

Cass County, Minnesota
 Print date: 04/06/2007
 Table Z.--Soil Pesticide Loss Potential

Map symbol and soil name	Pesticide Loss Potential - Leaching	Pesticide Loss Potential - Runoff
7A: Hubbard loamy sand, 0 to 3 percent slopes Hubbard-----	Severe: seepage	Slight
7B: Hubbard loamy sand, 3 to 8 percent slopes Hubbard-----	Severe: seepage	Slight
48: Hiwood loamy fine sand Hiwood-----	Severe: low adsorption, seepage	Slight
82B: Redeye loamy sand, 1 to 6 percent slopes Redeye-----	Severe: seepage	Slight
82C: Redeye loamy sand, 6 to 12 percent slopes Redeye-----	Severe: seepage	Moderate: Excess Runoff
119B: Pomroy loamy sand, 3 to 8 percent slopes Pomroy-----	Slight	Moderate: Excess Runoff
119C: Pomroy loamy sand, 8 to 15 percent slopes Pomroy-----	Slight	Moderate: Excess Runoff
126B: Graycalm loamy sand, 1 to 8 percent slopes Graycalm-----	Severe: low adsorption, seepage	Slight
126C: Graycalm loamy sand, 8 to 15 percent slopes Graycalm-----	Severe: low adsorption, seepage	Moderate: Excess Runoff
139B: Huntersville loamy fine sand, 1 to 6 percent slopes Huntersville-----	Severe: seepage	Slight

* See footnote at end of table

Table Z.--Soil Pesticide Loss Potential--Continued

Map symbol and soil name	Pesticide Loss Potential - Leaching	Pesticide Loss Potential - Runoff
142: Nokay loam Nokay-----	Severe: wetness	Slight
144B: Flak sandy loam, 3 to 8 percent slopes Flak-----	Slight	Moderate: Excess Runoff
144C: Flak sandy loam, 8 to 15 percent slopes Flak-----	Slight	Moderate: Excess Runoff
146B: Wabedo sandy loam, 1 to 6 percent slopes Wabedo-----	Moderate: wetness	Slight
147: Spooner very fine sandy loam Spooners-----	Severe: wetness	Slight
158B: Zimmerman fine sand, 1 to 8 percent slopes Zimmerman-----	Severe: low adsorption, seepage	Slight
167B: Baudette silt loam, 1 to 6 percent slopes Baudette-----	Moderate: wetness, low adsorption	Slight
202: Meehan loamy sand Meehan-----	Severe: wetness, seepage	Slight
204B: Cushing loam, 2 to 8 percent slopes Cushing-----	Moderate: low adsorption	Slight
204C: Cushing loam, 8 to 15 percent slopes Cushing-----	Moderate: low adsorption	Moderate: Excess Runoff

* See footnote at end of table

Table Z.--Soil Pesticide Loss Potential--Continued

Map symbol and soil name	Pesticide Loss Potential - Leaching	Pesticide Loss Potential - Runoff
204E: Cushing loam, 15 to 30 percent slopes Cushing-----	Slight	Severe: Excess Runoff
217: Nokasippi loamy fine sand Nokasippi-----	Severe: wetness, seepage	Severe: artificial drainage
218: Watab loamy sand Watab-----	Severe: wetness, seepage	Slight
240A: Warba very fine sandy loam, 1 to 3 percent slopes moderately wet Warba, moderately wet-----	Moderate: low adsorption	Slight
240B: Warba very fine sandy loam, 3 to 8 percent slopes Warba-----	Moderate: low adsorption	Slight
240C: Warba very fine sandy loam, 8 to 15 percent slopes Warba-----	Moderate: low adsorption	Moderate: Excess Runoff
243: Stuntz very fine sandy loam Stuntz-----	Severe: wetness	Slight
268B: Cromwell sandy loam, 1 to 8 percent slopes Cromwell-----	Severe: low adsorption, seepage	Slight
268C: Cromwell sandy loam, 8 to 15 percent slopes Cromwell-----	Severe: low adsorption, seepage	Moderate: Excess Runoff
292: Alstad fine sandy loam Alstad-----	Severe: wetness	Slight

