

Table S1. Summary of empirical studies on adoption of sustainable farming practices in the EU.

Author(s) & Year Published	Area	Technology/Measure	Sample Size	Model	Farm Type
<i>Organic farming</i>					
Läpple & Van Rensburg (2011)	Ireland	Organic farming	546	Multinom logit	Various types (drystock)
Genius et al (2006)	Greece	Organic farming	237	Ordered probit	Multi-crop
Mzoughi (2011)	France	Organic farming	243	Multinom logit	Fruit & vegetables
Kallas et al.(2010)	Spain	Organic farming	120	Duration analysis	Vineyard
Burton et al. (2003)	UK	Organic horticulture	237	Duration analysis	Horticulture
Chatzimichael et al. (2014)	Greece & Germany	Organic farming	282	Probit	Horticulture, crops
Läpple & Kelley (2015)	Ireland	Organic farming	597	Bayesian probit	Various types (drystock)
Koesling et al. (2008)	Norway	Organic farming	1018	Multinomial logit	Dairy and crop
Tiffin and Balcombe (2011)	UK	Organic farming	237	Bayesian probit	Horticulture
Läpple & Kelley (2013)	Ireland	Organic farming	193	Probit	Drystock
Kaufmann et al. (2009)	Estonia & Latvia	Organic farming	4917	Agent-based modelling	Various
<i>Manure treatment and manure-based fertilizers</i>					
Gebrezgabher et al. (2015)	Netherlands	Manure separation	111	SUR/Ordered probit	Dairy
Zemo and Termansen (2018)	Denmark	Collective biogas investment	461	Mixed logit	Cattle and pigs
Pampuro et al. (2018)	Italy	Pelletized compost	82	No model	Various non-livestock
Hou et al. (2016)	EU ¹	Manure treatment	96	No model	Pigs, poultry, cattle
Rentalta et al. (2017)	Finland	Technological, service & business model	139	Linear regression	Horse farms

Case et al. (2017)	Denmark	Organic fertilizers	452	Probit	Arable, horticulture, & livestock
Tur-Cardona et al. (2018)	EU ²	Bio-based fertilizers	555	Random parameter logit / Latent class	Crop, livestock, horticulture
<i>Soil & water conservation</i>					
Buckley et al. (2012)	Ireland	Riparian buffer zone	247	Gen tobit/Probit	Dairy, arable, livestock
Giovanopoulou et al. (2011)	Greece	Nitrogen reduction	125	Probit/OLS	Not specified
Gachango et al. (2015)	Denmark	Water conservation	267	Ordered probit	Crop, cattle & pigs
Rodriguez-Entrena & Arriaza (2013)	Spain	Soil conservation	232	Multivar probit	Olive growers
Carmona et al. (2015)	Spain	Soil conservation	30	No model	Wheat and sunflower

Notes: This study covered Denmark, Italy, Netherlands, and Spain; This study covered Belgium, Denmark, France, Netherlands, Germany, and Hungary

Table S2. Impact of adoption factors across various technologies.

Factors	Organic Farming	Manure Treatment/Fertilization	Conservation Farming
Farmer and household characteristics	Läpple & van Rensburg (2011): age (-), edu, hsize Genius et al. (2006): age (-), edu (+) Mzoughi (2011): age, sex, edu (+) Kallas et al. (2010): age (-) Burton et al. (2003): age, female (+), edu (-), hsize Chatzimichael et al. (2014): age (+to a level), female (-), edu (+to a level) Läpple & Kelley (2015): age (-), edu, hsize Koesling et al. (2008): edu (+), agedu (+), mstatus Tiffin & Balcombe (2011): age, female (+), edu, hsize(+)	Gebrezgabher et al. (2015): age (-), edu, successor Case et al. (2017): age (+)	Giovanopoulou et al. (2011): age (-), edu (+) Gachango et al. (2015): age Rodriguez-Entrena (2013): male, agedu (+), age, descendants(+), edu
Farm structure and financial state	Läpple & van Rensburg (2011): fsize (-), off inc, ldensity (-) Genious et al. (2006): fsize, off inc, aridity (-), specialty (-), dist to urban area	Gebrezgabher et al. (2015): fsize, fewer animals (-) Case et al. (2017): factivity (livestock +), fsize, farming system (organic +)	Buckley et al. (2012): gross margin (-) Gachango et al. (2015): farm size (+), mid-steep slope (+), production type Rodriguez-Entrena (2013):

