**Supplementary material**

**Table S1: Results from the multivariate Probit model (without spatially mediated peer effects)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Variable** |  |  |  |
|  | **Conservation tillage** | **Cover crops** | **Diverse crop rotation** |
| *Location variables* | Coefficient  (SE) | Coefficient  (SE) | Coefficient  (SE) |
| Crop district 30 | -0.729\*\*  (0.29) | -0.110  (0.21) | 0.324  (0.25) |
| Crop district 50 | 0.868  (0.54) | 0.207  (0.27) | 0.185  (0.29) |
| Crop district 60 | -0.925\*\*\*  (0.28) | -0.006  (0.21) | -0.356  (0.24) |
| Crop district 90 | -1.005\*\*\*  (0.29) | -0.04  (0.21) | -0.399  (0.24) |
| Distance to the nearest ethanol plant (miles) |  |  | 0.019\*\*  (0.01) |
| *Other control variables* |  |  |  |
| Age | 0.013\*\*\*  (0.01) | -0.008\*  (0.00) | 0.00  (0.01) |
| College education dummy | 0.255\*  (0.14) | 0.033  (0.13) | 0.077  (0.15) |
| Total acres under operation in 2017 (,000 acres) | 0.100\*  (0.05) | 0.085\*\*  (0.04) | 0.097\*\*  (0.05) |
| Own pasture acres (0/1) | -0.016  (0.13) | 0.327\*\*\*  (0.13) | 0.324\*\*  (0.14) |
| Perception of environmental benefits of the practice (index) | 3.800\*\*\*  (0.56) | 2.790\*\*\*  (0.58) | 1.643\*\*\*  (0.63) |
| Family network | -0.238  (0.29) | 0.036  (0.27) | -0.088  (0.30) |
| Organization network | 0.444  (0.27) | 0.702\*\*\*  (0.27) | -0.208  (0.30) |
| Constant | -2.992\*\*\*  (0.62) | -2.462\*\*\*  (0.63) | -3.02\*\*\*  (0.65) |
| N | 507 | 507 | 507 |

\*\*\*, \*\*, \* indicate statistical significance at 1%, 5%, and 10% respectively.

**Table S2: Results from the multivariate Probit model with spatially mediated peer effects (50-mile radius peer group)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Variable** |  |  |  |
|  | **Conservation tillage** | **Cover crops** | **Diverse crop rotation** |
| *Location variables* | Coefficient  (SE) | Coefficient  (SE) | Coefficient  (SE) |
| Crop district 30 | -0.29  (0.35) | -0.82\*\*\*  (0.30) | 0.31  (0.25) |
| Crop district 50 | 0.96\*  (0.57) | 0.46  (0.30) | 0.38  (0.29) |
| Crop district 60 | -0.14  (0.41) | -0.63\*\*  (0.28) | -0.07  (0.32) |
| Crop district 90 | -0.35  (0.38) | -0.42\*  (0.25) | 0.00  (0.33) |
| *Spatial peer effect variables* |  |  |  |
| % of adopters in 50-mile radius | 0.03\*\*\*  (0.01) | -0.07\*\*\*  (0.02) | 0.02  (0.01) |
| *Other control variables* |  |  |  |
| Age | 0.01\*\*\*  (0.01) | -0.01\*\*  (0.01) | 0.00  (0.01) |
| College education dummy | 0.21  (0.15) | 0.05  (0.14) | 0.07  (0.15) |
| Total acres under operation in 2017 (,000 acres) | 0.07  (0.05) | 0.11\*\*  (0.05) | 0.11\*\*  (0.05) |
| Own pasture acres (0/1) | -0.09  (0.14) | 0.37\*\*\*  (0.14) | 0.33\*\*  (0.14) |
| Perception of environmental benefits of the practice (index) | 3.76\*\*\*  (0.60) | 2.65\*\*\*  (0.63) | 1.63\*\*\*  (0.62) |
| Family network | -0.10  (0.31) | 0.07  (0.29) | -0.06  (0.30) |
| Organization network | 0.42  (0.29) | 0.65\*\*  (0.29) | -0.26  (0.29) |
| Constant | -5.24\*\*\*  (1.02) | 1.64  (1.20) | -2.58\*\*\*  (0.82) |
| N | 435 | 435 | 435 |

\*\*\*, \*\*, \* indicate statistical significance at 1%, 5%, and 10% respectively.

