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Gone With The Wind

Soil erosion is a major problem for farming communities like the San Luis Valley in Colorado. The purpose of this scientific experiment was to determine the affect of wind erosion on dragged, chiseled, rowed fields. A small scale crops circle for testing was created with a diameter of 61 centimeters. Vacuum exhaust and a wind tunnel were used to produce an average wind speed of 25.88 miles per hour over three miniature crop circles surfaces representing dragged, chiseled, and rowed fields. One hundred fifty grams of soil were spread evenly other the three surfaces and blown out for 5 seconds, five trials per surface. All trials were sieved to establish percent soil texture classifications before and after experimentation. The soil classifications were gravel, greater than 2mm; coarse sand, greater than 0.833mm and less than 2mm; fine and medium sand, greater than 0.053mm and less than 0.833mm; and silt and clay, less than 0.053mm. I hypothesized that the drag field soil would be affected most by wind erosion, followed by the chisel field, and last the rowed field. The experimental results partially supported my hypothesis with the drag field having the greatest average amount of erosion at 26.71% and the chisel field having the least amount of wind erosion at 22.95%. The field surface representing rows fell between chisel and drag surfaces at 24.1% soil loss to wind erosion. The results indicate that farmers can prevent wind erosion on crop circles by chiseling fields and not dragging them flat after harvest.