	Mzoughi (2011): Kallas et al. (2010): Burton et al. (2003): Chatzimichael et al. (2014): Läpple & Kelley (2015): Koesling et al. (2008): Tiffin & Balcombe (2011):	factivity. fsize (-), disf area (+), off activity (+) fsize fsize (+), dist to urban area (-) fsize, ldensity (-) , dist to org market, off activity prox to urban area (+), dairy prod (+), fsize (+) fsize	Zemo & Termansen (2018): Rantala et al. (2018): ldensity, operation types	distance to plant (-)	number of plots, fsize (+) , annual output, farm profit (+) , located in irrigation districts (+)
Attitudes and beliefs	Läpple & van Rensburg (2011): Genious et al. (2006);, Mzoughi (2011): Kallas et al. (2010): Burton et al. (2003): Läpple & Kelley (2015): Koesling et al. (2008):	env att (+), profit orient (-), risk att (-), info-gath attitude env awareness (+) showing env comm (+), econ conc: cut cost (-), satisfy customers, reduce risk (-), win competition, perception by other farmers ratio env/econ obj (+), risk att (+), opinion to ban dangerous inputs (+) env conc (+), belief OF is better for env (+), belief CF will sustain productivity (-) env att (+), profit orient (-), risk att (-), info-gath att goals: profit max (-), reliable income (-), sust farming (+), reduce debt, improve farm for future gen attitudes: OF receive too much support (-), CF is more sust. than OF (-), weeds thrive w/o herbicides (-), pesticides decrease food quality (+),	Rantala et al. (2018): env valuation (-), econ valuation (+)	Buckley et al. (2012): Giovanopoulou et al. (2011): Gachango et al. (2015): attitude to fines/penalties, attitude to subsidy support.	env prot (+), attitude to env reg (+) env goal (+), problem awareness (+), perception of low subsidies (-). attitude to fines/penalties, attitude to subsidy support.

		belief CF will sustain				
	Tiffin & Balcombe (2011): Läpple and Kelley (2013):	productivity (-), belief OF can satisfy society alone (+) "econ beliefs" (+)				
Sources of information	Läpple & van Rensburg (2011): Genious et al. (2006): Kallas et al. (2010): Burton et al. (2003): Chatzimichael et al. (2014): Läpple and Kelley (2015): Tiffin & Balcombe (2011): Kaufmann et al. (2019):	info media (-)/advisory, knows other farmers (+) info gathering (+) ag authority as info source (+) buyers (-)/press/ farmers (+)/ advisory service (-) as info source, env membership, prof membership info variables: homophilic (+) & successful (+) adopters info media (-)/advisory, knows other farmers (+) buyers (-), press (-), farmers (+), advisory service (-) as info source, env membership, prof membership (-) advisory service (+)	Gebrezgabher et al. (2015): Zemo & Termansen (2018):	knows technology startup consultancy (+)	Giovanopoulou et al. (2011): Gachango et al. (2015):	Coop member (-). farmer reception of info on ecological status, farmers' reception of info on N and P reduction.
Attributes of technology	Kallas et al. (2010):	price of grape (+)	Hou et al. (2018): Tur-Cardona (2018): Gebrezgabher et al. (2015): Zemo & Termansen (2018):	fertilizer price price reduction (+), N uncertainty (-), solid form (+), fast nutrient release (+) attributes of manure separation (+) number of partners (+ to a level), partnership cancellation (+)	Rodriguez-Entrena (2013): Carmona et al. (2015)	number of varieties, plantation age, plantation density, fertilization method (+). weed presence, pest incidence, lack of zero-till drill technology.

Institutional environment (laws, regulations, incentives)	Chatzimichael et al. (2014): Kaufmann et al. (2009): Genious et al. (2006): Kallas et al. (2010):	conversion subsidies (+) subsidy (+) subsidies received (+) difficulty to get loans (+)	Zemo & Termansen (2018): Hou et al. (2018):	subsidy (+) pressure from policies/regulations	Giovanopoulou et al. (2011):	Subsidies.
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Note: all adoption factors in bold are significant, with the direction of their effects reported in parentheses. Some common abbreviations read as follows: edu = education, agedu = agricultural education, hsize = household size, mstatus = marital status, ldensity = livestock density, off inc = off-farm income, fsize = farm size, OF = organic farming, CF = conventional farming, env att = environmental attitude, risk att = risk attitude, profit orient = profit orientation.