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Super Science

//ANNUAL BLUEGRASS

PHOSPHORUS FERTILIZATION EFFECTS ON *POA ANNUA*

By Beth Guertal, Ph.D., and Scott McElroy, Ph.D.

Annual bluegrass (*Poa annua* L.) is a common and persistent winter annual weed in southern landscapes. Previous research has indicated that phosphorus (P) may affect populations of annual bluegrass. Thus, the objective of this work was to evaluate the effect of P rate on *Poa annua*, seeking management methods for reduction of *Poa annua*.

Conducted twice in the greenhouse, this study evaluated rates of P (0, 50, 100, 200 and 400 lbs. P_2O_5 per acre) applied to three soil types (sandy clay, loamy sand and a sand/peat mix), with five replications of each. *Poa annua* was seeded into each pot, and collected data included number of germinated seedlings, plant height, days to first seedhead, panicles per seedhead and variability in weight of seed produced.

In general, plant size and seed production increased as P rate increased, while days to maturity decreased. The addition of P decreased the number of days to maturity. *Poa annua* grown in the sand-peat mix was slower to produce a first seedhead, produced fewer seed with a lighter weight, and had fewer seedheads when compared to the two native soils. Overall, the addition of any P produced larger and more productive *Poa annua*.

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PHOTO BY: BETH GUERTAL

A *Poa annua* plant fertilized with 200 lbs. P_2O_5 per acre.

ON THE MOVE

HOYLE JOINS KSU FACULTY

Jared Hoyle, Ph.D., has joined Kansas State University's Department of Horticulture, Forestry and Recreation Resources as an assistant professor and statewide turfgrass extension specialist. Hoyle earned his bachelor of science degree in horticulture science in 2006 and his master of science degree in crop science in 2009, both from North Carolina State University.

While in North Carolina, Hoyle focused his research on the impact of turfgrass mowing height and other cultural practices on crabgrass and brown patch incidence. He also evaluated rating methods commonly used in turfgrass weed science.

In 2012, Hoyle received his doctorate in agronomy and soils from Auburn University, where he explored factors that influenced thermal weed control. For the past year he has continued conducting turfgrass research projects as a post-doctoral research associate at the University of Georgia.

Hoyle enjoys cultivating relationships with turfgrass managers, who help him focus his research efforts on developing an applied research and extension program.

"THE EFFICACY OF A FOLIAR SYSTEMIC HERBICIDE APPLICATION DEPENDS ON MANY FACTORS, INCLUDING ITS ABILITY TO REACH THE PLANT'S LEAVES, RETAIN HERBICIDE ON THE LEAF SURFACE AND PENETRATE INTO THE LEAVES."

Deying Li, Ph.D.

(see full story on page 34)