TABLE 3.1. Increases in soil organic matter content and water-stable aggregates in a central Alabama soil after 10 years of in-row subsoiling to a 15-inch depth compared to disking and chisel plowing [54]

	Soil organic matter[1]		Water-stable aggregates
	Depth (inches)		
	0–½	0–1	
TILLAGE	**PERCENT**		
Conventional: disking and chisel plowing	0.9	0.9	37
Non-inversion: in-row subsoiling to a depth of 15 inches	1.9	1.5	58

[1] Soil organic matter estimated from total soil carbon content multiplied by a 1.724 factor.

TABLE 3.2. Carbon to nitrogen (C:N) ratios of some commonly used cover crops and manures[1]

Cover crops	C:N ratio
Mature cereal rye (heading)	40 [41]
Young cereal rye (before boot stage)	14 [36]
Wheat straw	100 [7]
Crimson clover (mid-bloom)	17 [41]
Hairy vetch (early-bloom)	11 [41]
Cereal rye/crimson clover	28 [41]
Cereal rye/hairy vetch	21 [41]
Cowpeas	13 [16]
Manures	**C:N ratio**
Poultry litter	14 [46]
Dairy manure (solids)	13 [46]
Swine manure	14 [46]

[1] The superscript numbers in brackets refer to the reference list number for the C:N ratio.

TABLE 3.3. The Soil Conditioning Index (SCI) for several management scenarios in the Southern Piedmont region [4]

Location	Soil series	Soil texture	Slope (percent)	Scenario	SCI
Watkinsville, GA	Cecil	Sandy loam	4	Monoculture cotton, spring chisel tillage	-1.1
				Monoculture cotton, fall chisel tillage	-1.8
				Monoculture cotton, no-till	0.12
				Cotton>annual rye, no-till	0.36
				Cotton>corn>corn>tall fescue (pasture years)	0.61

TABLE 3.4. The Soil Conditioning Index (SCI) for several management scenarios in the Southern Coastal Plain region [4]

Location	Soil series	Soil texture	Slope (percent)	Scenario	SCI
SC	Norfolk	Loamy sand	3	Conventional tillage, continuous cotton	-0.41
				No-till, continuous cotton	0.44
				No-till, cotton>annual rye>corn>annual rye	0.6
SC	Norfolk	Loamy sand	3	Conventional tillage, continuous cotton	-0.84
				No-till, continuous cotton	0.28
				No-till, cotton>annual rye>corn>annual rye	0.54
				Paratill, continuous cotton	-0.27
				Paratill, cotton>annual rye>corn>annual rye	0.45
				Paratill, corn>sunn hemp summer cover crop> wheat>cotton>white lupin/crimson clover	0.56

TABLE 3.5. Representative management scenarios and Soil Conditioning Index (SCI) for the Southern Appalachian Ridges and Valleys region [4]

Location	Soil series	Soil texture	Slope (percent)	Scenario	SCI [4]
AL	Decatur	Silty loam	3	Continuous cotton, fall chisel plow	-2.6
				Continuous cotton, no tillage	-0.36
				Cotton>annual rye>corn>annual rye	0.17
				Cotton>annual rye>corn>annual rye, five tons per acre of poultry litter prior to cotton	0.21
				Cotton>annual rye>corn>annual rye, paratill prior to cotton	0.09