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Table Z.--Soil Pesticide Loss Potential--Continued

Map symbol and soil name	Pesticide Loss Potential - Leaching	Pesticide Loss Potential - Runoff
453B: DeMontreville loamy sand, 2 to 8 percent slopes Demontreville-----	Severe: seepage, low adsorption	Slight
453C: DeMontreville loamy sand, 8 to 15 percent slopes Demontreville-----	Severe: seepage, low adsorption	Moderate: Excess Runoff
453E: DeMontreville loamy sand, 15 to 40 percent slopes Demontreville-----	Moderate: low adsorption	Severe: Excess Runoff
454B: Mahtomedi loamy sand, 1 to 8 percent slopes Mahtomedi-----	Severe: low adsorption, seepage	Slight
454C: Mahtomedi loamy sand, 8 to 15 percent slopes Mahtomedi-----	Severe: low adsorption, seepage	Moderate: Excess Runoff
454E: Mahtomedi loamy sand, 15 to 40 percent slopes Mahtomedi-----	Severe: seepage	Moderate: Excess Runoff
458A: Menahga loamy sand, 0 to 3 percent slopes Menahga-----	Severe: low adsorption, seepage	Slight
458B: Menahga loamy sand, 3 to 8 percent slopes Menahga-----	Severe: low adsorption, seepage	Slight
458C: Menahga loamy sand, 8 to 15 percent slopes Menahga-----	Severe: low adsorption, seepage	Moderate: Excess Runoff

* See footnote at end of table

Table Z.--Soil Pesticide Loss Potential--Continued

Map symbol and soil name	Pesticide Loss Potential - Leaching	Pesticide Loss Potential - Runoff
458E: Menahga loamy sand, 15 to 40 percent slopes Menahga-----	Severe: seepage	Moderate: Excess Runoff
540: Seelyeville muck Seelyeville-----	Severe: wetness	Severe: artificial drainage
541: Rifle mucky peat Rifle-----	Severe: wetness, seepage	Severe: artificial drainage
543: Markey muck Markey-----	Severe: wetness	Severe: artificial drainage
544: Cathro muck Cathro-----	Severe: wetness	Severe: artificial drainage
549: Greenwood peat Greenwood-----	Severe: wetness, seepage	Severe: artificial drainage
564: Friendship loamy sand Friendship-----	Severe: low adsorption, seepage	Slight
620B: Cutaway loamy sand, 1 to 10 percent slopes Cutaway-----	Severe: seepage, low adsorption	Slight
620D: Cutaway loamy sand, 10 to 25 percent slopes Cutaway-----	Moderate: low adsorption	Severe: Excess Runoff
625: Sandwich loamy sand Sandwich-----	Severe: wetness, seepage	Slight

* See footnote at end of table

Table Z.--Soil Pesticide Loss Potential--Continued

Map symbol and soil name	Pesticide Loss Potential - Leaching	Pesticide Loss Potential - Runoff
665B: Menahga loamy sand, moraine, 3 to 8 percent slopes Menahga, moraine-----	Severe: low adsorption, seepage	Slight
665C: Menahga loamy sand, moraine, 8 to 15 percent slopes Menahga, moraine-----	Severe: low adsorption, seepage	Moderate: Excess Runoff
665E: Menahga loamy sand, moraine, 15 to 40 percent slopes Menahga, moraine-----	Severe: seepage	Moderate: Excess Runoff
679B: Menahga loamy sand, loamy substratum, 2 to 8 percent slopes Menahga, loamy substratum-----	Severe: low adsorption, seepage	Slight
679C: Menahga loamy sand, loamy substratum, 8 to 15 percent slopes Menahga, loamy substratum-----	Severe: low adsorption, seepage	Moderate: Excess Runoff
684: Bergkeller sandy loam, moderately wet Bergkeller, moderately wet-----	Moderate: low adsorption, seepage, wetness	Slight
701: Runeberg mucky loam, depressional Runeberg, depressional-----	Severe: wetness	Severe: artificial drainage
703: Paddock loam Paddock-----	Severe: wetness	Slight
720B: Blowers sandy loam, 1 to 5 percent slopes Blowers-----	Moderate: wetness, low adsorption	Slight

