

XXXI CONVEGNO DI STUDI SIEA

INNOVAZIONE DIGITALE E AMBIENTALE PER LA SOSTENIBILITA' DEI MODELLI DI BUSINESS NELL' AGROALIMENTARE

Venezia, 15 e 16 giugno 2023

The Integrated Supply Chain Projects and farms' performance: evidence from the Tuscany Rural Development Programme 2014-2022.

**Federica Cisilino, Antonio Giampaolo, Francesco Licciardo, Matteo Orlando, and Serena Tarangioli
(CREA- Agricultural Policies and Bio-economy)**



CONTENTS

1. Introduction
2. Background
3. Materials and Methods
4. Results
5. Conclusion





EU Recommendation and Policies

Italy should increase:

- Cooperation;
- Associative forms;
- To reduce the fragmented sector;
- Diversification forms;
- Renewable generation;
- Women led-farms;
- To affirm the role.



INCREASE
COMPETITIVENESS



REBALANCE
POWER IN FOOD CHAIN



CLIMATE CHANGE
ACTION



ENVIRONMENTAL
CARE



PRESERVE
LANDSCAPES
& BIODIVERSITY



SUPPORT
GENERATIONAL
RENEWAL



VIBRANT
RURAL AREAS

PROTECT
FOOD & HEALTH
QUALITY



KNOWLEDGE &
INNOVATION



ENSURE
FAIR INCOME



Rural Communities

INTEGRATED SUPPLY CHAIN PROJECTS
(PROGETTI INTEGRATI DI FILIERA)

European strategy are:

- Green Deal - Farm to fork;



- **Common Agriculture Policy**
(CAP 2023-2027)
(Reg. 2115/2021 Art. 6)

The Integrated Supply Chain Projects - ISCP

XXXI Convegno di Studi SIEA, Venezia 15 e 16 giugno 2023

Bottom-up Approach

- Groups of actors
- To identify specific needs, sectorial and territorial intervention

Cross-sectorality

- Complex projects to involve all
- Synergies and influencing economic and social relations

Co-ordinated

- Defining policy intervention instruments (measures)

