

HERBICIDE INJURY — PHOTOSYNTHETIC INHIBITORS AND CONTACT HERBICIDES



1. Chlorosis/Necrosis of Older Corn Leaves



2. Chlorosis/Necrosis of Corn Leaf Tissue



3. Interveinal Chlorosis and Yellowing of Soybean Leaves



4. Chlorosis and Necrosis of the Older Leaf Tissue in Soybean



5. Chlorosis and Necrosis of Older Leaf Tissue in Wheat



6. Necrotic Spots on Corn and Soybean Leaves



7. Necrotic Leaf Burn



8. Necrotic or Bronze Speckling on Soybean Leaves

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PHOTOSYNTHETIC INHIBITORS (PSI). The photosynthetic inhibitors include the triazines: atrazine, cyanazine (Bladex), metribuzin (Sencor and Lexone), simazine (Princep), ametryn (Evik) and several premixes containing these active ingredients; the uracils: bromacil (Hyvar-X) and terbacil (Sinbar); and the phenylureas: diuron (Karmex) and linuron (Lorox and Linex). These herbicides all inhibit photosynthesis in susceptible plants.

1. Chlorosis/Necrosis of Older Corn Leaves. Chlorosis and necrosis of corn leaves, beginning at the leaf tips of older leaves, may result from application of cyanazine. Injury is more likely following prolonged cool, wet conditions that stress the plant.

2. Chlorosis/Necrosis of Corn Leaf Tissue. Postemergence applications of linuron or ametryn should be directed away from the corn leaves and onto the weeds. Plant tissue contacted by these herbicides may turn chlorotic, then necrotic. Symptoms from postemergence applications of photosynthetic inhibitor herbicides look similar to symptoms from contact type herbicide injury. Risk of injury is greater with the addition of crop oil.

3. Interveinal Chlorosis and Yellowing of Soybean Leaves. Interveinal chlorosis and necrosis of the older soybean leaf tissue may result from the use of a triazine herbicide such as metribuzin or a phenylurea herbicide such as linuron. With linuron, heavy rain may also splash treated soil onto the leaves causing necrotic spotting or "splash burn". Plants can often recover from this "splash burn" injury if the buds are not affected.

4. Chlorosis and Necrosis of the Older Leaf Tissue in Soybean. Atrazine residues may carryover and cause soybean injury symptoms very similar to metribuzin or linuron injury. Atrazine residues in combination with metribuzin may cause additive injury to soybeans following corn.

5. Chlorosis and Necrosis of Older Leaf Tissue in Wheat. Wheat is sensitive to atrazine and may be injured from residues that carry over. Chlorosis and necrosis of the older leaf tissue first are symptoms of photosynthetic inhibitor herbicide injury to wheat.

CONTACT HERBICIDES. The contact herbicides include a bipyridylium: paraquat (Gramoxone Super); the diphenyl ethers: acifluorfen (Blazer and Tackle), lactofen (Cobra), fomesafen (Reflex), and several premixes containing diphenyl ethers; and two others: bentazon (Basagran) and bromoxynil (Buctril). The contact herbicides disrupt cell membranes and translocate very little in the plant.

6. Necrotic Spots on Corn and Soybean Leaves. Paraquat is a nonselective herbicide that kills plant tissue very quickly. Injury symptoms can be noticed within several hours after application, first as water soaked areas on the leaf that turn to necrotic spots wherever spray drift contacted the leaves.

7. Necrotic Leaf Burn. The diphenyl ethers such as acifluorfen, lactofen, and fomesafen may cause necrotic spotting or burn of leaf tissue contacted by herbicide spray. Slight leaf crinkling may also occur. Risk of injury from the diphenyl ethers is greater with the addition of crop oils and with applications made under high temperatures. Likelihood of soybean recovery is relatively good from this type of injury.

8. Necrotic or Bronze Speckling on Soybean Leaves. Soybeans generally have very good tolerance to bentazon (Basagran). However, under stress conditions or very warm temperatures, soybean leaves may show yellowing, bronzing, speckling, or leaf burn. The addition of crop oil to the spray tank increases the risk of injury. Soybean injury is generally considered cosmetic only, with little risk of yield reduction.