

Major Land Resource Area 109X Iowa and Missouri Heavy Till Plain

Accessed: 06/17/2026

Ecological site keys

MLRA 109

I. Upland Summits, Shoulders, or Backslopes

A. Bedrock < 20" to Limestone ... R109XY023MO – Shallow Limestone Backslope Glade/Woodland

B. Bedrock > 20", or soft shale bedrock

1 Loess >24" (dominantly loess)

i. Mollisol/Mollic subgroup

a. Claypan ... R109XY001MO – Claypan Summit Prairie

b. No root restriction ... R109XY002MO – Loess Upland Prairie

ii. Alfisol ... F109XY003MO – Loess Upland Woodland

2 Little or no loess

i. <15% slope

a. Till

1) Mollisol ... R109XY006MO – Till Upland Prairie

2) Mollic subgroup ... R109XY046MO – Till Upland Savanna

3) Alfisol ... F109XY007MO – Till Upland Woodland

b. Interbedded shale, sandstone, siltstone, limestone residuum

1) Mollisol/Mollic subgroup ... R109XY010MO – Interbedded Sedimentary Upland Savanna

2) Alfisol ... F109XY011MO – Interbedded Sedimentary Upland Woodland

ii. >14% slope

a. Till

1) Mollic or Mollic intergrade ... R109XY008MO – Till Backslope Savanna

2) Alfic

a) North, East aspects ... F109XY009MO – Till Protected Backslope Forest

b) South, West aspects ... F109XY022MO – Till Exposed Backslope Woodland

b. Interbedded shale, sandstone, siltstone, limestone residuum

1) Mollisol/Mollic subgroup ... R109XY012MO – Interbedded Sedimentary Backslope Savanna

2) Alfic

a) **North, East aspects** ... F109XY013MO – Interbedded Sedimentary Protected Backslope Forest

b) **South, West aspects** ... F109XY025MO – Interbedded Sedimentary Exposed Backslope Woodland

c) **Limestone residuum; loamy surface** ... F109XY015MO – Loamy Backslope Woodland

II. Foothills, High Loess-Covered Terraces

A. Mollic

1 **Moderately Well, Well Drained** ... R109XY018MO – Loamy Foothill Savanna

2 **Somewhat Poorly, Poorly Drained** ... R109XY036MO – Wet Loess High Terrace Savanna

B. Alfic

1 **High Loess-covered Stream/Outwash Terraces** ... F109XY019MO – Loess High Terrace Woodland

III. Upland Drainageways

A. Moderately Well, Well Drained

1 **Mollic** ... R109XY028MO – Loamy Upland Drainageway Savanna

2 **Not Mollic** ... F109XY004MO – Loamy Upland Drainageway Woodland

B. Somewhat Poorly, Poorly Drained ... R109XY029MO – Wet Upland Drainageway Prairie

IV. Low Stream Terraces & Floodplain Steps (stepped up from active floodplain; variable flooding)

A. Moderately Well, Well Drained ... R109XY034MO – Loamy Terrace Savanna

B. Somewhat Poorly, Poorly, Drained ... R109XY038MO – Wet Terrace Prairie

V. Floodplains

A. Ponded ... R109XY032MO – Ponded Floodplain Prairie

B. Not Pondered

1 **Not adjacent to current/former channel**

i. Farthest from channel

a. **Moderately Well Drained; loamy** ... R109XY005MO – Loamy Floodplain Prairie

b. **WET FLOODPLAIN PRAIRIE Somewhat Poorly, Poorly Drained; clayey** ... R109XY031MO – Wet Floodplain Prairie

2 **Adjacent to Riverfront Forest (Somewhat Poorly, Poorly Drained)** ... F109XY037MO – Wet Floodplain Woodland

3 **Adjacent to current/former channel** ... F109XY030MO – Loamy Floodplain Forest