THE SOUTHERN REALITY

If you keep bees in Alabama, Georgia, Mississippi, or anywhere in the Deep South, small hive beetles are part of the job. First detected in the U.S. in South Carolina in 1996 and confirmed in Georgia in 1998, Aethina tumida thrives in the warm, humid Southeast. Our European honeybees have no natural defense other than colony strength.

A count of 30–50 beetles in your traps and Swiffer sheets during peak season is not a crisis — it is Southern beekeeping. Your job is not to eliminate beetles (you cannot), it is to manage pressure and keep your colonies strong enough to police themselves.

LIFE CYCLE — KNOW YOUR ENEMY

STAGE	LOCATION	DURATION	WHAT'S HAPPENING
Adult	Inside hive	4–6 months avg; up to 16 months	Scavenges pollen and honey, lays eggs in cracks and crevices bees cannot reach. Bees chase and confine them to corners.
Egg	Inside hive, cracks in comb	1–6 days	Female lays up to 2,000 eggs per lifetime in irregular masses hidden from bees.
Larva	Inside hive (damage phase)	10–16 days	Tunnels through comb, consuming honey, pollen, and bee brood. Defecates in honey triggering yeast fermentation — leads to slimeout.
Wandering Larva	Exits hive, enters soil	1–8 days crawling	Fully fed larvae exit the hive and crawl up to 200 ft to find soil to pupate. This is the window for GardStar 40% EC soil treatment.
Pupa	Soil, 1–8 inches deep	3–4 weeks	Pupates in soil. Warm, moist Southern soil accelerates development. Up to 6 generations per year in Alabama.
Adult Emergence	Emerges from soil	—	New adults fly up to 10 miles using hive odors to locate colonies. Cycle begins again immediately.

Key insight: Larvae do the damage inside. Wandering larvae entering the soil are the target for soil treatment. Adults are addressed with in-hive traps.

RECOGNIZING A SLIMEOUT

A slimeout occurs when beetle larvae overwhelm the bees. Larvae defecate in honey, introducing the yeast Kodamaea ohmeri, which ferments it into a foamy, runny mess. The fermentation odor draws more beetles from surrounding hives and newly emerged adults from the soil — accelerating collapse.

- Smell: Rotting sour orange — distinctive and unmistakable. If you open a hive and smell it, act immediately.
- Visual: Honey running out of cells, foamy and discolored. Larvae visible throughout frames.
- Bees: Colony may be abandoning frames or absconding entirely.

■ SLIMEOUT EMERGENCY: Remove and freeze all affected frames immediately. Do not leave slimed frames near the apiary — the fermentation odor will draw more beetles. A colony caught early can sometimes be saved by removing damaged comb, reducing to a nuc, and ensuring the population can cover all remaining frames.

THE SOUTHERN IPM STACK — LAYER YOUR DEFENSES

LAYER 1 — COLONY STRENGTH (Your Most Important Tool)

A strong colony is your primary SHB defense. Bees physically herd, confine, and eject beetles. A colony covering every frame can manage beetle populations that would destroy a weak hive. Never leave more frames than the colony can cover.

- Keep varroa under control — mite-stressed colonies are first to be overwhelmed by beetles.
- Combine or requeen weak colonies rather than letting them decline.

- During dearth, reduce entrances and contract to frames the bees can actively defend.
- Never leave more empty drawn comb than the colony can cover — empty frames are beetle nurseries.

LAYER 2 — IN-HIVE MECHANICAL TRAPS

TRAP TYPE	HOW IT WORKS	NOTES
Oil Trap (bottom board or in-frame)	Beetles fall through screened bottom into vegetable oil and drown.	Most commonly used in the South. Check and refill every 2–4 weeks. Two traps per hive recommended in Alabama.
Swiffer / Dryer Sheet (unscented only)	Beetles and larvae get legs tangled in polyester fibers and die.	Place on top of frames or bottom board. Replace when soiled. Unscented only — scented sheets can harm bees.
CheckMite+ (coumaphos)	Chemical strip on bottom board attracts and kills adult beetles.	Adults only — does not affect larvae or pupae. Use per label. Not during honey flow.
Beetle Blaster / Beetle Jail	Small plastic oil trap placed between frames.	Compact and easy to use. Good for nucs. Refill regularly.