* See footnote at end of table

Table Z.--Soil Pesticide Loss Potential--Continued

Map symbol and soil name	Pesticide Loss Potential - Leaching	Pesticide Loss Potential - Runoff
730A: Sanburn sandy loam, 1 to 3 percent slopes Sanburn-----	Severe: seepage	Slight
730B: Sanburn sandy loam, 3 to 8 percent slopes Sanburn-----	Severe: seepage	Slight
730C: Sanburn sandy loam, 8 to 15 percent slopes Sanburn-----	Severe: seepage	Moderate: Excess Runoff
731A: Sanburn loamy sand, 0 to 3 percent slopes Sanburn-----	Moderate: seepage, low adsorption	Slight
731B: Sanburn loamy sand, 3 to 8 percent slopes Sanburn-----	Moderate: seepage, low adsorption	Slight
731C: Sanburn loamy sand, 8 to 15 percent slopes Sanburn-----	Severe: seepage	Moderate: Excess Runoff
732: Bushville loamy sand, 1 to 3 percent slopes Bushville-----	Severe: wetness, seepage	Slight
739B: Wabedo sandy loam, 1 to 6 percent slopes, very stony Wabedo, very stony-----	Moderate: wetness	Slight

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Table Z.--Soil Pesticide Loss Potential--Continued

Map symbol and soil name	Pesticide Loss Potential - Leaching	Pesticide Loss Potential - Runoff
742B: Flak sandy loam, 3 to 8 percent slopes, very stony Flak, very stony-----	Slight	Moderate: Excess Runoff
742C: Flak sandy loam, 8 to 15 percent slopes, very stony Flak, very stony-----	Slight	Moderate: Excess Runoff
750B: Pomroy loamy sand, 3 to 8 percent slopes, very stony Pomroy, very stony-----	Slight	Moderate: Excess Runoff
750C: Pomroy loamy sand, 8 to 15 percent slopes, very stony Pomroy, very stony-----	Slight	Moderate: Excess Runoff
773B: Warba-Cromwell complex, 1 to 8 percent slopes Warba-----	Moderate: low adsorption	Slight
Cromwell-----	Severe: low adsorption, seepage	Slight
773E: Warba-Cromwell complex, 8 to 25 percent slopes Warba-----	Slight	Severe: Excess Runoff
Cromwell-----	Severe: seepage	Moderate: Excess Runoff
788: Cathro-Seelyeville complex Cathro-----	Severe: wetness	Severe: artificial drainage
Seelyeville-----	Severe: wetness	Severe: artificial drainage

* See footnote at end of table

Table Z.--Soil Pesticide Loss Potential--Continued

Map symbol and soil name	Pesticide Loss Potential - Leaching	Pesticide Loss Potential - Runoff
797: Mooselake and Lupton soils		
Mooselake-----	Severe: wetness, seepage	Severe: artificial drainage
Lupton-----	Severe: wetness	Severe: artificial drainage
799: Bowstring-Seelyeville complex, frequently flooded		
Bowstring, frequently flooded-----	Severe: wetness	Severe: flooding
Seelyeville, frequently flooded-----	Severe: wetness	Severe: flooding
870B: Itasca-Goodland complex, 1 to 8 percent slopes		
Itasca-----	Moderate: low adsorption	Slight
Goodland-----	Moderate: seepage, low adsorption	Slight
870C: Itasca-Goodland complex, 8 to 15 percent slopes		
Itasca-----	Moderate: low adsorption	Moderate: Excess Runoff
Goodland-----	Moderate: seepage, low adsorption	Moderate: Excess Runoff
928B: DeMontreville-Mahtomedi-Cushing complex, 2 to 8 percent slopes		
Demontreville-----	Severe: seepage, low adsorption	Slight
Mahtomedi-----	Severe: low adsorption, seepage	Slight
Cushing-----	Severe: low adsorption	Slight

