

PRO.FI.LA. – Protein for The Poultry Supply Chain

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Period: Jan 2020 – Jul 2023

Project Consortium:

Federico II University of Naples – Department of Agriculture (Italy), University of Gastronomic Science UNISG (Italy), Polytechnic University of Marche – Department of Agricultural, Food and Environmental Sciences (Italy), University of Basilicata – School of Agricultural, Forestry, Food and Environmental Sciences (Italy), Agricoltura è Vita Association (Italy)

Improvement of agroecological practices for the cultivation of plant species of feed interest connected with organic production systems (WP2 and WP3)

Main Topic/Aims

The PRO.FI.LA. project aims to help the Italian organic poultry sector to achieve the target of using 100% organic and on farm feed.

Main UNISG Object of the project:

1. Increase the resilience and sustainability (environmental, economic, social, cultural) of companies, through crop diversification, the agroecosystem, production chains and sales channels;
2. Improve the self-production of feed, in quantity and quality, through the farm cultivation of crops of feed interest, both protein and other families.



Organic laying hens: max 230 hens/ha; max 3000 animals in 1 6 animals per sqm indoor; organic feed (20% from the farm); access to open spaces for at least 1/3 of their life .



Main UNISG activities:

1. Identify the main business critical points and evaluate with the company the agroecological practices that can be introduced;
2. Identify the plots where to conduct cultivation tests of species and varieties in comparison:
 - Oil hemp, rich in omega3 and CLA
 - Grain legumes: protein pea, field bean and lupine
3. Feeding tests on laying hens with innovative ration



Organic Lupinus grains



Organic & agroecological laying hens



Organic eggs



Field samples of hemp

SPECIE	VARIETA'	DITTA SEMENTIERA
Vicia faba L. var. Minor Beck	Prothabon 101	SIS/Padania Sementi
Vicia faba L. var. Minor Beck	BIANCO DI TORRELAMA	AGROSERVICE
Pisum sativum L.	NAVARRO	SIS
Pisum sativum L.	ASTRONAUTE	AGROSERVICE
Lupinus albus L.	TENNIS	AGROSERVICE

WP2.2 - 2 year cultivation trials (2020/21 and 2021/22)

Sowing: 20 Nov 2020; 7 Nov 2021 Harvest: 7 June 2021; 20 June 2022

Reliefs: date of emergence, density, cold damage, flowering date, average height, lodging, tot. plant production, yield. The pedoclimatic characteristics and the correct business management of the spontaneous flora are of fundamental importance for the birth and growth of legumes. Agronomic practices will be examined and improved to help the company improve weed management and the biological quality of the soil.

WP3 - Study of nutritional efficiency in integrated biological systems

The data collected show a higher production in the number of eggs and a higher average weight of the eggs in the two cycles in which the animals were fed with feed supplemented with hemp seeds. In both periods, spring and autumn, comparable production increases are observed (hemp < control).

SPECIE/VARIETA'	DATA EMERGENZA	DENSITA'	DANNI DA FREDDO	DATA RIZZO FIORITURA	N° PIANTE LEGUMINOSE	N° PIANTE INFESTANTI	PESO LEGUMI g	PESO PIANTE LEGUMI g	PESO PIANTE INFESTANTI g	area media legumi per pianta	area media infestanti per pianta
PISELO PROTEICO ASTRONAUTA - AGROSERVICE	09/02/2022	100%	NO	20/04/2022	65	124	900	1495	980	13.8	23
FAYNO CHIARO PROTHABON - SIS	09/02/2022	100%	NO	16/04/2022	25	84	75	225	844	3.5	18
PISELO PROTEICO NAVARRO - SIS	09/02/2022	100%	NO	16/04/2022	61	241	668	1265	2075	10.8	21
LUPINO TENNIS - AGROSERVICE	09/02/2022	1.00%	NO	0	0	0	0	0	0	0	0
FAYNO BIANCO DI TORRELAMA - AGROSERVICE	22/02/2022	100%	NO	16/04/2022	7	25	42	68	450	6.0	18
PISELO PROTEICO ASTRONAUTA - AGROSERVICE	09/02/2022	100%	NO	20/04/2022	71	61	820	1350	555	11.5	19
FAYNO CHIARO PROTHABON - SIS	09/02/2022	100%	NO	16/04/2022	32	15	164	261	45	4.6	10
PISELO PROTEICO NAVARRO - SIS	09/02/2022	100%	NO	12/04/2022	60	90	913	1058	460	15.4	25
LUPINO TENNIS - AGROSERVICE	09/02/2022	1.00%	NO	0	0	0	0	0	0	0	0
FAYNO BIANCO DI TORRELAMA - AGROSERVICE	22/02/2022	100%	NO	12/04/2022	13	12	51	106	200	3.8	10

Dissemination Outputs

- A guideline on agroecological farm practices with description and their effects on the agroecosystem
- A guide on cultivation techniques for protein pea, field bean, lupine and hemp
- Contribution to the guidelines for farm feeding laying hens



MIPAAF – Italian Ministry of Agricultural, Food and Forestry Policies – “National strategic plan for the development of the biological system” (CUP progetto G78D20000070008)

UNISG Agroecology Group

