USDA Soil Aggregate Test
by USDA

Aggregate stability refers to the ability of soil aggregates to resist degradation. Raindrops, flowing water, windblown sand grains, vehicle traffic, and trampling can break apart soil aggregates, exposing organic matter to decomposition and loss.

Stable aggregates are critical to erosion resistance, water availability, and root growth. Soil with stable aggregates at the surface are more resistant to water erosion than other soils, both because soil particles are less likely to be detached and because the rate of water infiltration tends to be higher on well aggregated soils.

Unstable aggregates disperse during rainstorms, then form a hard physical crust when the soil dries. Physical crusts restrict seedling emergence because they have few pores for air and water entry into the soil. The crusts result in more runoff, more erosion, and less available water.

Aggregated soils hold more water than other soils and provide pores for root growth. Large, stable aggregates can resist degradation and removal by wind better than small, weak ones. (USDA Rangeland Soil Quality Information Sheet, May 2001).

The following are the results of the water stable aggregrate test conducted by the **USDA National Soil Tilth Laboratory**.

Water Stable Aggregate Size Distribution %

Aggregate	2mm	250um	90um	53um	L53um	Macro-agr.	MWD*
0% LazyMan	15.84	8.49	39.77	12.96	20.62	24.33	0.45mm
2% LazyMan	23.09	8.88	35.25	12.23	18.58	31.97	0.58mm
4% LazyMan	23.93	10.63	33.00	14.23	16.19	33.33	0.61mm

Take note of the increase in the 2mm, 250um, and the macro-aggregates (Macro-agr.) after treatment with 2 and 4% LazyMan. These larger water stable aggregates increased in number after LazyMan applications!

*Mean Weight Diameter- An increased proportion of larger water stable aggregates is reflected by an increase in the mean weight diameter (MWD). The increase in MWD directly relates to an increase in soil pore space thus allowing more space for atmospheric air and soil water to occupy the pore space. This creates more macropore space and lowers soil bulk density.