities***

<b>Rank</b>	<b>Regulatory Priority</b>	<b>Mean Score</b>	<b># Responders</b>
1	Product testing and labeling of new active ingredients/products—only low toxicity/IPM compatible	71	33
2	Use of toxins in combination with attractants (regulatory status)	65	33
3	Define the economic and ecological threat	61	33
4	Expand use of existing registered products	60	33
5	Coordinate interagency and interdisciplinary funding	57	33

***Priority rank is based on scores provided by individual Working Group participants (importance of a particular priority on a scale of 0–100), calculating the mean value for each, and ranking them accordingly.***

### ***Consumer/Urban Priorities***

<b>Rank</b>	<b>Consumer/Urban Priority</b>	<b>Mean Score</b>	<b># Responders</b>
1	Development of IPM friendly management strategies (trap style and efficacy, overwintering site selection, insecticide timing, repellent -push/pull, efficacy of treating exterior plants/landscapes)	63	33
2	Preventative measures for reducing entry into human-made structures—outreach needed	61	33
3	Define triggers for movement into homes	58	33
4	Important biological control agents around residential areas	56	33
5	Forecasting population size	53	33
6	Evaluate materials for home-garden and home-landscape protection	52	33
7	Determining repeated entry and exit by BMSB from overwintering sites	44	33
7	Evaluate efficacy of insecticides/killing agents for homeowners	44	33

***Priority rank is based on scores provided by individual Working Group participants (importance of a particular priority on a scale of 0–100), calculating the mean value for each, and ranking them accordingly.***

## ***Overall Priorities***

<b>Rank</b>	<b>Category</b>	<b>Overall Priorities</b>	<b>Votes</b>
1	Research	Development of IPM-friendly management tactics	23
2	Research	Biocontrol agents—identification and study of parasitoids, fungal pathogens, and predators (native and foreign)	16
3	Extension	Education programs to growers and the general public	12
4	Consumer/Urban	Development of IPM friendly management strategies (trap style and efficacy, overwintering site selection, insecticide timing, repellent -push/pull, efficacy of treating exterior plants/landscapes)	10
5	Research	Evaluate efficacy and host range of candidate classical biological control agents	9
6	Research	Response of indigenous natural enemies in relation to BMSB densities and their potential for management	8
6	Research	Further study of pheromone-based monitoring (e.g. active space, trap design, attractants)	8
7	Research	Evaluation of parasitoid host specificity	6
7	Research	Studies of basic BMSB behavior (host preferences, movement, responses to visual cues)	6
7	Research	Define damage diagnostics, economics of injury and threshold	6

***Overall priority rank is based on Working Group participants designating their five top priorities across all categories; those priorities receiving designations by at least 10% of the membership were ranked.***