CLEMSON UNIVERSITY

# Herbicide Injury Symptoms on Soybean

# Nicosulfuron

**Trade Name:** Accent

**Chemical Family:** Sulfonylurea

**Mode of Action:** Inhibition of acetolactate synthase (ALS), preventing production of the branched-chain amino acids valine, leucine, and isoleucine.

**General Symptoms:** Terminal inhibition, stunting, and yellowing in broadleaves. Yellowing, purpling, and reddening of grasses.

Figure 1

Figure 2

Figure 1. Soybean injury at 6 days after treatment with 0.0031 lb ai/A nicosulfuron applied at the V6 growth stage. Note the yellowing in the terminals. Drift rates of nicosulfuron such as shown here should not reduce grain yield. Similar terminal yellowing could be caused by drift rates of glyphosate or other ALS inhibitors such as primisulfuron (Beacon) and pyrithiobac (Staple), but drift rates of other ALS inhibitors can cause significant reductions in grain yield.

Figure 2. Soybean injury at 6 days after treatment with 0.031 lb ai/A nicosulfuron applied at the V6 growth stage. ALS inhibitors such as nicosulfuron commonly cause purpling of soybean veins along with severe plant stunting and leaf yellowing. Soybean grain yield can be reduced be 25% at the rate shown here. Other ALS inhibitors could cause similar injury as shown in this figure.

**Agronomic Use:** Nicosulfuron can be applied postemergence in corn mainly for control of grasses and some small-seeded broadleaves.

**Additional Information:** The addition of an adjuvant to nicosulfuron improves weed control. Nicosulfuron may provide better grass control than primisulfuron, whereas broadleaf control with nicosulfuron is generally less than that with primisulfuron. Applications to corn treated with an organophosate insecticide causes severe crop injury. Broadcast applications can be made to corn up to 20 inches tall or having 6 or fewer collars, which ever is more restrictive.

**Rotational Restrictions:** Corn can be replanted immediately; soybeans 15 days after application; wheat, rye, and barley 4 months after application; oats 8 months after application; cotton and grain sorghum 10 months after application. Rotational restrictions are lengthened at pHs ≥7.5 due to greater nicosulfuron persistence (see label).

**Symptoms on other Crops:**

Figure 3

Figure 4

Figure 3. Cotton injury 10 days after a postemergence application of nicosulfuron. Symptoms include severe plant stunting and yellowing of the terminal.

Figure 4. Untreated cotton for comparative purposes.

Figure 5

Figure 6

Figure 5. Wheat injury 10 days after a postemergence application of nicosulfuron. Misapplication of nicosulfuron on wheat will cause plant death. Yellowing, reddening, and purpling of leaves will first occur, followed by leaf necrosis. The symptoms shown here on wheat are similar to those on weedy grass species.

Figure 6. Untreated wheat for comparative purposes.

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