

INFLUENCE OF OVERSEEDED FORAGE GRASSES ON SOYBEAN YIELD AND WINTER ANNUAL WEED SUPPRESSION. Satish K. Guttikonda, Kelly A. Nelson and William G. Johnson, Graduate Research Assistant, Assistant Professor and Assistant Professor, Department of Agronomy, University of Missouri, Columbia, MO, 65211.

Soybean fields often remain fallow throughout the winter months in the Midwest and become infested with winter annual weeds. Diversified crop and livestock producers may utilize winter annual forages for winter annual weed suppression and utilize fallow soybean ground for winter livestock grazing. Experiments were conducted at Novelty, MO to evaluate winter rye (*Secale cereale* L.) and annual ryegrass (*Lolium multiflorum* L.) seeding timings in established soybean to determine the optimum seeding date and the influence of winter annual forage grasses on winter annual weed suppression and soybean yield. Winter annual forages were seeded at R6, R6.5, R7, and after soybean were harvested. Winter annual forage seeding did not reduce soybean grain yield. Light interception decreased as soybean matured. Winter rye stand was not affected by seeding timing; however, annual ryegrass stand was greater at the R6 and R6.5 seeding dates compared with a post harvest seeding. Early winter rye and annual ryegrass seeding dates provided the greater forage yield than post harvest planting. Winter rye seeded at R6 reduced biomass of winter annual grass 41% and broadleaf weeds 48%, while post harvest seeding reduced the grass weed biomass 39% and broadleaf biomass 38% compared to plots without forage grasses. Annual ryegrass seeded at R6 reduced the biomass of grasses 17% and broadleaf weeds 3%, while post harvest seeding reduced biomass of the winter annual grasses 18%, but did not reduce biomass of broadleaf weeds. Winter rye provided greater winter annual weed suppression than annual ryegrass. Overseeded winter annual forage grasses may provide economic benefits for farmers as well as winter annual weed suppression.

Nomenclature: rye, *Secale cereale* L., annual ryegrass, *Lolium multiflorum* L.