Development strategy

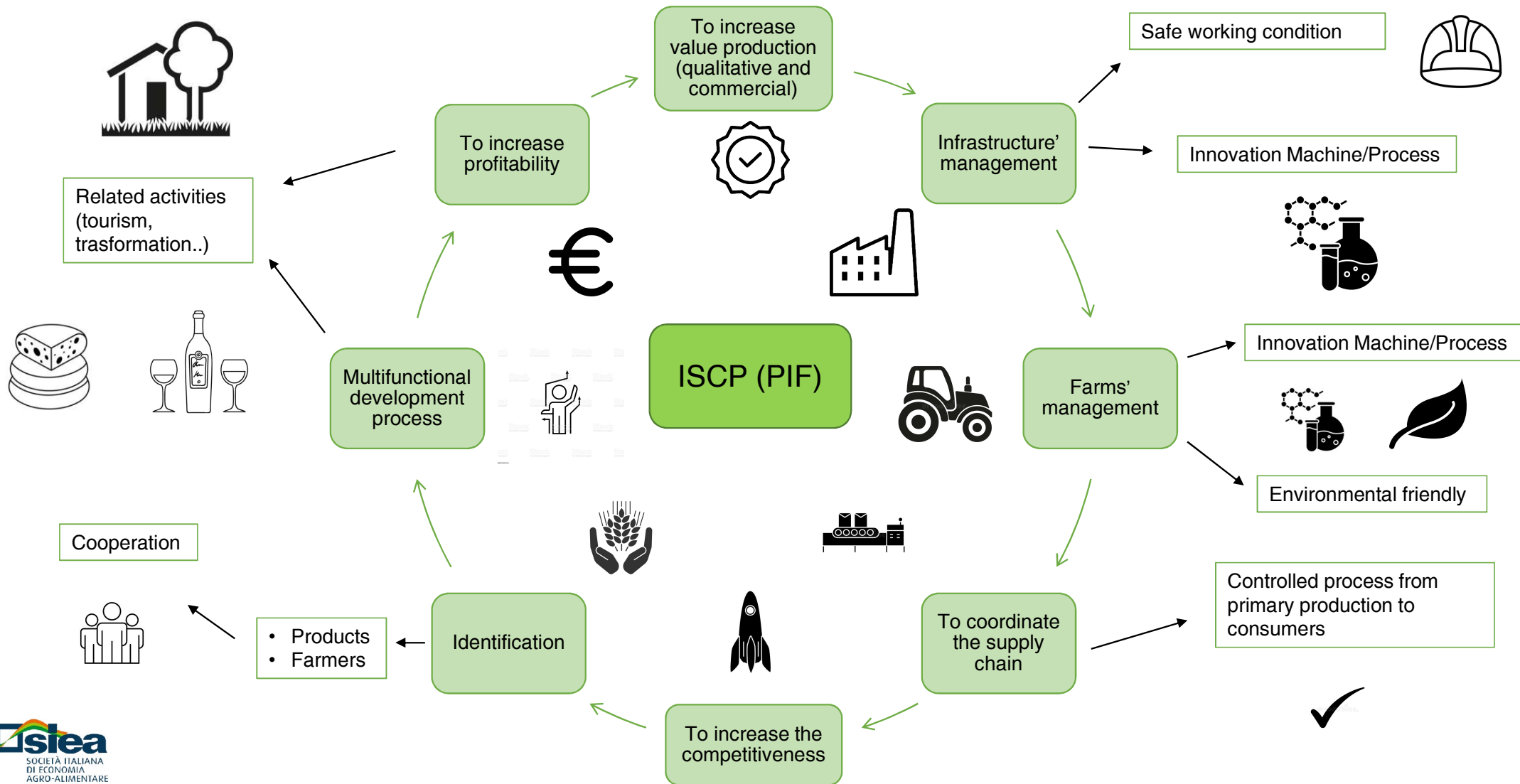
- Outlines the specific features and justifies the actions by different subjects

Structured partnership

- Defining the members
- Defining the partnership for responsibilities and for the implementation of the projects

Source: Tarangioli, S. *L'approccio integrato nei PSR 2007-2013, Rete Rurale Nazionale 2007-2013*. Mipaaf, Roma. <https://www.reterurale.it/flex/cm/pages/ServeBLOB.php/L/IT/IDPagina/23375> (accessed 2023-03-31)