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Table Z.--Soil Pesticide Loss Potential--Continued

Map symbol and soil name	Pesticide Loss Potential - Leaching	Pesticide Loss Potential - Runoff
928C: DeMontreville-Mahtomedi-Cushing complex, 8 to 15 percent slopes		
Demontreville-----	Severe: seepage, low adsorption	Moderate: Excess Runoff
Mahtomedi-----	Severe: low adsorption, seepage	Moderate: Excess Runoff
Cushing-----	Severe: low adsorption	Moderate: Excess Runoff
928E: DeMontreville-Mahtomedi-Cushing complex, 15 to 40 percent slopes		
Demontreville-----	Moderate: low adsorption	Severe: Excess Runoff
Mahtomedi-----	Severe: seepage	Moderate: Excess Runoff
Cushing-----	Slight	Severe: Excess Runoff
1002: Fluvaquents, frequently flooded Fluvaquents, frequently flooded-----	Not rated	Not rated
1141: Runeberg loam, acid substratum, depressional Runeberg, acid substratum, depressional-----	Severe: wetness	Slight
1151B: Blowers sandy loam, acid substratum, 1 to 5 percent slopes Blowers, acid substratum-----	Moderate: wetness, low adsorption	Slight
1153B: Huntersville loamy sand, acid substratum, 1 to 6 percent slopes Huntersville, acid substratum-----	Severe: seepage	Slight
1155: Staples loamy sand, acid substratum Staples, acid substratum-----	Severe: wetness, seepage	Slight
1157: Paddock loam, acid substratum Paddock, acid substratum-----	Severe: wetness	Slight

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Table Z.--Soil Pesticide Loss Potential--Continued

Map symbol and soil name	Pesticide Loss Potential - Leaching	Pesticide Loss Potential - Runoff
1160B: Redeye loamy sand, acid substratum, 1 to 6 percent slopes Redeye, acid substratum-----	Severe: seepage	Slight
1160C: Redeye loamy sand, acid substratum, 6 to 12 percent slopes Redeye, acid substratum-----	Severe: seepage	Moderate: Excess Runoff
1943: Roscommon loamy sand Roscommon-----	Severe: wetness, seepage	Severe: artificial drainage
1956: Staples loamy sand Staples-----	Severe: wetness, seepage	Slight
1957B: Friendship loamy sand, loamy substratum, 1 to 6 percent slopes Friendship, loamy substratum-----	Severe: low adsorption, seepage	Slight
1970B: Menahga loamy sand, till substratum, 2 to 8 percent slopes Menahga, till substratum-----	Severe: low adsorption, seepage	Slight
1970C: Menahga loamy sand, till substratum, 8 to 15 percent slopes Menahga, till substratum-----	Severe: low adsorption, seepage	Moderate: Excess Runoff
1978: Nokay loam, very stony Nokay, very stony-----	Severe: wetness	Slight
1995B: Bergkeller sandy loam, 1 to 6 percent slopes Bergkeller-----	Severe: low adsorption	Slight
1996: Cromwell sandy loam, moderately wet Cromwell, moderately wet-----	Severe: low adsorption, seepage	Slight

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Table Z.--Soil Pesticide Loss Potential--Continued

