



Wait wait...it's really too late! Late season control of summer annual grassy weeds in turf.

Vol 1: No 7. October 2015.

David M. Kopec, Extension Specialist / Turfgrass.

In most lawns that do not receive a pre-emergence herbicide in the spring, summer annual grassy weeds are often present in the turf. Although generally unnoticed in the vast majority of their life span, such weeds can become a major component of the overall turf surface, especially in the low elevation deserts. After all, the turf is green and there is no bare ground showing, so all must be well.....until the fall that is!

During the early fall, shorter day length and cooler night time temperatures serve as natural triggers for summer annual grasses to complete their life cycle. As part of this process, the pigments inside the leaves change from green to purple, yellow or white, after which the leaves no longer are involved in photosynthesis. The next and final leaf color change is to that of brown (dead foliage).

These color changes often cause a sharp contrast between the summer annual grassy weeds and the otherwise green desirable host lawn grass. At some point in the process, it can be startling to see how much of the turf is actually infested with a summer annual grass! The amount can be substantial.

When this discontinuity in color is readily apparent and extreme, people often “panic” and make a hasty decision to try and get rid of these “awful color weeds” which suddenly appeared in the turf! In reality, it is actually too late to do so. In former times, the herbicide MSMA would be used to get rid of summer annual grassy weeds under such panic attacks, but it didn't change the contrast condition at all as

MSMA makes the affected leaves turn purple as well. All MSMA did was make all the grassy weeds purple at the same time!

Newer herbicides which have activity against summer annual weeds generally work when the weed is actively growing. When the weed discoloration appears in the fall, physiological processes in the plant have already begun to slow down. In many cases, transport of the herbicide to the mode of action site is diminished, the plants enzyme activity is already diminished, or both. Thus, treating grassy annual weeds in the fall, even with newer herbicides that work differently than MSMA, results in poor weed control. Even if the weeds were killed with a post emergent herbicide, the bermudagrass would not fill in between the dead weeds because the growth of bermudagrass has slowed in response to shorter days and sub-optimal nighttime temperatures.

The summer annual grasses that often cause a “fall weed panic “ include, crabgrass (*Digitaria* spp), southwest cupgrass (*Erichloa accuminata*), liverseed grass (*Eurochloa panicoides*) and to a lesser extent, goosegrass (*Elusine indica*).

Crabgrass turns “off color” the most, in the sense that it produces dark purple leaves. Crabgrass is found readily at higher elevation locations in Arizona where ryegrass, tall fescue and Kentucky bluegrass lawns are the best adapted turfgrasses. It is also found in certain locations in Maricopa County and even in Yuma, competing within weak stands of bermudagrass.

Below is a single plant of crabgrass, showing a discordant purple color against the green turf background. When several plants are established close by each other (on the right), their non-green colors which are part of fall senescence can be an attention grabber. However, it is really too late to remove the weed with a herbicide.



Southwest cupgrass is more prevalent than crabgrass in the low elevation deserts. In the fall, yellow (chlorotic) leaves develop, with sometimes a small amount of purple color showing on lower leaves. Below is a southwest cupgrass plant showing early fall decline symptoms. In the summer, the plant is normally fully green and can blend in with the lawn grass.



Liverseedgrass is a low elevation summer annual grass. It is often mistaken for crabgrass. In the early fall, the color of liverseedgrass slowly fades from green to white, with some lower leaves turning purple before leaf death. On the left is a plant showing no senescence, while the plant on the right is in decline.



Lastly, goosegrass will appear as having different shades of light green, often with long striations of tissue devoid of any green color at all. This occurs in a more or less random pattern across the leaves. Below on the left is typical goosegrass plant, on the right is goosegrass approaching the end of its life cycle in the early fall.



To summarize, fall is not the time to use a herbicide to remove summer annual grass weeds. By fall the weeds are in a state of early senescence, and their life cycle as an annual plant has essentially been completed. The loss of green leaves allows these weeds to “standout”, which reveals how much of the lawn is actually comprised of a summer annual grassy weed. These sudden and stark color contrasts often create the urge to remove these weeds with post emergence herbicides, but use of herbicides during such a time would be highly ineffective and an unnecessary cost.

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“Issued in furtherance of Cooperative Extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Jeffrey C. Silvertooth, Cooperative Extension, College of Agriculture & Life Sciences, The University of Arizona.

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