The aims of ISCP



CONTENTS

1. Introduction

2. Background

3. Materials and Methods

4. Results

5. Conclusion



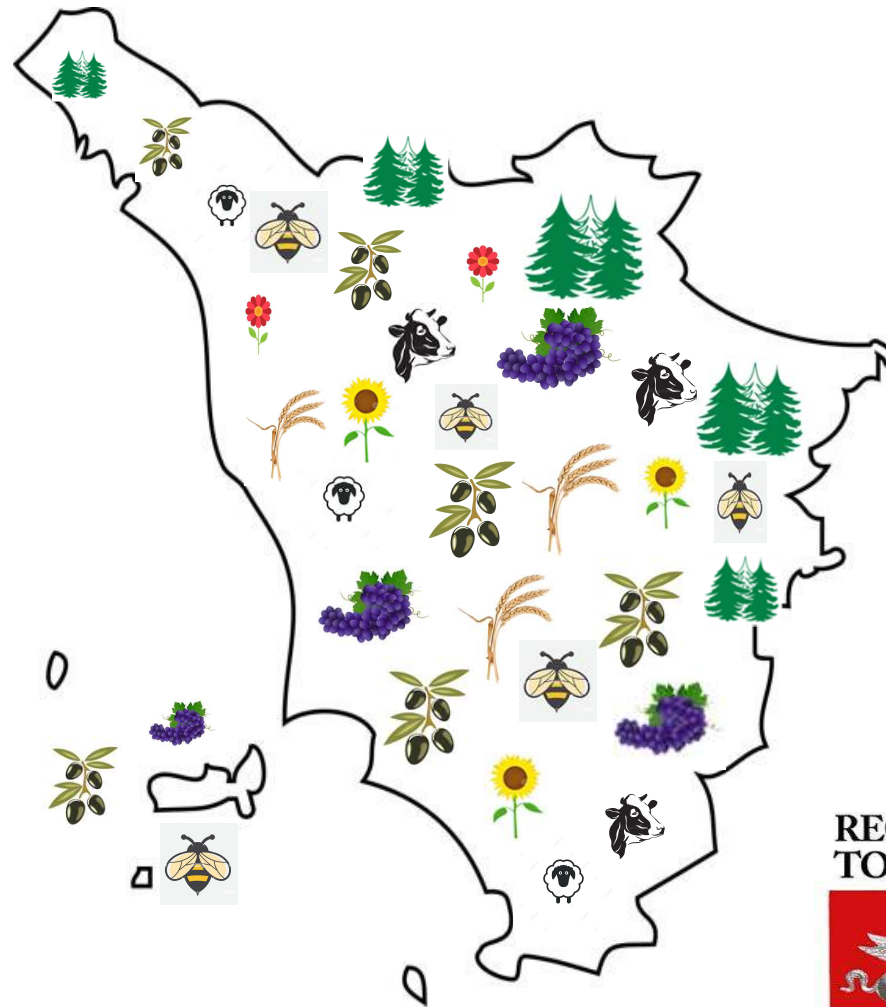
Background: The Tuscany Region

Regional Characteristics:

- 23,000 Km² regional area;
- 90% rural area;
- 52,146 farms (7th Agricultural Census, 2020);
- 2021: 3,4 billion EUR agricultural total value;

Agricultural sectors:

- ✓ >12% of wine exports;
- ✓ 6% of total national agricultural exports.



Agricultural disadvantages:

- Low qualification of operators (technical assistance and services);
- Low generational turnover (ageing operators);
- Reduction in the size of agricultural sectors (numerical and dimension);
- Inadequate infrastructure for business and rural communities;
- Low development of innovation and production

REGIONE
TOSCANA



ISCP: 1.25 EUR billion

Tuscany ISCP measures

XXXI Convegno di Studi SIEA, Venezia 15 e 16 giugno 2023

Code	Sub-measures/operations RDP 2014-2022
1.2	Support for demonstration activities and information actions
3.1	Support for new quality assurance schemes
3.2	Support for information and promotion activities carried out by producers' associations in the internal market
4.1.3	Integrated Projects
4.1.5	Encourage the use of renewable energy in farms
4.2.1	Support for investments in the processing/marketing and/or development of agricultural products
6.4.1	Farm diversification
6.4.2	Energy deriving from renewable sources in rural areas
8.5	Investments aimed at increasing the resilience and environmental value of forest ecosystems
8.6	Support for investments in forestry technologies and in the processing, mobilization and marketing of forest products
16.2	Support for pilot and cooperation projects
16.3	Cooperation between small operators to organize joint work processes and share facilities and resources as well for the development/marketing - tourism sector
16.6	Support for supply chain cooperation for the sustainable procurement of biomass to be used in production of food and energy and industrial processes
16.8	Support in drafting forest management plans or equivalent tools

Source: Licciardo, F.; Zanetti, B.; Giampaolo, A.; Perinotto, M.; Bianchi, A. Progettazione Integrata Di Filiera Nel PSR Toscana 2014-2022. Quaderni PIF, n. 1/2022, Rete Rurale Nazionale 2014-2022., Mipaaf.; Roma, 2022.

