

Evaluation of Early- and Late-Season Herbicide Options for Control of Smell melon (*Cucumis melo*) and Citron Melon (*Citrullus lanatus*) in Peanut

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Smell melon (*Cucumis melo* var. *dudaim* Naud.) is a monoecious annual vine commonly found growing in disturbed areas and roadsides. In peanut it can be quite weedy in nature, resulting in significant yield reductions if left untreated. Citron melon (*Citrullus lanatus* (Thunb.) Mansf. var. *citroides* (Bailey) Mansf.), an annual low-growing vine, is the same species as cultivated watermelon, however the fruit is inedible in the raw state. Like smellmelon, citron melon can be a troublesome weed in peanut.

A field trial was conducted near Pleasanton, TX in 2019 to evaluate the efficacy of several preemergence and postemergence herbicides, alone or in combination, for early -season control of smell melon and citron melon in peanut. A total of nineteen herbicide treatments were included in this trial. Preemergence (PRE) applications were applied immediately after planting, while postemergence (POST) applications were applied 27 days later. A second field trial was conducted at the same location near Pleasanton, TX in 2019 to evaluate options for late-season POST or salvage control of large smell melon and pie melon in peanut. A total of fifteen herbicide treatments were evaluated in this trial.

At 27 days after the PRE applications, control of smellmelon was greater with pendimethalin 1.06 kg ai ha⁻¹ + flumioxazin 0.07 kg ai ha⁻¹ PRE, flumioxazin 0.11 kg ha⁻¹ PRE, and imazethapyr 0.07 kg ae ha⁻¹ PRE (97, 97, and 99% control, respectively) than with s-metolachlor 1.42 kg ai ha⁻¹ PRE (55% control). Control of citron melon was variable and ranged from 65 to 100% control except for norflurazon at 0.89 kg ai ha⁻¹ PRE (50%). The variable levels of weed control observed in this trial may be due to small seedlings of both species that were emerged at the time of PRE applications being made. When evaluated 27 days after the late-season POST applications were made, control of smell melon was greatest with lactofen 0.22 kg ai ha⁻¹ + 2,4-DB 0.50 kg ae ha⁻¹, imazapic 0.07 kg ae ha⁻¹, and imazapic 0.07 kg ae ha⁻¹ + 2,4-DB 0.50 kg ae ha⁻¹ (87, 80, and 79% control, respectively). Glyphosate at 1.26 kg ae ha⁻¹ provided similar levels of control (73%), however peanut injury would not be acceptable. Control of citron melon was variable and ranged from 66 to 99% and no differences among herbicide treatments were detected. The highly variable and often incomplete control of these species observed in this trial further reinforces the need for an integrated approach to management, including the use of soil-active herbicides before, at, or after planting.