



# Junction\*

## Fungicide/Bactericide



Special Solutions. For Specialty Markets

**Use Sites:**

- Golf Course Turf
- Industrial Turf

**Formulation:**

Dry Flowable

**Packaging:**

6 pound container

**Active Ingredient:**

Mancozeb and  
Copper Hydroxide

**Chemical Class:**

Dithiocarbamate and  
Fixed Copper

**Mode of Action (MOA Code):**

Multi-site activity (M1 & M3)

**Rate:**

2 - 4 oz. per 1000 sq. ft.

**Application techniques:**

Apply as a thorough cover  
spray.

**Application timing:**

Begin at the first sign of disease  
and spray on a 7 - 14 day interval.

### Moss Control Program in Golf Course Putting Greens using Junction Fungicide

Approximately 20 species of moss can invade highly maintained turf. The most common species found in golf course putting greens is Silvery Thread Moss (*Bryum argenteum*) which is native to cool/temperate climates and often found in sandy soils. Collectively, mosses are photosynthetic, non-vascular organisms; therefore they have no means to translocate nutrients and water. Mosses do not have roots, but rather, root-like structures called rhizoids which anchor the plant. They reproduce via spores which can be disseminated via mechanical movement. Moss will colonize and spread in disturbed sites such as bare or weak areas on creeping bentgrass or *Poa annua* golf greens. Mosses will grow in full sun or shade and wet or dry soils.

Current trends in putting green maintenance have led to increased moss pressure throughout the Northern and Midwestern United States. Trends include: 1) discontinued use of Mercury based fungicides (which previously suppressed moss), 2) lower mowing heights leading to weaker turfgrass, 3) decreased nitrogen levels reducing the recuperative potential of creeping bentgrass or *Poa annua*, and 4) frequent topdressing providing a sand media at shallow depths. Cultural practice modifications can be performed to reduce the potential for moss infestation and populations. Practices include: 1) raised mowing heights, 2) less automatic irrigation and more hand watering, 3) avoid scalping and reduce frequency of clean-up laps, 4) increase nitrogen fertility, and 5) mechanical removal of moss populations. A healthy, dense turf stand is the best defense for preventing moss populations.





### Things to remember with Junction use on Creeping Bentgrass/*Poa annua* golf greens:

- Discontinue "Curative" program during summer months or when temperatures exceed 85° F.
- For best efficacy on moss, the spray solution pH should not exceed 6.5.
  - Junction has a pH of 9 or higher
  - pH acidifying adjuvants such as New Balance® are available
- Tank-mixes with some micronutrients and fertilizers may cause pH to drop below 6.5.
- Extremely low pH spray solutions (< 6.5) can cause increased potential for tip burn to more sensitive plants such as Kentucky bluegrass, *Poa annua* and occasionally ryegrass.
  - Tip burn usually lasts 3 - 5 days and can be mitigated by mowing and/or follow up fertility applications
- **DO NOT** tank-mix with Alette® (fosety-Al) or Clearys 3336™ (thiophanate-methyl).
- Following a fall Junction program, reductions in moss populations may not be visible until spring months.
- Excessive copper (Cu) levels in soils may be phytotoxic to turfgrass species. Soil and tissue testing should be utilized to monitor Cu levels.

#### Curative Moss Program Using Junction Fungicide

Begin in Fall months when Summer stress diminishes

Apply Junction 2 to 4 oz/1000 ft<sup>2</sup> at > 86 GPA every 7 to 14 days

Apply in the fall until active growth ceases

Additional applications as needed during Spring months



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