CONTENTS

1. Introduction
2. Background
- 3. Materials and Methods**
4. Results
5. Conclusion

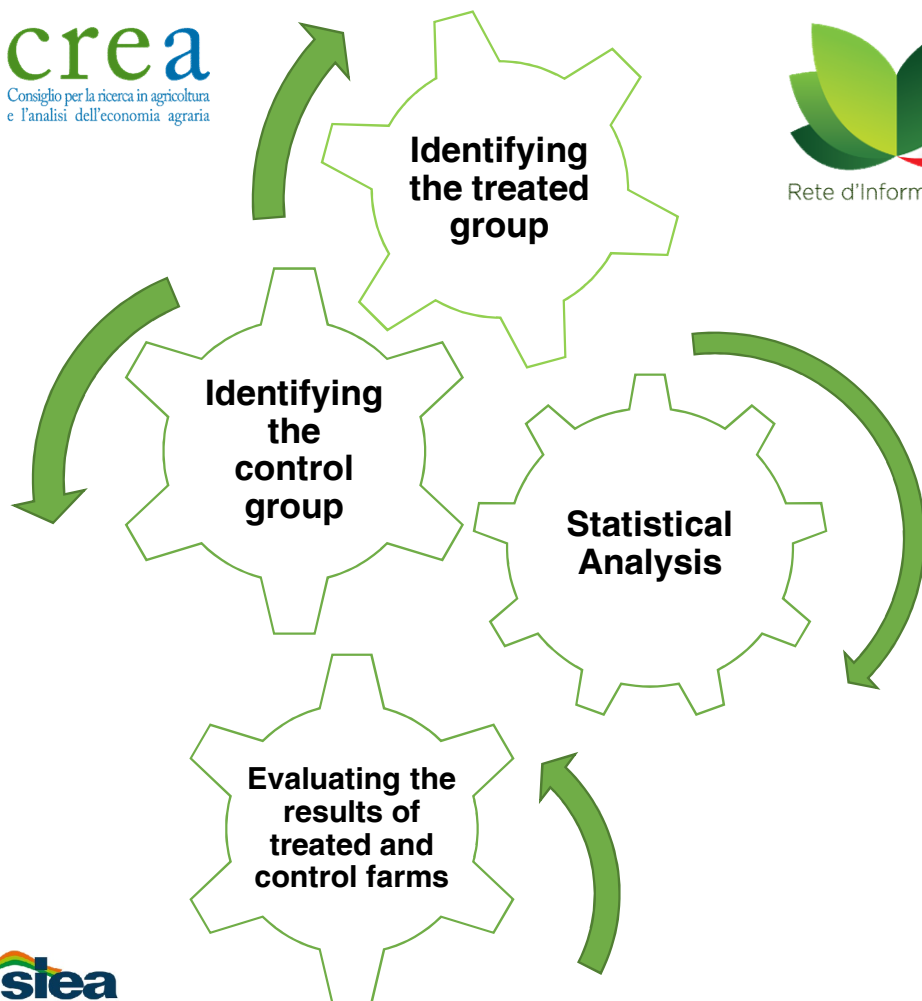


Materials and Methods:

XXXI Convegno di Studi SIEA, Venezia 15 e 16 giugno 2023



- Farm Agriculture Data Network (FADN)
- Farm Sustainability Data Network (FSDN)



Period cosidered (2018-2019-2020)

Total 1,693 farms outliers excluded (Tukey methods)
(2018: 561 farms; 2019: 571 farms; 2020: 561 farms)

Treated: 134 farms **Control:** 1,559 farms

Statistical Analysis: Welch-t-test

Variables:

Farm characteristics (Women-led and Youth-led farms, organic farms, diversified farms, farms location)

Structural (Utilised Agricultural Area- UAA and Agricultural work units-AWU)

Economic (FNVA; Net Income; Variables costs; Value Added)

Patrimonial (Agricultural capital; fixed capital...)

