CORN HERBICIDE INJURY II

1. Anhydrous ammonia injury

2. Atrazine and oil, postemergence

3. 2,4-D, postemergence— "onion leafing"

4. 2,4-D, postemergence— "stalk breakage"

5. 2,4-D, postemergence— "elbowing"

6. 2,4-D, postemergence— "brace root injury"

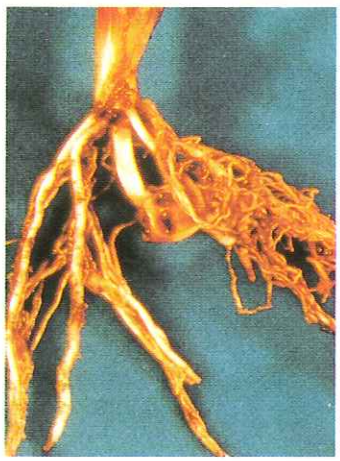
7. 2,4-D, postemergence — "tassel" to "dough" stage

8. Dicamba, postemergence near tassel

9. Linuron, directed postemergence

10. Paraquat drift injury

11. Glyphosate, spot treatment



12. Dinitroanaline carryover

UNIVERSITY OF ILLINOIS COLLEGE OF AGRICULTURE
COOPERATIVE EXTENSION SERVICE
and VOCATIONAL AGRICULTURE SERVICE

HERBICIDE INJURY NO. 2

URBANA, ILLINOIS

CORN HERBICIDE INJURY II

1. Anhydrous ammonia injury – Plant tissue is sensitive to anhydrous ammonia vapor. Corn leaf tissue contacted by anhydrous ammonia may show symptoms of "burn" or necrosis. Emerging corn seedlings may also be injured when contacted by excessive amounts of anhydrous ammonia. Symptoms of injury include inhibition of seed germination or destruction of root and coleoptile tissue.

2. Atrazine and oil, postemergence – Postemergence injury from atrazine and oil or cyanazine (Bladex) includes symptoms of leaf necrosis. Plants under stress from adverse weather conditions are more susceptible (Part I, No. 3).

3. 2,4-D, postemergence – "onion leafing" – Symptoms of 2,4-D injury include "onion leafing," "elbowing," and malformed brace roots. Certain corn hybrids are more susceptible to injury than other hybrids.

The risk of corn injury from dicamba (Banvel) may be less than with 2,4-D. However, corn may occasionally be injured by postemergence applications of Banvel. Symptoms are similar to those caused by 2,4-D.

4. 2,4–D, postemergence – "stalk breakage" – 2,4-D may make corn stalks brittle for one or two weeks after application, increasing the risk of stalk breakage by wind or cultivation equipment. Avoid cultivation during this critical period.

5. 2,4-D, postemergence – "elbowing" – Excessive rates of 2,4-D applied to rapidly growing corn or certain corn hybrids may result in "elbowing" or lodging of corn stalks. Symptoms may appear similar to lodging damage caused by corn rootworm larvae.

Avoid applying 2,4-D or Banvel to corn under stress from adverse weather conditions.

6. 2,4-D, postemergence – "brace root injury" – Excessive rates of 2,4-D may cause corn root malformation with symptoms of stunting, increased number of roots, fusing of roots, and roots growing upward rather than downward. Banvel may cause similar symptoms.

7. 2,4-D, postemergence from "tassel" to "dough" stage – Postemergence application of 2,4-D during the period from tassel to dough may result in lack of kernel set or development. Avoid application of 2,4-D during the critical tassel-to-dough stage of corn development.

8. Dicamba, postemergence near tassel – Postemergence applications of dicamba (Banvel) near tassel stage may also result in lack of kernel set or development. Injury is similar to that caused by 2,4-D applied at the tassel to dough stage of corn development (No. 7).

9. Linuron, directed postemergence – Postemergence applications of linuron (Lorox) and ametryn (Evik) should be carefully directed on the weeds and kept off of the corn as much as possible. Plant tissue contacted by these chemicals rapidly wilts and becomes necrotic.

10. Paraquat drift injury – Paraquat is a nonselective contact herbicide generally used for foliage "knockdown" in reduced tillage cropping systems. Injury to crop plants occurs in the form of necrotic spots wherever spray drift contacts the leaf.

11. Glyphosate, spot treatment – Glyphosate (Roundup) is a nonselective systemic herbicide used for spot treatment of problem weeds in field crops. Injury to crop plants occurs as a slow yellowing or chlorosis, followed by wilting and plant necrosis.

12. Dinitroanaline carryover – Soil residues of dinitroanaline herbicides may cause corn seedlings to develop proliferated, stubby root systems. This can result in stunted purple plants that appear to be suffering from insufficient moisture and phosphorous deficiency. Dry, cool soils, or nematodes may also cause similar symptoms.

Photo credits: Joe Paul Downs, Michael D. K. Owen, Ellery L. Knake, Marshal D. McGlamery; University of Illinois at Urbana-Champaign, Extension Agronomists.

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