

Brown Marmorated Stink Bug Working Group Priorities

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Submitted by:

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Research Priorities

Rank	Research Priority	Mean Score	# Responders
1	Studies of basic BMSB behavior (host preferences, movement, responses to visual cues)	88	38
2	Biocontrol agents—identification and study of parasitoids, fungal pathogens, and predators (native and foreign)	87	38
3	Development of IPM-friendly management tactics	83	38
4	Identification of true pheromone	82	38
5	Further study of pheromone-based monitoring (e.g. active space, trap design, attractants)	81	38
6	Studies of basic BMSB biology (physiology, generations)	76	38
7	Response of indigenous natural enemies in relation to BMSB densities and their potential for management	74	38
8	Evaluation of parasitoid host specificity	73	38
9	Impact of landscape and habitat on population	72	38
10	Host utilization, preference, and range	71	38
11	Examine overwintering biology (e.g. triggers for seeking and leaving sites; overwintering mortality factors)	70	38
12	Evaluate effects of BMSB management plans on beneficial agents, including pollinators	68	38
13	Evaluate efficacy and host range of candidate classical biological control agents	67	38
13	Standardized sampling methods	67	38
13	Examination of potential for trap-cropping	67	37
13	Identification of potential repellents	67	38
14	Defining damage diagnostics and economics of injury	66	38
14	Determine factors affecting population densities	66	38
14	Investigation of host-plant volatiles as attractants	66	38
15	Crop susceptibility and timing	65	38
16	Assess secondary pest outbreaks related to chemical control of BMSB	58	38
17	Evaluate potential impacts of cultural control measures	57	38

Rank	Research Priority	Mean Score	# Responders
18	Risk analysis of overwintering populations in natural landscapes	55	38
18	Evaluate long term sublethal effects on BMSB (e.g. effects on reproduction)	55	38
19	Mapping and assessment of distribution	54	38
19	Role of the gut symbionts and their potential for management	54	38
20	Evaluate landscape-level/watershed-scale population distribution	52	38
20	Determining monitoring strategies for urban areas	52	38
20	Generate methods and baseline for evaluation of resistance development	52	38
21	For host plant survey, include plant growth, stage and parts	51	38
22	Insecticide toxicity screening/resistance monitoring	49	38
23	Translation and synopsis of research to date from Asia	48	38
23	Genetic studies of BMSB	48	38
24	Standardize methods for insecticide trials and conduct screenings of existing materials	47	38
25	Evaluate impact of orchard groundcover management	44	38
26	Assessment of displacement of native stink bugs	42	38
27	Examination of cross-attraction of BMSB and green stink bugs	39	38
27	Development of toxicants and inhibitors for plant transgenic delivery	39	38
27	Study potential for damage of harvested/value-added crops by contamination with BMSB	39	38
28	Evaluate potential impact of vertebrate predation	38	38
29	Assessment of economic impact in urban environment	37	38

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

Rank	Extension Priority	Mean Score	# Responders
1	Education programs to growers and the general public	85	35
2	Coordinate efforts of state and regional extension programs	81	35
3	Develop revised and unified management plans	79	35
4	Educating professionals to pest ID and diagnosis of injury	71	35
5	Develop economic injury thresholds	70	35
6	Educational programs relevant to invasive biology using BMSB	65	35
7	Educational programs relevant to development of biological control projects	63	35
8	Develop treatment recommendations and guidelines for urban environments	62	35
9	Evaluation of field application techniques for chemical control	60	35
9	Raise awareness of importance of BMSB as pest – APHIS, local political channels, etc.	60	35
10	Educational programming for structural and landscape industries	59	35
11	Include education programs relevant to classical biological control	59	35
12	Extension outreach and education programming for urban environment/homeowners	58	35
13	Use BMSB as an opportunity to educate children	57	35
13	Initiate public awareness campaigns – posters, public service announcements, educational materials, etc.	57	33
13	Initiate an eXtension community of practice (COP), potentially as a central website for information	57	35
14	Evaluate efficacy of insecticides/killing agents for homeowners	56	35
15	Evaluate materials for home-garden and home-landscape protection	55	35
16	Direct homeowners to local politicians for complaints	45	35
17	Structure extension groups by commodity or region	44	35

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

Rank	Regulatory Priority	Mean Score	# Responders
1	Use of toxins in combination with attractants (regulatory status)	73	36
2	Define the economic and ecological threat	71	36
3	Coordinate interagency and interdisciplinary funding	68	36
4	Expand use of existing registered products	67	36
5	Product testing and labeling of new active ingredients/products	66	36

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 Priorities

Rank	Consumer Priority	Mean Score	# Responders
1	Defining period of movement to homes and triggers for movement	76	35
2	Efficacy and deployment strategies of homeowner traps	73	35
3	Factors associated with selection of overwintering sites	70	35
3	Preventative measures for reducing entry into human-made structures	70	35
4	Efficacy of traps for home garden use	69	35
5	Timing of treatment for homeowners	68	35
6	Forecasting population size	67	35
7	Repellents (push/pull) for homeowners	64	35
8	Important biological control agents around residential areas	63	35
9	Efficacy of treating exterior plants/landscapes	59	35
10	Determining repeated entry and exit by BMSB from overwintering sites	44	35

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

Rank		Overall Priority	# Votes
1	Research	Studies of basic BMSB behavior (host preferences, movement, responses to visual cues)	21
2	Research	Identification of true pheromone	18
2	Research	Biocontrol agents—identification and study of parasitoids, fungal pathogens, and predators (native and foreign)	18
3	Research	Development of IPM-friendly management tactics	10
4	Research	Studies of basic BMSB biology (physiology, generations)	8
4	Extension	Education programs to growers and the general public	8
5	Research	Further study of pheromone-based monitoring (e.g. active space, trap design, attractants)	7
6	Research	Evaluation of parasitoid host specificity	5
6	Research	Examine overwintering biology (e.g. triggers for seeking and leaving sites; overwintering mortality factors)	5
7	Research	Evaluate effects of BMSB management plans on beneficial agents, including pollinators	4
7	Research	Role of the gut symbionts and their potential for management	4
7	Research	Response of indigenous natural enemies in relation to BMSB densities and their potential for management	4
7	Extension	Coordinate efforts of state and regional extension programs	4
7	Extension	Develop revised and unified management plans	4
7	Regulatory	Product testing and labeling of new active ingredients/products	4

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.