CONTENTS

1. Introduction
2. Background
3. Materials and Methods
4. Results
5. Conclusion



Results: Farm Characteristics

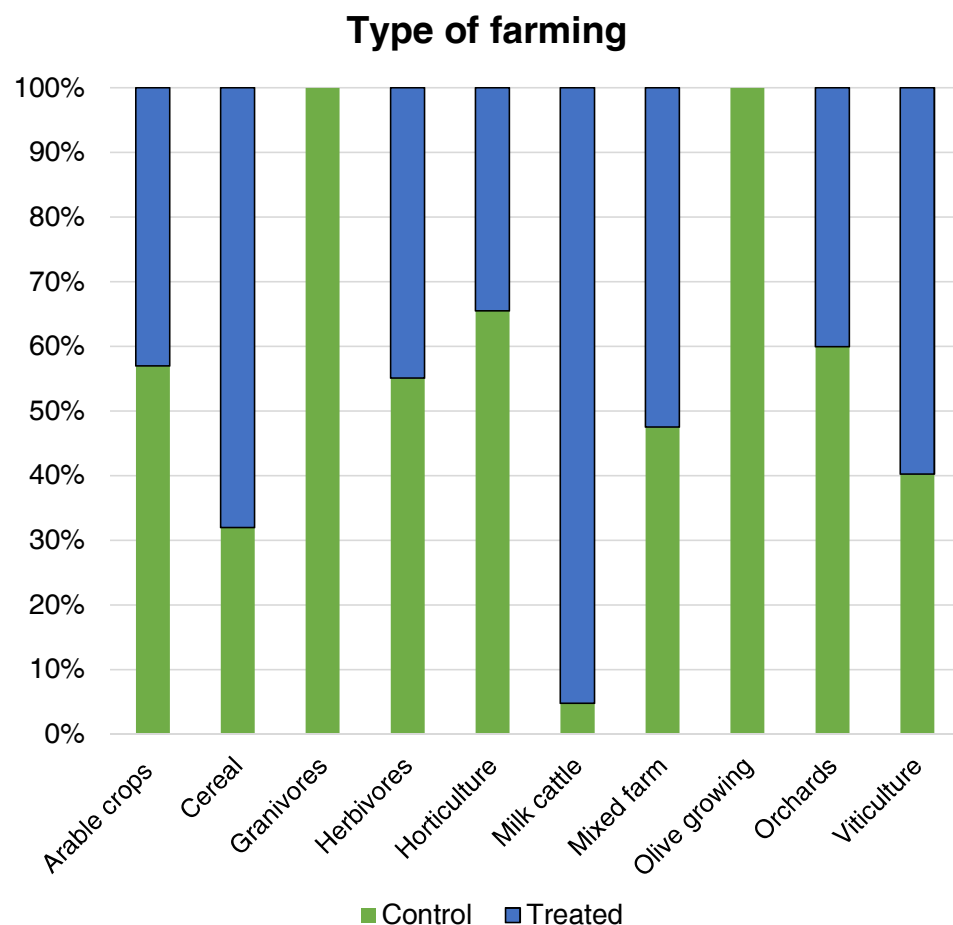


Table 1. Number and percentage of farms by qualitative characteristics (years 2018-2020).

Farm characteristics variables	Control		Treated	
	Value [%]	Number of farms/Total farms considered	Value [%]	Number of farms/Total farms considered
Women-led farms	23.54	367/1,559	20.14	27/134
Youth-led farms	10.07	157/1,559	6.72	9/134
Diversified farms	27.64	431/1,559	47.76	64/134
Organic farms	27.00	421/1,559	47.76	64/134
Farms Location				
Plain	11.61	181/1,559	11.19	15/134
Hill	70.75	1103/1,559	73.14	98/134
Mountain	17.64	275/1,559	15.67	21/134

Source: own data processing on FADN data

Figure 1. Distribution of farms by type of farming (%) - Treated and Control farms. Source: own data processing on FADN data (2018-2020).