Map symbol and soil name	Pesticide Loss Potential - Leaching	Pesticide Loss Potential - Runoff
A10: Glossaqualfs Glossaqualfs-----	Severe: wetness	Slight
A12: Warba-Aquic Eutroboralfs, loamy- Aeric Glossaqualfs, loamy, association, nearly level to gently rolling Warba-----	Moderate: low adsorption	Moderate: Excess Runoff
Aquic Eutroboralfs, loamy-----	Severe: seepage	Slight
Aeric Glossaqualfs, loamy-----	Severe: wetness	Slight
A13: Warba-Aquic Eutroboralfs, loamy- Aeric Glossaqualfs, loamy, association, nearly level to hilly Warba-----	Slight	Severe: Excess Runoff
Aquic Eutroboralfs, loamy-----	Severe: seepage	Slight
Aeric Glossaqualfs, loamy-----	Severe: wetness	Slight
A15: Typic Udipsamments-Arenic Eutroboralfs-Alfic Udispanments association, nearly level to gently rolling		
Typic Udipsamments-----	Severe: low adsorption, seepage	Slight
Arenic Eutroboralfs-----	Severe: seepage, low adsorption	Slight
Alfic Udipsamments-----	Severe: low adsorption, seepage	Slight
A16: Warba-Dystric Eutrochrepts-Typic Udispanments association, nearly level to gently rolling Warba-----	Slight	Slight
Dystric Eutrochrepts-----	Moderate: seepage	Slight

* See footnote at end of table

Table Z.--Soil Pesticide Loss Potential--Continued

Map symbol and soil name	Pesticide Loss Potential - Leaching	Pesticide Loss Potential - Runoff
Typic Udipsamments-----	Severe: low adsorption, seepage	Slight
A17: Menahga-Cutaway-Glossic Eutroboralfs association, rolling and hilly		
Menahga-----	Severe: seepage	Moderate: Excess Runoff
Cutaway-----	Moderate: low adsorption	Severe: Excess Runoff
Glossic Eutroboralfs-----	Slight	Moderate: Excess Runoff
A18: Arenic Eutroboralfs, nearly level to gently rolling		
Arenic Eutroboralfs-----	Severe: seepage, low adsorption	Slight
A19: Menahga loamy coarse sand, moraine, rolling and hilly		
Menahga, moraine-----	Severe: seepage	Moderate: Excess Runoff
A20: Typic Udipsamments, gravelly, rolling to very hilly		
Typic Udipsamments, gravelly-----	Severe: seepage	Moderate: Excess Runoff
E57: Zimmerman loamy fine sand, nearly level and undulating		
Zimmerman-----	Severe: low adsorption, seepage	Slight
E58: Graycalm-Typic Udipsamments association, nearly level and undulating		
Graycalm-----	Severe: low adsorption, seepage	Slight
Typic Udipsamments-----	Severe: low adsorption, seepage	Slight

* See footnote at end of table

Table Z.--Soil Pesticide Loss Potential--Continued

Map symbol and soil name	Pesticide Loss Potential - Leaching	Pesticide Loss Potential - Runoff
E59: Warba-Stuntz-Arenic Eutroboralfs association, nearly level and undulating		
Warba-----	Moderate: low adsorption	Moderate: Excess Runoff
Stuntz-----	Severe: wetness	Slight
Arenic Eutroboralfs-----	Severe: seepage	Slight
E60: Warba-Stuntz association, nearly level and undulating		
Warba-----	Moderate: low adsorption	Moderate: Excess Runoff
Stuntz-----	Severe: wetness	Slight
E61: Glossic Eutroboralfs, loamy, rolling and hilly		
Glossic Eutroboralfs, loamy-----	Slight	Moderate: Excess Runoff
E62: Warba-Histosols association, nearly level to gently rolling		
Warba-----	Moderate: low adsorption	Moderate: Excess Runoff
Histosols-----	Not rated	Not rated
E63: Aquic Eutroboralfs, clayey subsoil, nearly level and undulating		
Aquic Eutroboralfs, clayey subsoil----	Moderate: wetness	Moderate: Excess Runoff
E65: Aeric Glossaqualf, loamy		
Aeric Glossaqualfs, loamy-----	Severe: wetness	Slight
F76: Warba very fine sandy loam, nearly level and undulating		
Warba, nearly level-----	Moderate: low adsorption	Slight
F77: Warba very fine sandy loam, rolling and hilly		
Warba, rolling-----	Slight	Severe: Excess Runoff

