**Conservation Practice Effects**

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| **Surface Roughening (Ac) 609**  **Definition: Performing tillage operations that create random roughness of the soil surface.**  **Major Resource Concerns Addressed: Wind erosion.**  **Benchmark Condition: Level fallow cropland in wind prone area.**  **Date: October, 2016 Developer/Location: Hal Gordon, OR** | |
| **Positive Effects** | **Negative Effects** |
| **Soil**   * **Wind erosion is reduced.** * **Maintained soil organic matter.**   **Water**   * **Reduced wind erosion transport of soil-adsorbed nutrients, pesticides and salts to surface water.** * **Reduced offsite sediment transport.**   **Air**   * **Improved particulate matter air quality.** * **Vegetation removes CO2 from the air and stores it in the form of carbon in the plants and soil.**   **Plants**   * **None.**   **Animals**   * **Noon.**   **Energy**   * **None.**   **Human**   * **Reduced time managing sediment.** * **Improved agricultural operation flexibility and timing with protected agricultural land.** * **Reduced labor repairing critical erosion areas and removing sediment.** * **Create sustainability of natural resources that support your business.** * **Increase the property value (real estate) of your property.** * **Conserve soil and water for periods of drought and future use.** * **Prevent off-site negative impacts.** * **Comply with environmental regulations.** * **Save time, money and labor.** * **Promote family health and safety.** * **Make land more attractive and promote good stewardship.** * **Increased profitability in the long run.** | **Land**   * **Cultural resources may be protected from erosion.** * **No change in land use or land taken out of production.**   **Capital**   * **No additional field equipment required.** * **Additional tillage passes over the field.**   **Labor**   * **Increase in tillage operations.**   **Management**   * **Increased time managing crop production.**   **Risk**   * **None.** |
| **Net Effect: Reduced wind erosion at a low cost.** | |

**Commonly Associated Practices:** Conservation Crop Rotation, Cross Wind Ridges, Cross Wind Trap Strips, Herbaceous Wind Barriers, Integrated Pest Management, Nutrient Management, Residue and Tillage Management-Mulch Till, Residue and Tillage Management-No Till/Strip Till/Direct Seed, Residue and Tillage Management-Ridge Till, Residue Management, Seasonal, Windbreak/Shelterbelt Establishment, Windbreak/Shelterbelt Renovation.

**Note:** This worksheet contains general talking points for the conservation planner to discuss with the land user. It is the first step towards an economic or financial analysis. The second step would include identifying a specific site for analysis at the farm or field level, editing the template for local conditions, adding units and quantities of farm inputs and outputs. The third step in the economic analysis is to place a dollar value on as many variables as possible, put all units in the same time frame, using amortization ($/Acres/Year) or net present value ($/Acre), so benefits and costs can be compared. The fourth and final step would be to combine several conservation practices into a conservation system, which is how most conservation practices are applied at the field level. Data for the worksheet comes from the land user, conservation planner, technical specialist and local agricultural supply vendors and contractors. See Economics Technical Note: TN 200-ECN-1, Basic Economic Analysis Using T-Charts (August 2013) for more information.