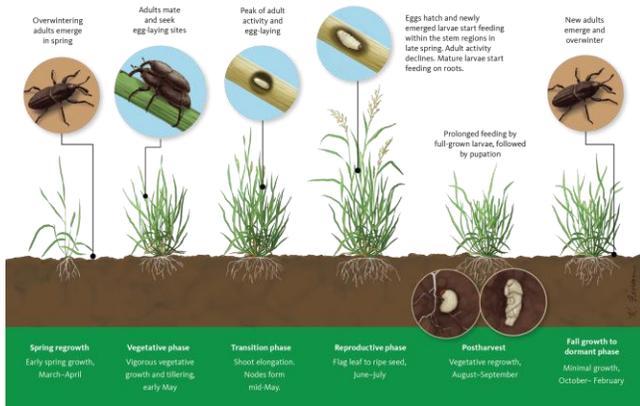


## Billbug (Turf Insect Damage)

(Bluegrass Billbug – *Sphenophorus parvulus*, plus related species)

Billbugs are **root-feeding weevils** that damage **Kentucky bluegrass**, **perennial ryegrass**, and occasionally **tall fescue** in Colorado. Larvae feed inside stems and roots, causing **dead patches** that resemble drought or heat stress. Damage appears **late spring through mid-summer**.



## Seasonal Activity Calendar

Icons: 🌸 Spring | ☀️ Summer | 🍂 Fall | ❄️ Winter

| Stage / Damage               | Type   | Active Season | Icons |
|------------------------------|--------|---------------|-------|
| Adult billbug activity       | Insect | Spring        | 🌸     |
| Egg-laying in grass stems    | Insect | Late Spring   | 🌸 ☀️  |
| Larval feeding (MOST DAMAGE) | Insect | Summer        | ☀️    |
| Pupation in soil             | Insect | Late Summer   | ☀️ 🍂  |
| Overwintering adults         | Insect | Winter        | ❄️    |

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## Symptoms (Homeowner-Friendly)

### What Homeowners See

| <u>Symptom</u>                                     | <u>Description</u>                              |
|--|---|
| <b>Brown, irregular dead patches</b>               | Often mistaken for drought, NRS, or heat stress |
| <b>Turf peels up easily like carpet</b>            | Roots are destroyed by larvae                   |
| <b>“Sawdust-like” frass inside stems</b>           | Larvae hollow out stems from inside             |
| <b>Weak, thin turf in early summer</b>             | Damage starts before visible browning           |
| <b>More severe on south- and west-facing lawns</b> | Heat accelerates larval feeding                 |

### The Tug Test (Easy Diagnosis)

- Grab a handful of grass and pull gently.
- If it **breaks off at the crown with white, sawdust-like frass**, it is almost certainly **billbug**.

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### Primary Causes (Colorado Conditions)

- Heavy thatch where billbugs hide and overwinter
  - Kentucky bluegrass most susceptible
  - Prior heat/drought stress makes lawns easier for larvae to kill
  - Poor fertility or shallow roots intensify damage
  - South- and west-exposure lawns warm earlier → more billbug activity
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## Treatment & Management

### 1. Cultural Practices (Improve Lawn Resilience)

| <u>Action</u>                 | <u>Benefit</u>                                  |
|-------------------------------|---|
| Reduce thatch (<1/2")         | Removes ideal billbug habitat                   |
| Core aeration 1–2× yearly     | Releases compaction and encourages deeper roots |
| Topdress with compost         | Improves soil health and turf recovery          |
| Keep turf properly fertilized | Stronger turf tolerates feeding better          |
| Deep, infrequent watering     | Reduces shallow rooting and weak turf           |

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### 2. Insecticide Options

Billbug control depends **heavily on timing**.

#### Preventive Treatments (Best Option)

Apply **in late spring (May–June)** when adults lay eggs.

| <u>Product Class</u>                                   | <u>Notes</u>                                 |
|--|--|
| Neonicotinoids (imidacloprid, clothianidin)            | Most effective preventive option             |
| Anthranilic diamides (chlorantraniliprole – Acelepryn) | Very effective & low-toxicity; long residual |
| Combination products                                   | Improve coverage during variable seasons     |

#### Curative Treatments

Once larvae are fully feeding in stems (mid-summer), results are limited.

## Product Class

## Notes

**Pyrethroids (bifenthrin, deltamethrin)** Kill adults, but limited effect on deep-feeding larvae

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### 3. Repairing Damage

- Overseed dead areas with **tall fescue** (more billbug-resistant).
  - Water lightly and frequently on newly seeded areas until established.
  - For severe damage, consider **sod replacement**.
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### When to Worry vs. When It's Cosmetic

#### ● When to Worry (action recommended)

- Grass **pulls up easily** with no roots
- Large brown patches spreading in early or mid-summer
- Visible **frass (sawdust)** inside grass stems
- Damage occurs **every year in same locations**
- South-facing slopes thinning repeatedly
- Preventive insecticides were not applied in late spring

These cases typically require **targeted insecticide timing + cultural corrections**.

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#### ● Mostly Cosmetic (monitor only)

- Small, isolated brown spots
- Turf recovers quickly after cooler weather

- No frass in stems during tug test
- Damage only on high-traffic or stressed zones

These often reflect **drought or heat**, not billbugs.