Control of smooth scouringrush with Finesse® Cereal and Fallow Herbicide and RT 3® three years after application - Reardan, WA

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In 2021, we initiated a trial near Reardan, WA comparing applications of RT 3 and Finesse for control of smooth scouringrush in a wheat/fallow cropping system (Figure 1). Smooth scouringrush has been very difficult to control, especially in no-till cropping systems, as the routine herbicide applications for annual weed control in fallow have been ineffective. Previous research has shown that Finesse (chlorsulfuron + metsulfuron) can have activity on smooth scouringrush at least two years after application, and RT 3 (glyphosate) has been effective when applied at high rates and with an organosilicone surfactant. This study examines the effect of Finesse and RT 3 applied alone or in combination at different rates of RT 3 in the fallow phase of the grower's crop rotation for three years following application.

Figure 1. Smooth scouringrush control three years after treatment with 64 oz/A RT 3 plus Finesse (on left) and only 64 oz/A RT 3 (on right) near Reardan, WA.

The trial was initiated on July 9, 2021, in no-till fallow near Reardan, WA on the Carstens farm. The Reardan site is on a northwest-facing slope with an Athena silt loam soil and pH of 4.9 and 2.4% organic matter in the top 6 inches. All plots measure 10 by 30 ft and are arranged in a randomized complete block design with four replications per treatment. Treatments were applied

with a hand-held spray boom with six TeeJet® AIXR110015 nozzles on 20-inch spacing and pressurized with a CO_2 backpack at 3 mph. Spray output was 15 gpa at 40 psi. All treatments included an organosilicone surfactant (Silwet® L77). Initial smooth scouringrush density averaged 248 stems/yd^2 in July 2021. In 2022, the field was in winter wheat, and in 2023 it was in spring wheat.

Smooth scouringrush control was evaluated three years after application on July 1, 2024, by counting stems in two 1.2-yd^2 quadrats per plot. All treatments with Finesse were more effective than treatments with no Finesse; however, tank mixing 64 or 96 oz/A of RT 3 increased efficacy compared with Finesse alone or with 32 oz/A RT 3 (Figure 2). These results indicate a long-term benefit of adding RT 3 at higher rates to Finesse. If only using RT 3 for smooth scouringrush control, the 96 oz/A rate is needed for longer term control. The 32 and 64 oz/A rates of RT 3, alone, are not different than the nontreated check, which explains why lower rates of RT 3 have not controlled smooth scouringrush in no-till direct seed farming systems.

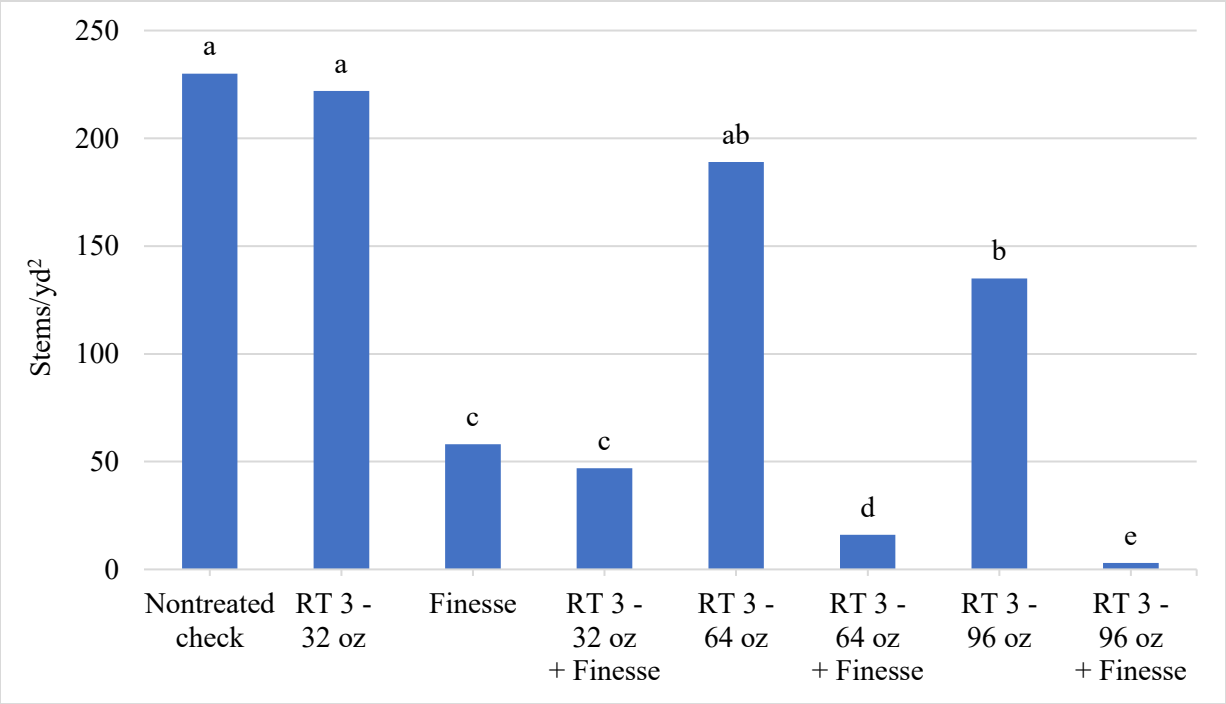

Figure 2. Smooth scouringrush stem density in 2024, three years after Finesse and RT 3 treatment were applied in chemical fallow near Reardan, WA. All herbicide treatments included Silwet L77 organosilicone surfactant at 0.5% v/v. Finesse was applied at 0.5 oz/A, and RT 3 rates are oz/A. Columns with the same letter are not significantly different ($P \leq 0.05$).