* See footnote at end of table

Table Z.--Soil Pesticide Loss Potential--Continued

Map symbol and soil name	Pesticide Loss Potential - Leaching	Pesticide Loss Potential - Runoff
K22: Alfic Udipsamments, nearly level and undulating Alfic Udispamments-----	Severe: low adsorption, seepage	Slight
K25: Eutroboralfs-Typic Ochraqualfs association, nearly level and undulating Eutroboralfs-----	Severe: seepage, low adsorption	Slight
Typic Ochraqualfs-----	Severe: wetness	Slight
K27: Aquic Eutroboralfs, loamy, nearly level and undulating Aquic Eutroboralfs, loamy-----	Moderate: wetness, low adsorption	Slight
K28: Aquic Eutroboralfs, silty, nearly level and undulating Aquic Eutroboralfs, silty-----	Moderate: wetness, low adsorption	Slight
K30: Typic Ochraqualfs, clayey Typic Ochraqualfs, clayey-----	Severe: wetness	Slight
K31: Suomi-Aeric Glossaqualfs, loamy, association, nearly level and undulating Suomi-----	Moderate: wetness	Slight
Aeric Glossaqualfs, loamy-----	Severe: wetness	Slight
K35: Typic Ochraqualfs, ponded Typic Ochraqualfs, ponded-----	Severe: wetness	Severe: artificial drainage
M-W: Water, miscellaneous Water, miscellaneous-----	Not rated	Not rated
N77: Udipsamments, nearly level and undulating Udipsamments-----	Not rated	Not rated

* See footnote at end of table

Table Z.--Soil Pesticide Loss Potential--Continued

Map symbol and soil name	Pesticide Loss Potential - Leaching	Pesticide Loss Potential - Runoff
N78: Psammentic eutroboralfs, sandy, nearly level and undulating Psammentic Eutroboralfs, sandy, nearly level-----	Severe: low adsorption, seepage	Slight
N79: Psammentic eutroboralfs, sandy, rolling and hilly Psammentic Eutroboralfs, sandy, rolling-----	Severe: seepage	Moderate: Excess Runoff
N80: Cutaway-hiwood association, nearly level and undulating Cutaway-----	Severe: seepage, low adsorption	Slight
Hiwood-----	Severe: low adsorption, seepage	Slight
O92: Hiwood-Zimmerman association, nearly level to hilly Hiwood-----	Severe: low adsorption, seepage	Slight
Zimmerman-----	Severe: seepage	Moderate: Excess Runoff
O93: Eutroboralfs, nearly level and undulating Eutroboralfs-----	Severe: seepage, low adsorption	Slight
O94: Redby fine sand Redby-----	Severe: low adsorption, seepage, wetness	Slight
O95: Humaquepts Humaquepts-----	Severe: wetness, seepage	Severe: artificial drainage

* See footnote at end of table

Table Z.--Soil Pesticide Loss Potential--Continued

Map symbol and soil name	Pesticide Loss Potential - Leaching	Pesticide Loss Potential - Runoff
O96: Mollic Fluvaquents, frequently flooded Mollic Fluvaquents, frequently flooded	Severe: wetness, seepage	Severe: flooding
O97: Humaquepts, sandy Humaquepts, sandy-----	Severe: wetness, seepage	Severe: artificial drainage
W: Water Water-----	Not rated	Not rated
X01: Histosols, depressional Histosols, depressional-----	Not rated	Not rated
X02: Typic borohemists, acid Borohemists, acid-----	Severe: wetness, seepage	Slight
X03: Typic borohemists, nonacid-typic borosaprists association Borohemists, nonacid-----	Severe: wetness	Severe: artificial drainage
Borosaprists-----	Severe: wetness	Severe: artificial drainage
X04: Typic borosaprist-bowstring association Borosaprists, frequently flooded-----	Severe: wetness	Severe: flooding
Bowstring, frequently flooded-----	Severe: wetness	Severe: flooding
X05: Typic borohemists, nonacid Borohemists, nonacid-----	Severe: wetness	Severe: artificial drainage
XW1: Aqualfs Aqualfs-----	Severe: wetness, seepage	Slight

* Miscellaneous map units such as Gravel pits and Urban land and map units at a higher level of classification are not rated and are not included in this table.