Sustainable Farms and Fields

Example Practices that Reduce Emissions

SB 5947 was introduced during the 2019 legislative session. The legislative intent of the bill is, "...to provide financial assistance to farmers and ranchers who voluntarily adopt practices that reduce fossil-fuel energy usage on farms and ranches and increase the quantity of carbon stored on their land."

This document illustrates practices that reduce emissions and could be funded by the proposed Sustainable Farms and Fields grant program.

Direct Seeding

Direct seeding is a practice with multiple environmental benefits.

Rather than till the soil multiple times to incorporate stubble from the previous crop, break up clods, and disturb weeds, farmers who direct seed can plant directly into stubble and apply seeds and fertilizer in just one or two passes. As a result, farmers need to use less fuel.

But the benefits are greater than the financial savings from decreased use of fuel; soil health also improves. The crop stubble creates a mulch on the soil surface which helps retain water and the roots of the previous crop decompose in place, creating greater soil porosity and supporting the beneficial microorganisms. With the ability of the soil to retain more water, farms experience less erosion and nearby rivers have better water quality. Leaving the crop stubble in place also builds soil organic matter and sequesters carbon in the soil.

Bob Sievers, a third generation grower in the Palouse, told the Spokesman Review that he as seen yields for wheat, lentils, and canola increase by 10 - 20 percent since switching to direct seeding on his 2,700 acres.[1]

Learn more about the impact that direct seeding has had for Washington farmers: https://tinyurl.com/directseedwa

[1] Kramer, B. (June 13, 2016). *'Direct seeding', or no-till farming, one way to cut down on erosion.* Retrieved from https://www.spokesman.com/stories/2016/jun/13/direct-seeding-or-no-till-farming-one-way-to-cut-d/.

Direct seeding is a practice that could be funded through a Sustainable Farms and Fields Grant Program

Example SF&F project proposals: Down payment for the purchase of a no-till seed drill
Estimated atmospheric carbon reduction: reduced emissions of 1000-1320 lb.CO_2 per acre per year[2] and sequestered 567 lb CO_2 per acre per year[3]
Estimated cost: $50,000 down payment for the purchase of a no-till seed drill[4]
Other conservation benefits: Soil health, soil organic matter, erosion control, water quality, salmon protection

This document was prepared by Carbon Washington. For more information, contact Noa Kay at noa@carbonwa.org.

Photo credit: USDA National Resources Conservation Service, Using No-Till This Fall

[2] Pacific Northwest Direct Seed Alliance. Retrieved from http://www.directseed.org/about/why-direct-seed/. Converted from tons to pounds.
[3] COMET Planner. Retrieved from http://comet-planner.com/ using the Conservation Practice Standards "Residue and Tillage Management - No Till" on 1000 acres of non-irrigated land that transitions from intensive tillage to no till in Walla Walla County, WA on 11/15/2019.
[4] Painter, K. (2010). *Direct Seed Mentoring Project: An Economic Comparison of Direct Seed and Conventional Growers in the Washington/Idaho Palouse.* Estimated a down payment of 25% for a $200,000 direct seed drill based on down payment criteria from Snohomish and Spokane Conservation District Direct Seed Loan Programs.