LAYER 3 — SOIL TREATMENT (Targeting Wandering Larvae)

Wandering larvae exit the hive and crawl into the soil 18–24 inches in front of each hive to pupate. This is your window to intercept them. Apply GardStar 40% EC every 30 days during active season — reapply sooner after heavy rain events, as rain degrades permethrin in the soil.

PRODUCT	APPLICATION	NOTES
GardStar 40% EC	Mix 1 tsp (5 ml) per gallon water. Thoroughly wet soil 18–24 inches in front of each hive. 1 gallon treats 6 hives. Apply late evening after bees are inactive. Reapply every 30 days — sooner after heavy rain.	NEVER apply inside hive or on hive surfaces. Wear eye protection — permethrin is corrosive to eyes. Apply only when bees are not active.
Permethrin 10% (generic)	Follow label for equivalent soil drench. Available at Tractor Supply in the horse/livestock section. Same 30-day schedule; reapply sooner after rain.	Same active ingredient at lower concentration. Considerably cheaper than GardStar. Widely used by Southern beekeepers with good results.
Entomopathogenic Nematodes (S. carpocapsae)	Apply to moist soil per product directions. More effective in loamy sand, sandy loam, and silt loam soils common in Alabama. Not affected by rain.	Auburn University research shows promise for Alabama soil types. Biological option — no chemical residue. Promising but less established than permethrin.

■ Permethrin is highly toxic to bees on direct contact. Never apply when bees are foraging. Never spray onto hive surfaces, landing boards, or entrance reducers. Late evening application only. Allow to dry completely before bees become active.

LAYER 4 — APIARY MANAGEMENT

- Sunlight: Beetles prefer shade. Hives in full or partial morning sun experience lower pressure. Avoid deep shade placement in the South.
- Mow: Keep vegetation short around hives. Tall grass provides cover for wandering larvae and emerging adults.
- Tight equipment: Cracks and gaps in hive bodies give beetles refuges bees cannot police. Keep equipment in good repair.
- Honey house hygiene: Never leave uncapped frames or wet supers unattended. A slimeout can begin within hours in summer heat.
- Freeze before storage: Freeze drawn frames for 24–48 hours before storing to kill any eggs or larvae present.

ALABAMA SEASONAL CALENDAR — SHB PRESSURE BY MONTH

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Low	Low	Low–Mod	Moderate	**HIGH**	**PEAK**	**PEAK**	**PEAK**	**HIGH**	Moderate	Low	Low
Maintain traps	Maintain traps	Start soil treatment	Apply every 30 days	Apply every 30 days	Apply every 30 days	Apply every 30 days	Apply every 30 days	Apply every 30 days	Final treatment	Monitor only	Monitor only

Apply GardStar 40% EC soil drench every 30 days. Reapply sooner after heavy rain — rain degrades permethrin in the soil. Begin when soil temps consistently above 60°F. Peak pressure in Alabama: June–September.

SHB MONITORING & TREATMENT LOG

Record oil trap counts, Swiffer counts, and soil treatment dates at every inspection. A single high-count inspection is not necessarily alarming — a rising trend is. Note rain events — they affect soil treatment efficacy and may require earlier reapplication.

DATE	HIVE	OIL TRAP COUNT	SWIFFER COUNT	LARVAE SEEN	COLONY STRENGTH	SOIL TREAT APPLIED	PRESSURE LEVEL	NOTES / RAIN / ACTIONS

HOW TO READ YOUR PRESSURE LEVEL

PRESSURE	OIL TRAP + SWIFFER COUNTS	COLONY CAN HANDLE?	ACTION
Normal / Low	Under 20 combined	Yes — if colony is strong	Maintain traps, soil treatment on schedule. Monitor.
Moderate	20–60 combined	Yes — if colony covers all frames	Verify colony strength. Check for larvae on frames. Ensure soil treatment is current. Add second oil trap if needed.

High	60–150+ combined	Borderline — inspect carefully	Check every frame for larvae. Consider consolidating. Mow around hives. Apply GardStar 40% EC immediately if overdue or if it has rained recently.
Critical / Slimeout Risk	Larvae visible on frames; fermentation odor present	No — colony needs immediate intervention	Remove and freeze affected frames. Reduce to frames bees can cover. Act within hours — colony can collapse quickly.

"30–50 beetles in your traps during June, July, and August is not a sign you are doing something wrong. It is a sign you are doing something right — your traps are working and your colony is holding the line. The goal is management, not elimination." — Bootstrap Beekeeping, Cherokee County, Alabama