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Supplemental Material for:

Luther, Z.R., Swinton, S.M., & Van Deynze, B. “What drives voluntary adoption of farming practices that can abate nutrient pollution?”
Journal of Soil and Water Conservation (published online in 2020)

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This is the supplemental material accompanies article “What drives voluntary adoption of farming practices that can abate nutrient pollution?” It contains six tables describing unweighted results from ordered probit analyses that sought to assess the determinants of farmers’ adoption decisions of conservation and precision agriculture practices using mail survey data from a sample of corn and soybean farmers in the U.S. Eastern Corn Belt. The tables are numbered A5 to A10, with numbers corresponding to the associated tables in the main article.

Results from unweighted ordered probit models

Table A5:
Attitudinal determinants of adoption of conservation practice and applicative precision technologies (unweighted ordered probit regression).

Variables	Cover Cropping	VR – Nitrogen	VR – P/K	VR – Seeding
Income	-0.186 (0.133)	-0.0725 (0.133)	-0.203 (0.135)	-0.164 (0.138)
Environmental	0.708*** (0.145)	-0.0370 (0.143)	-0.112 (0.146)	-0.116 (0.147)
Social status	-0.317 (0.220)	0.152 (0.220)	0.366 (0.223)	0.303 (0.228)
Pseudo R-squared	0.0879	0.0341	0.0602	0.101

Significance (t -test probability > 0): ***1%; **5%; *10%.
Standard errors in parentheses

Table A6:
Attitudinal determinants of adoption for temporal, non-spatial precision technologies and diagnostic precision technologies (unweighted ordered probit regression).

Variables	PSNT	Aerial Scouting	Soil Nutrient Mapping	Yield Mapping
Income	-0.155 (0.137)	-0.129 (0.137)	-0.351** (0.146)	-0.136 (0.140)
Environmental	0.172 (0.147)	-0.0589 (0.148)	-0.223 (0.158)	-0.143 (0.153)
Social status	0.172 (0.227)	0.397* (0.227)	0.655*** (0.241)	0.363 (0.234)
Pseudo R-squared	0.0741	0.116	0.0825	0.163

Significance (t -test probability > 0): ***1%; **5%; *10%.
Standard errors in parentheses

Table A7:
Determinants of adoption of conservation practice and applicative precision technologies (unweighted ordered probit regression).

Variables	Unit of Measure	Dependent Variables			
		Cover Cropping	VR – Nitrogen	VR – P/K	VR – Seeding
Cropland	Acres	-1.37e-05 (3.46e-05)	9.89e-05*** (3.63e-05)	0.000117*** (3.97e-05)	0.000188*** (3.91e-05)
Own land share	Proportion	-0.0977 (0.0995)	-0.0646 (0.0997)	-0.137 (0.101)	-0.146 (0.103)
Labor force	# of Persons	-0.00282 (0.00726)	-0.00848 (0.00776)	-0.0174** (0.00833)	-0.00429 (0.00751)
Livestock farm	Binary	0.172** (0.0831)	-0.0652 (0.0843)	-0.182** (0.0851)	-0.244*** (0.0866)
Age	Years	-0.00556* (0.00314)	-0.00701** (0.00317)	-0.00620* (0.00324)	-0.0169*** (0.00327)
Educational level	Integer	0.0237 (0.0409)	0.0432 (0.0411)	-0.0315 (0.0417)	0.0999** (0.0420)
Crop insurance enrollment	Proportion of crop acres	-0.0873 (0.0878)	-0.0554 (0.0885)	0.251*** (0.0884)	0.168* (0.0910)
Working lands conservation program participator	Binary	0.642*** (0.100)	-0.0447 (0.100)	0.101 (0.106)	0.0421 (0.106)
Set-aside conservation program participator	Binary	0.118 (0.0725)	-0.00180 (0.0726)	0.0695 (0.0744)	0.0679 (0.0742)
Bequeath intent	Binary	0.165** (0.0776)	0.167** (0.0779)	-0.0217 (0.0791)	0.161** (0.0799)
Illinois	Binary	-0.506*** (0.114)	-0.169 (0.114)	-0.0159 (0.116)	-0.287** (0.118)
Indiana	Binary	0.0381 (0.115)	-0.221* (0.117)	0.136 (0.119)	-0.0489 (0.120)
Ohio	Binary	0.174 (0.111)	-0.160 (0.113)	-0.137 (0.114)	-0.0682 (0.116)
Pseudo R-squared	-	0.0879	0.0341	0.0602	0.101

Significance (*t*-test probability > 0): ***1%; **5%; *10%.

Standard errors in parentheses

Table A8:
Determinants of adoption for temporal, non-spatial precision technologies and diagnostic precision technologies (unweighted ordered probit regression).

