

Weed Control at Turf Establishment with Tenacity® Herbicide.

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Successful renovations of turfgrass stands require a weed management plan. Existing weeds can be controlled prior to renovation with a non-selective herbicide, but once the turfgrass species is seeded, water and fertilizer will also encourage weed seeds in the soil to germinate. Unless weeds are controlled, the end result of the renovation will be weed contamination of the desired turf grass species. Key reasons to control weeds at seeding or establishment include:

- Less competition from weeds, faster turf establishment
- Weed (seed) bank in the soil can be significant in a perennial stand like turfgrasses
- Not all seeding can be done in the fall, when competition from annual grasses is minimal
- Turf (like weeds) can be more sensitive to herbicides at the seedling stage, limiting post-emergence weed control

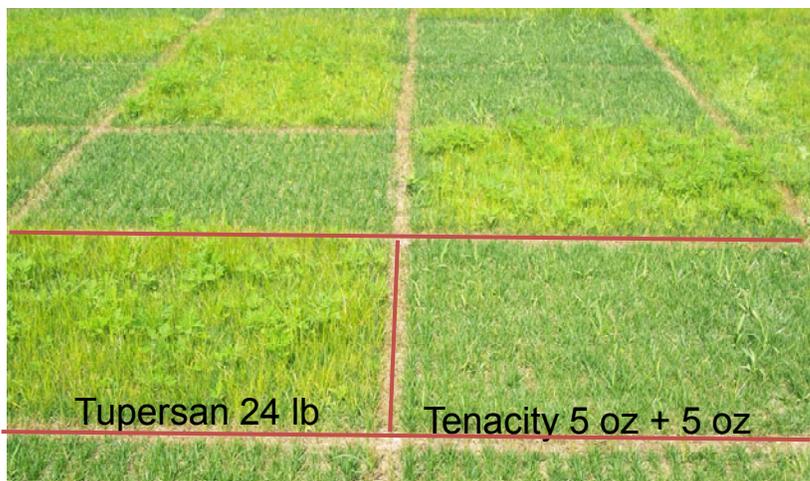
There are very few herbicides that can be safely applied prior to or at seeding of most turfgrass species. Siduron, a substituted urea herbicide, is labeled for use on cool-season species to control annual grasses such as crabgrass, foxtail and barnyardgrass. Rate of application is 6 lbs ai/A at seeding. Siduron, trade name Tupersan®, will not control dicots weeds or *Poa annua* which can be an issue depending on weed pressure. Quinclorac, trade name Drive®, can be applied at seeding of tall fescue, bermudagrass and perennial ryegrass while other turf species are limited to a 28-day post emergence restriction. It is a synthetic auxin herbicide with use rate at seeding of 0.75 lbs ae/A for control of crabgrass, foxtail, barnyardgrass and several dicot weed species.

Mesotrione herbicide was discovered when a Syngenta scientist in Mountain View, CA observed fewer weeds growing under his callistemon shrub than could be explained by shading. The allelochemical isolated from the callistemon plant was the first precursor to what eventually became mesotrione herbicide, trade name Tenacity® in turf. (**Tenacity in not currently registered in CA**). Mesotrione is a HPPD inhibitor (p-Hydroxyphenylpyruvate dioxygenase), which interferes with plastoquinone synthesis, and ultimately carotenoid production. Without carotenoids, light energy breaks down chlorophyll and generates excess energy within the cells. These result in the new growth turning white and susceptible weeds eventually die. Tenacity can

be applied at seeding of several cool-season turf species for control of annual grasses such as crabgrass and foxtail plus many dicots weeds at 0.156 lbs ai/A. It is also labeled for control of yellow nutsedge and suppression of *Poa annua*. The weed control spectrum of Tenacity makes it a valuable tool to manage weeds at turf establishment.

Attached is a picture of a tall fescue seeding trial comparing Tenacity to Tupersan. Both herbicides exhibited excellent safety, however control of ragweed and yellow nutsedge was only observed in the Tenacity treatments.

Tenacity – New Option for weed control at Seeding



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