

Illinois Soil Classifiers Association

Experimental Key for Estimating NSF/ANSI 350-1 Loading Rates for Illinois Soils

(gal/ft²/day) 09/14/2013

Structure and Parent Material	Moderate or Strong Structure ¹ : Granular, Platy ² , Blocky, Prismatic, or Single Grain		Massive- Structureless or Weak Structure		
	Loess and other windblown deposits; Outwash; Alluvium; Lacustrine; Residuum; Low Density Till ³	Medium to High Density Till ³	Loess and other wind dep.; Out.; Alluv; Lac.; Res.; Low Density Till ³		Medium to High Density Till ³
Moist Consistence	lo; vfr; fr	fr; fi	vfr; fr	fi	vfi or more
Texture or Special Group	A	B	C	D	E
1. Fragmental; Ext. or Very gravelly sand; Gravelly sand; Gravelly loamy sand; Coarse sand	30	N/A ⁵	N/A	N/A	N/A
2. Sand; Loamy coarse sand; Loamy sand	20	N/A	N/A	N/A	N/A
3. Fine sand; Loamy fine sand; Sandy loam (≥65% s) Gravelly sandy loam; Gravelly sandy clay loam	6	N/A	5	4	2.5
4. Sandy loam (<65% s); Fine sandy loam; Sandy clay loam (≥60% s); Gravelly loam	5	4	2.5	1.2	0.7
5. Silt; Silt loam (≥15% s); Loam Sandy clay loam (<60% s); Sandy clay (≥55% s); Gravelly sandy clay;	4	2.5	1.7	0.7	0.4
6. Silty clay loam (<35% c) Clay loam (<35% c, >35% s); Silt loam (<15% s); Sandy clay (<55% s)	2.5	1.7	1.2	0.4	N/R ⁵
7. Silty clay loam (≥35% c) Clay loam (other than Group 6); Sandy clay (<55% s)	1.2	0.7	0.4	N/R	N/R
8. Silty Clay; Clay (40-60% c)	N/A	0.4	N/R	N/R	N/R
9. Clay (>60% c)	N/A	N/R	N/R	N/R	N/R
10. Fragic Btx and Bx horizons ⁴	0.3	0.3	N/A	N/A	N/A
11. Lithic; Organics	-SOIL PROPERTIES HAVE VERY SEVERE LIMITATIONS; SUBSURFACE LOADING NOT RECOMMENDED-				

1. Moderate or Strong structure Coarse in size or smaller.
 2. Platy structure in Soil Texture Groups 5 and 6 should be rated as Massive- structureless or weak structure in appropriate Parent Material category.
 3. Low density tills are defined as tills that have been "water-worked". These tills are typically less dense, less homogeneous than basal tills and may contain stratification of other textures. Medium and high density tills are typically homogeneous, dense, and are considered to be basal in nature.
 4. Group 10 horizons typically have structure Very Coarse in size and Very Firm consistence.
 5. N/A means not applicable. N/R means not recommended.
- Use a minimum of 18 inches below absorption field depth to determine limiting loading rate. Recommended minimum separation above seasonal high water table is 6 inches for all rated categories.