**Table S3: Results from the multivariate Probit model (with distance to ethanol plant variable and no spatial peer effect variable for DCR)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Variable** |  |  |  |
|  | **Conservation tillage** | **Cover crops** | **Diverse crop rotation** |
| *Location variables* | Coefficient  (SE) | Coefficient  (SE) | Coefficient  (SE) |
| Crop district 30 | -0.62\*  (0.32) | -0.06  (0.24) | 0.31  (0.24) |
| Crop district 50 | 0.79  (0.55) | 0.29  (0.30) | 0.19  (0.29) |
| Crop district 60 | -0.63\*  (0.34) | -0.02  (0.23) | -0.36  (0.24) |
| Crop district 90 | -0.80\*\*  (0.32) | -0.03  (0.23) | -0.41\*  (0.24) |
| *Spatial peer effect variables* |  |  |  |
| Distance to the nearest ethanol plant (miles) | No | No | 0.02\*\*\*  (0.01) |
| % of adopters in 15 mile radius | 0.01\*\*\*  (0.00)) | 0.00  (0.00) | No |
| *Other control variables* |  |  |  |
| Age | 0.01\*\*\*  (0.01) | -0.01\*\*  (0.01) | 0.00  (0.01) |
| College education dummy | 0.20  (0.15) | 0.05  (0.14) | 0.08  (0.15) |
| Total acres under operation in 2017 (,000 acres) | 0.08  (0.05) | 0.11\*\*  (0.05) | 0.10\*\*  (0.05) |
| Own pasture acres (0/1) | -0.10  (0.14) | 0.32\*\*  (0.13) | 0.32\*\*  (0.14) |
| Perception of environmental benefits of the practice (index) | 3.81\*\*\*  (0.60) | 2.65\*\*\*  (0.64) | 1.64\*\*\*  (0.63) |
| Family network | -0.08  (0.30) | 0.11  (0.28) | -0.07  (0.30) |
| Organization network | 0.38  (0.29) | 0.58\*\*  (0.28) | -0.23  (0.30) |
| Constant | -3.90\*\*\*  (0.77) | -2.22\*\*\*  (0.72) | -2.36\*\*\*  (0.69) |
| N | 435 | 435 | 435 |

\*\*\*, \*\*, \* indicate statistical significance at 1%, 5%, and 10% respectively.

**Table S4: Marginal effects from the multivariate Probit model (with distance to ethanol plant variable and no spatial peer effect variable for DCR)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Variable** |  |  |  |
|  | **Conservation tillage** | **Cover crops** | **Diverse crop rotation** |
| *Location variables* | Coefficient  (SE) | Coefficient  (SE) | Coefficient  (SE) |
| Crop district 30 | 0.174\*\*  (0.09) | -0.023  (0.08) | 0.090  (0.07) |
| Crop district 50 | 0.222  (0.15) | 0.103  (0.10) | 0.054  (0.08) |
| Crop district 60 | -0.176\*  (0.09) | -0.006  (0.08) | -0.104  (0.07) |
| Crop district 90 | -0.225\*\*  (0.09) | -0.010  (0.08) | -0.117\*  (0.07) |
| *Spatial peer effect variables* |  |  |  |
| Distance to the nearest ethanol plant (miles) | No | No | 0.006\*\*\*  (0.00) |
| % of adopters in 15 mile radius | 0.003\*\*\*  (0.00) | 0.000  (0.00) | No |
| *Other control variables* |  |  |  |
| Age | 0.003\*\*\*  (0.00) | -0.004\*\*  (0.00) | 0.000  (0.00) |
| College education dummy | 0.056  (0.04) | 0.019  (0.05) | 0.022  (0.04) |
| Total acres under operation in 2017 (,000 acres) | 0.028  (0.040) | 0.039\*\*  (0.02) | 0.028\*\*  (0.01) |
| Own pasture acres (0/1) | -0.028  (0.040) | 0.113\*\*  (0.05) | 0.091\*\*  (0.04) |
| Perception of environmental benefits of the practice (index) | 1.067\*\*\*  (0.13) | 0.935\*\*\*  (0.21) | 0.470\*\*\*  (0.17) |
| Family network | -0.022  (0.08) | 0.037  (0.09) | -0.020  (0.08) |
| Organization network | 0.105  (0.08) | 0.205\*\*  (0.09\_ | -0.065  (0.09) |

\*\*\*, \*\*, \* indicate statistical significance at 1%, 5%, and 10% respectively.

**Figure S1: Location of ethanol plants in eastern South Dakota**