Results: Farm Structural Variables

XXXI Convegno di Studi SIEA, Venezia 15 e 16 giugno 2023

Table 2. Main descriptive and Welch t-test on structural variables (years 2018-2020).

	Control		Treated		Statistical Analysis
	<i>Mean</i>	<i>Standard Deviation</i>	<i>Mean</i>	<i>Standard Deviation</i>	<i>Welch-t-test</i>
Farm Structural Variables					
Total Area – Large Farms - [ha]	42.48	77.69	114.75	190.25	****
UAA - [ha]	32.34	53.05	81.57	117.93	****
Labour Variables:					
Machine power expressed by KW per Utilised Agricultural Area [KW/UAA]	22.20	59.33	11.58	17.26	****
AWU	2.00	1.87	3.89	6.37	****

*, **, ***, **** Statistical significance at $p < 0.1$; $p < 0.05$; $p < 0.01$; $p < 0.001$

Source: own data processing on FADN data

Results: Farm Economic Variables

XXXI Convegno di Studi SIEA, Venezia 15 e 16 giugno 2023

Table 3. Main descriptive and Welch t-test on economic variables (2018-2020).

	Control		Treated		Statistical Analysis
	Mean	Standard Deviation	Mean	Standard Deviation	Welch-t-test
Economic variables:					
Farm Net Value Added - [Euro]	61,607.0	114,809.4	150,000.0	311,252.5	***
Farm Net Value Added/UAA - [Euro/ha]	9,077.1	24,016.2	5,476.0	13,787.6	***
Farm Net Value Added/AWU - [Euro/AWU]	24,678.6	21,459.3	32,753.3	25,359.1	****
Net Income/UAA - [Euro/ha]	5,334.8	13,390.0	2,752.2	7,936.6	****
Variables Costs/UAA - [Euro/ha]	10,753.4	35,772.0	11,199.0	42,548.0	ns
Value Added/UAA - [Euro/ha]	9,727.4	25,323.2	5,776.0	13,539.3	***

*, **, ***, **** Statistical significance at $p < 0.1$; $p < 0.05$; $p < 0.01$; $p < 0.001$; ns non-significant.

Source: own data processing on FADN data

Results: Farm Patrimonial Variables

XXXI Convegno di Studi SIEA, Venezia 15 e 16 giugno 2023

Table 4. Main descriptive and Welch t-test on patrimonial variables (2018-2020).

	Control		Treated		Statistical Analysis
	Mean	Standard Deviation	Mean	Standard Deviation	Welch-t-test
Patrimonial variables:					
Agricultural Capital/UAA - [Euro/ha]	2,841.6	8,003.5	2,289.4	2,446.8	ns
Fixed Capital/UAA - [Euro/ha]	35,757.4	59,326.0	27,899.3	54,691.6	ns
EU funding - [Euro]	9,171.1	16,680.0	25,322.5	34,354.9	****
EU funding/UAA - [Euro/ha]	319.5	854.6	331.0	466.3	ns
New Investments – [Euro]	14,677.4	33,335.6	38,892.7	72,596.1	***

*, **, ***, **** Statistical significance at $p < 0.1$; $p < 0.05$; $p < 0.01$; $p < 0.001$; ns non-significant.

