

WIND EROSION

By NORMAN BRUS, Soil Conservationist
Delaware Soil Conservation Service

With the windy days that we have been having lately, wind erosion is quite visible. Soil darkens the sky, and in some cases, makes driving on county roads dangerous.

There are several reasons why wind erosion seems to be so great this year. First of all, it seems to be windy so often this year. Second, the surface of the soil is generally in a dry condition. The field may be too wet for fieldwork because of subsurface moisture, but generally the surface is dry. The third reason is there are a lot of fields out there with essentially no residue cover on the soil surface.

It is easily seen that some soils are much more prone to wind erosion than others. Soils with a high sand content, especially fine sand, are most easily moved by the wind. In general, as the aggregate size of the soil gets larger, the potential for wind erosion decreases.

Many fields are smooth and bare this year. Fields which are rough or have chisel ridges which are perpendicular to the wind direction are less likely to lose their soil because of wind erosion. This is because the soil particles roll along the ground before they become air born. Clods and ridges form holes where these soil particles can fall into and be out of the wind currents. Crop residue has this same effect as clods or ridges. This is why leaving crop residue on the surface is such an efficient method of reducing wind erosion.

Wind erosion has other detrimental effects besides poor visibility on county roads. Organic matter and other important soil fractions are often removed. In a few weeks, after the corn and soybeans are a couple inches tall, wind blown soil will have the potential energy to cut these plants off at ground level, slowing growth or even killing the plant.

What can be done to reduce this problem? In many fields it is too late to do anything this year. Plant residue is already buried and the crop is planted. In these instances, all we can hope for is that the crop grows quickly to protect the soil surface from the forces of wind. To prevent this from happening again next year, the most efficient method is to reduce tillage so that residue is left on the soil surface after planting. This means you must start this fall by not fall plowing areas which are prone to wind erosion since plowing buries 95% of the residue present. Next spring, tillage will have to be limited so as not to bury most of the remaining residue during secondary tillage.

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Lack of residue on soil surface

Wind erosion causes problems



Common site this spring

DUST HAS BEEN A PROBLEM this spring, due to strong winds during the past month. However, Friday's downpour of rain helped the situation at least temporarily. The above photo showing wind erosion in the form of a cloud of dust with piles of sand resembling snowbanks was taken in southeast Delaware

county. Norm Brus, soil conservationist with the Delaware Soil Conservation Service, said a considerable amount of topsoil was lost throughout the county as a result of windy weather conditions.

(photo by SCS)

Some soils more prone to erosion

With many windy days this spring in Delaware county, wind erosion is quite visible. Soil darkens the sky, and in some cases, makes driving on county roads dangerous, according to Norman Brus, soil conservationist with the Delaware Soil Conservation Service.

There are several reasons why wind erosion seems to be so great this year. Brus said, first of all, it seems to be windy so often. Second, the surface of the soil is generally in a dry condition. The field may be too wet for fieldwork because of subsurface moisture, but generally the surface is dry. The third reason is there are lot of fields out there with essentially no residue cover on the soil surface.

Brus said, it is easily seen that some soils are much more prone to wind erosion than others. Soils with a high sand content, especially fine sand, are most easily moved by the wind. In general, as the aggregate size of the soil gets larger, the potential for wind erosion decreases.

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Many fields are smooth and bare this year. Fields which are rough or have chisel ridges which are perpendicular to the wind direction are less likely to lose their soil because of wind erosion. "This is because the soil particles roll along the ground before they become air born. Clods and ridges form holes where these soil particles can fall in to and be out of the wind currents. Crop residue has this same effect as clods or ridges. This is why leaving crop residue on the surface is such an efficient method of reducing wind erosion," Brus said.

Wind erosion has other detrimental effects besides poor visibility on county roads. Organic matter and other important soil fractions are often removed. In a few weeks, after the corn and soybeans are a couple of inches tall, wind blown soil will have the potential energy to cut these plants off at a ground level, slowing growth or even killing the plant. As far as what can be done to reduce this problem, Brus said, in many fields it is too late to do anything this year.. Plant residue is already buried and the crop is planted. "In these instances, all we can hope for is that the crop grows quickly to protect the soil surface from the forces of wind. To prevent this from happening again next year, the most efficient method is to reduce the tillage so that residue is left on the soil surface after planting. This means you must start this fall by not fall plowing areas which are prone to wind

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Erosion--

erosion since plowing buries 95 percent of the residue present," Brus explained. Next spring, tillage will have to be limited so as not to bury most of the remaining residue during secondary tillage, he noted.