

## WHAT WE KNOW ABOUT VELOCITY®

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Velocity (bispiribac sodium) was labeled for the purpose of controlling annual bluegrass and roughstalk bluegrass post-mergently in established creeping bentgrass and perennial ryegrass fairways and tees in late 2004. Velocity also controls some broadleaf weeds, suppresses annual bluegrass seedheads, and is labeled for suppression of dollar spot. Velocity inhibits the enzyme acetolactate synthase, which plants require to produce three essential amino acids. The herbicide is both foliar and root absorbed, but most appears to enter through leaves and sheaths. Velocity can move off foliage in heavy rain and run-off to adjacent sites, where it can injure sensitive species. Kentucky bluegrass can be severely injured. Tall fescue also is sensitive, but mature stands likely will recover when contacted by this herbicide. Tall fescue seedlings, however, are intolerant of Velocity, and likely will be killed or severely injured by this herbicide. Mature perennial ryegrass can be discolored and seedlings can be damaged by Velocity. Prograss (ethofumesate) is safe to apply overtop tall fescue and perennial ryegrass seedlings and should be considered the preferred herbicide for controlling annual bluegrass in young stands of these species. Preliminary findings from a University of Maryland study, however, indicate that fairway height creeping bentgrass seedlings will tolerate Velocity, when the herbicide is applied five weeks after emergence.

The major use of Velocity will be to control annual and roughstalk bluegrass in creeping bentgrass fairways and tees. Velocity often elicits a yellowing or chlorosis in creeping bentgrass, which is referred to as the "yellow flash." The "yellow flash" appears in about three days following treatment and can remain evident for 7 to 14 days. No thinning or long term damage are expected, but more will be learned in 2005 after Velocity has had widespread usage on golf courses. An intense "yellow flash" generally indicates that the herbicide has not properly translocated out of the foliage. It also may be an indicator that weed control will be less effective.

Velocity seldom provides effective control of annual or roughstalk bluegrass following a single application. Hence, two or more applications are required for maximum control. Velocity should be applied during sunny weather when air temperatures range between 65 and 80F (16 and 27C), and when turf is actively growing. A heavy, pre-application irrigation to moisten soil thoroughly should improve Velocity performance. Mowing within 24 hours of application, and applications of Velocity when rain is in the forecast should be avoided. Velocity has a short soil residual and treated sites can be overseeded ten days following the final herbicide application.

Rate selection for Velocity needs fine-tuning. Rates in the range of 1.3 to 2.0 ounces of Velocity 80WP per acre (30-45 gr ai/A) are suggested. Currently, it is recommended that Velocity be applied twice on a 14 to 21 day interval.

Where more than 15 to 20% of the stand is dominated by either annual or roughstalk bluegrass you may want to take a more conservative approach. Lower rates (e.g., 20 gr ai/A) may be better suited to phytotoxically suppressing the targeted weeds without creating large areas of bareground. Superintendents should test Velocity on a small scale to gain experience and local knowledge on the behavior of this herbicide. As always, carefully read the label and familiarize yourself with the precautions stated when using this or any other herbicide. Much more needs to be learned about Velocity, but the following discussion summarizes some observations by university researchers. Velocity should not be tank-mixed with surfactants or other adjuvants as severe bentgrass injury may occur. Unless otherwise stated on the label, do not tank-mix Velocity with plant growth regulators, other herbicides, or products formulated as emulsifiable concentrates. Also, there may be enhanced bentgrass injury when Velocity is applied in cold weather. Furthermore, you may not realize how much annual or roughstalk bluegrass you have until you use Velocity. Superintendents should be prepared to overseed or sod sites when large losses of these weedy grasses occur. Finally, Velocity should not be considered the "silver bullet" for annual or roughstalk bluegrass control. There always are survivors and Velocity-tolerant biotypes of *Poa annua* are known to exist. Velocity will be a valuable tool in the management of annual and roughstalk bluegrasses. Superintendents, however, should continue to utilize other cultural, herbicide and plant growth regulator management approaches to promote bentgrass competition with these grassy weeds.

# Velocity®

## HERBICIDE

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