Source: own data processing on FADN data

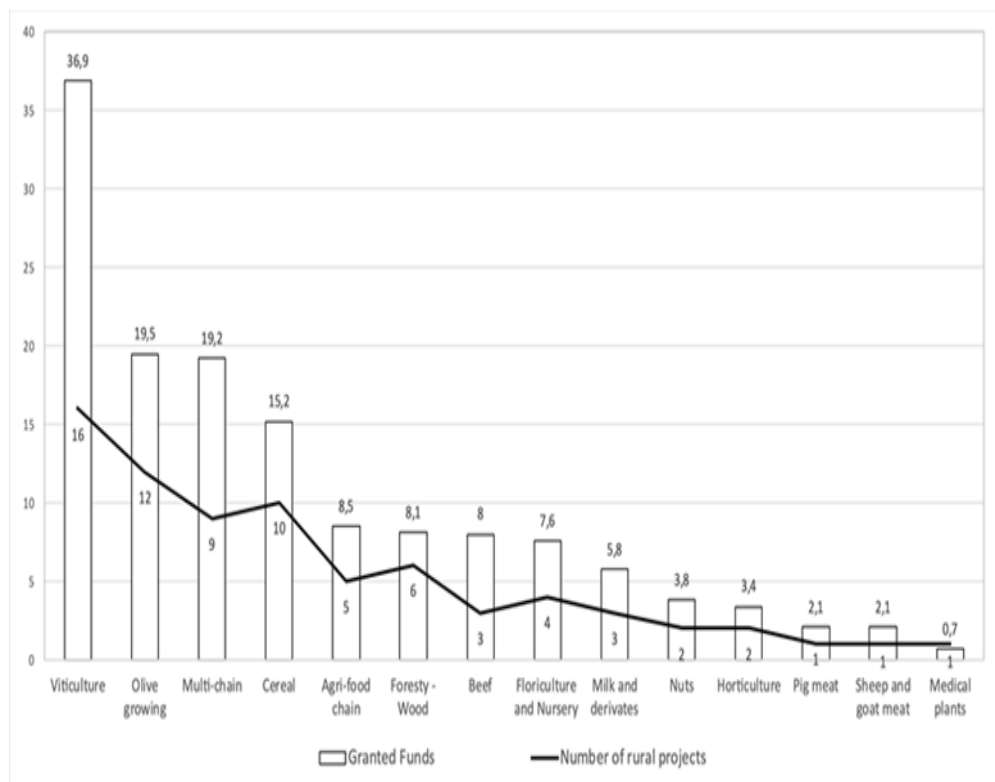
CONTENTS

1. Introduction
2. Background
3. Materials and Methods
4. Results
5. Conclusion



Conclusion:

XXXI Convegno di Studi SIEA, Venezia 15 e 16 giugno 2023



Source: Licciardo, F.; Zanetti, B.; Giampaolo, A.; Perinotto, M.; Bianchi, A. Progettazione Integrata Di Filiera Nel PSR Toscana 2014-2022. Quaderni PIF, n. 1/2022, Rete Rurale Nazionale 2014-2022., Mipaaf.; Roma, 2022.

In Tuscany region ISCP support:

- Local needs
- Aggregation processes;
- Rural communities;
- Forestry and territorial management;
- Structural renewal investments;
- Technological innovation;
- Competitiveness



Article

The Tuscany Integrated Supply Chain Projects 2014–2022: A New Path to Support the Agri-Food Industry

Federica Cisilino^{1,*†}, Antonio Giampaolo^{1,†}, Francesco Licciardo^{1,†}, Matteo Orlando^{1,†} and Serena Tarangioli^{1,†}

Council for Agricultural Research and Economics, Research Centre for Agricultural Policies and Bio-Economy, 00187 Rome, Italy; antonio.giampaolo@crea.gov.it (A.G.); francesco.licciardo@crea.gov.it (F.L.); matteo.orlando@crea.gov.it (M.O.); serena.tarangioli@crea.gov.it (S.T.)

* → Correspondence: federica.cisilino@crea.gov.it

† → These authors contributed equally to this work

THANK YOU FOR THE ATTENTION!



Federica Cisilino

(federica.cisilino@crea.gov.it)

Antonio Giampaolo

(antonio.giampaolo@crea.gov.it)

Francesco Licciardo

(francesco.licciardo@crea.gov.it)

Matteo Orlando

(matteo.orlando@crea.gov.it)

Serena Tarangioli

(serena.tarangioli@crea.gov.it)