Variables	Unit of Measure	Dependent Variables			
		PSNT	Aerial Scouting	Soil Nutrient Mapping	Yield Mapping
Cropland	Acres	1.58e-05 (3.51e-05)	9.49e-05*** (3.62e-05)	5.83e-05 (4.63e-05)	0.000501*** (5.70e-05)
Own land share	Proportion	-0.177* (0.102)	-0.212** (0.102)	-0.147 (0.110)	-0.158 (0.105)
Labor force	# of Persons	0.0175* (0.00980)	0.0170 (0.0105)	0.0151 (0.0183)	-0.0204*** (0.00744)
Livestock farm	Binary	-0.0206 (0.0864)	-0.123 (0.0869)	-0.139 (0.0917)	-0.411*** (0.0880)
Age	Years	-0.00414 (0.00322)	-0.00816** (0.00324)	-0.0102*** (0.00359)	-0.0114*** (0.00346)
Educational level	Integer	-0.0302 (0.0421)	0.141*** (0.0419)	0.0758* (0.0453)	0.153*** (0.0434)
Crop insurance enrollment	Proportion of crop acres	0.114 (0.0912)	0.126 (0.0915)	0.243*** (0.0931)	0.240*** (0.0920)
Working lands conservation program participator	Binary	0.158 (0.101)	0.0749 (0.101)	0.215* (0.122)	0.0648 (0.113)
Set-aside conservation program participator	Binary	0.0753 (0.0741)	-0.0322 (0.0740)	0.0908 (0.0813)	0.0494 (0.0781)
Bequeath intent	Binary	0.202** (0.0804)	0.0923 (0.0797)	-0.0312 (0.0843)	0.258*** (0.0815)
Illinois	Binary	-0.0654 (0.116)	0.124 (0.118)	0.0689 (0.127)	0.128 (0.122)
Indiana	Binary	-0.124 (0.119)	0.229* (0.120)	0.0202 (0.129)	0.0861 (0.125)
Ohio	Binary	-0.173 (0.115)	0.0423 (0.117)	-0.214* (0.122)	-0.0532 (0.119)
Pseudo R-squared	-	0.0741	0.116	0.0825	0.163

Significance (t -test probability > 0): ***1%; **5%; *10%.

Standard errors in parentheses

Table A9:
Information access determinants of adoption of conservation practice and applicative precision technologies (unweighted ordered probit regression).

Variables	Unit of Measure	Dependent Variables			
		Cover Cropping	VR – Nitrogen	VR – P/K	VR – Seeding
Info: Extension	5-Point Likert	0.181*** (0.0600)	0.0298 (0.0603)	-0.0413 (0.0621)	0.0511 (0.0618)
Info: Faculty	5-Point Likert	-0.0901 (0.0568)	0.0940 (0.0572)	0.0809 (0.0590)	0.0829 (0.0583)
Info: Chemical Dealer	5-Point Likert	0.0174 (0.0601)	0.120** (0.0605)	0.246*** (0.0622)	0.0550 (0.0618)
Info: Seed Dealer	5-Point Likert	-0.102* (0.0590)	-0.0355 (0.0590)	0.00359 (0.0607)	-0.0258 (0.0603)
Info: Independent Consultant	Likert 5-Point	0.145*** (0.0373)	0.0934** (0.0376)	0.105*** (0.0393)	0.142*** (0.0383)
Info: Other Farmers	Likert 5-Point	0.0898** (0.0396)	0.0335 (0.0393)	-0.105*** (0.0402)	0.0401 (0.0405)
Info: Growers Associations	5-Point Likert	0.0623 (0.0502)	0.0145 (0.0500)	-0.00813 (0.0515)	0.0951* (0.0510)
Info: Web	5-Point Likert	0.0413 (0.0307)	0.0224 (0.0309)	0.0857*** (0.0314)	0.0606* (0.0315)
Info: Print	5-Point Likert	0.0252 (0.0399)	-0.0271 (0.0401)	0.0490 (0.0409)	0.000283 (0.0412)
Pseudo R-squared	-	0.0879	0.0341	0.0602	0.101

Significance (t -test probability > 0): ***1%; **5%; *10%.
Standard errors in parentheses

Table A10:
Information access determinants of adoption for temporal, non-spatial precision technologies and diagnostic precision technologies (unweighted ordered probit regression).

Variables	Unit of Measure	Dependent Variables			
		PSNT	Aerial Scouting	Soil Nutrient Mapping	Yield Mapping
Info: Extension	5-Point Likert	0.0315 (0.0613)	0.0382 (0.0613)	0.0231 (0.0681)	-0.0184 (0.0647)
Info: Faculty	5-Point Likert	0.0659 (0.0579)	0.117** (0.0577)	0.0628 (0.0648)	0.121** (0.0617)
Info: Chemical Dealer	5-Point Likert	0.107* (0.0616)	0.0308 (0.0615)	0.116* (0.0674)	0.136** (0.0655)
Info: Seed Dealer	5-Point Likert	0.00624 (0.0600)	0.0897 (0.0601)	0.0148 (0.0669)	-0.0727 (0.0647)
Info: Independent Consultant	5-Point Likert	0.205*** (0.0381)	0.148*** (0.0380)	0.123*** (0.0443)	0.199*** (0.0424)
Info: Other Farmers	5-Point Likert	0.0562 (0.0401)	-0.0103 (0.0403)	0.0617 (0.0438)	0.0101 (0.0424)
Info: Growers Associations	5-Point Likert	0.0647 (0.0508)	0.0234 (0.0507)	0.0645 (0.0571)	0.147*** (0.0546)
Info: Web	5-Point Likert	0.0463 (0.0314)	0.162*** (0.0316)	0.0568* (0.0343)	0.108*** (0.0324)
Info: Print	5-Point Likert	0.00316 (0.0411)	0.0364 (0.0413)	0.0442 (0.0440)	-0.0573 (0.0424)
Pseudo R-squared	-	0.0741	0.116	0.0825	0.163

Significance (t -test probability > 0): ***1%; **5%; *10%.

Standard errors in parentheses