

TABLE 14.1. Anticipated benefits of introducing reduced tillage for various hydrologic soil groups (summarized from [3])

Hydrologic Soil Group	Infiltration characteristics	Water transmission	Benefits from reduced tillage
A	High	High	Unknown
B	Moderate	Moderate	High
C	Slow	Slow	High
D	Slow	Very slow	Low

TABLE 14.2. A comparison of the advantages and disadvantages of both the direct and indirect methods of determining soil water content.

	METHOD	
	Direct Measurement	Indirect Measurement ¹
ADVANTAGES:		
Easy to use	X	X
Does not require calibration	X	
Low cost		X
Durable		X
Easy to install		X
Instant, high-resolution soil water content measurement		X
Allows for continuous data collection		X
DISADVANTAGES:		
Destructive	X	
Time consuming	X	
Requires oven and balance	X	
Sensitive to soil texture		X
Requires destructive installation		X
Sensitive to air gaps in soil contact		X
Requires calibration		X

¹Some of the stated advantages and disadvantages of indirect measuring are dependent on the type of dielectric sensor used. In particular, ease of use, cost and sensitivity to soil structure can vary depending on the sensor. Discuss the options with a knowledgeable consultant or Extension specialist.

TABLE 14.3. Dielectric constants for various components of the soil

Component	Dielectric Constant
Air	1
Soil minerals	3–7
Organic matter	2–5
Ice	5
Water	80