



Report for Short Term Scientific Mission

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STSM Topic:

Supporting sustainable practices: welfare assessment in alpine small-scale dairy farms

STSM Applicant:

Anna Zuliani, Department of Agricultural and Environmental Sciences, University of Udine, Udine (IT) , zuliani.anna.2@spes.uniud.it

Host:

Assist. Prof. Manja Zupan, Department of Animal Science, University of Ljubljana, Ljubljana (SI), Manja.Zupan@bf.uni-lj.si

Purpose of the STSM

The Short Term Scientific Mission entitled “Supporting sustainable practices: welfare assessment in alpine small scale dairy farms” aims at fostering the collaboration between the University of Ljubljana (SLO) and the University of Udine (IT) in the field of dairy cows welfare assessment. Data on dairy cows welfare were collected following the adapted welfare assessment protocol recently developed by EFSA (2015) for small-scale dairy farms in the Eastern Italian Alps and in the Western Slovenian Alps. The small-scale farms selected were practicing the traditional alpine transhumance to summer highland pasture with lactating and dry cows. Forty-two (42) farms, 21 in Slovenia and 21 in Italy, were visited three times: before going to summer pasture, on summer pasture and after coming back from summer pasture. The overall aim of the study was to identify the management practices that enhance welfare in traditional alpine dairy systems while maintaining biodiversity in the breeds of cows and in marginal grazing areas. In fact, traditional farming systems guarantees the existence not only of a wide range of local dairy breeds and alpine grasslands, but also of local communities and products. Welfare assessment and output communication to farmers and consumers in this context could therefore be an effective tool to support sustainable farming practices, products and landscapes.

Activity 1 - Results

The first part of the STSM involved visits to five traditional Slovenian dairy farms. According to the protocol, farms were visited after morning milking. Animal based-measures related to health and behavioural aspects were collected. Interviews were performed in order to gather information on the farm management with a special emphasis on the post pasture season. Table 1 summarizes the main characteristics of the farms visited.

Table 1. Descriptors for 5 Slovenian farms practicing summer transhumance to highland pastures

NUTS 3 Region	Number of cows	Breed	Income from dairy prod. (%)	Milk yield (kg/cow/year)	Forage self-sufficiency (%)	Pasture (days)	Pasture (hours)	Concentrate feed at peak lactation (kg/day)
SI022	9	Simmental	50	4800	100	180	24	1
SI022	13	Simmental	70	NA	100	77	24	2
SI022	11	Simmental	10	5900	100	124	24	4
SI022	7	Crossbreed	30	NA	100	95	24	1
SI021	14	Simmental	100	4800	100	180	24	2

NUTS (Nomenclature of Territorial Units for Statistics)

NA (Not Available)

Activity 2 - Results

The second part of the STSM focused on data management. The data collected during the three assessments and thus including the total number of farm visits in Italy and Slovenia were cleaned and merged together in order to develop study report for the farmers involved in the study. Table 2 displays the farm descriptors related to management practices in the two countries. Table 3 reports values for the selected animal-based indicators collected during the assessments in each time step (1 spring; 2 summer; 3 fall).

Table 2 Farm descriptors related to management practices in Italian and Slovenian dairy farms

Management factors	ITALY	SLOVENIA
Number of farms	21	21
Number of dairy cows (mean, min-max)	32 (10-60)	14 (6-33)
Prevalent breed	Simmental	Brown
Milk yield (kg/cow/year; min-max)	5354 (3800-7800)	5363 (3330-7500)
Longevity (% of cows at fourth lactation and more)	42	32
Concentrate given at peak lactation (kg; min- max)	5,8 (4-10)	3,1 (0-6)
Hay silage feeding (number of farms)	8	13
Cereal silage feeding (number of farms)	4	6
Total hours on the pasture (highland+valley)	72170	75994
Hours on summer pasture (%)	78	71
Altitude of summer pasture (m asl)	1465 (900-2096)	1234 (710-1560)
Housing (% of tie stall)	57	71
Organic farms (number of farms)	0	5
Certification scheme (number of farms)	11	1
Income from dairy production (mean %; min-max)	79 (10-100)	69 (10-100)

Table 3 Animal-based measures in Italian (n= 21) and Slovenian (n= 21) dairy farms

Animal-based measurements	ITALY			SLOVENIA		
	Assessment			Assessment		
	1	2	3	1	2	3
QBA (mean score)	49	76	58	72	80	72
AD (% cows that can be touched)	64	58	58	41	46	43
Lameness (% cows)	15	12	11	2	1	0
Rising behaviour (% of abnormal rising)	11	3	21	5	10	18
SCC >400.000 (mean number of cows/farm)	6	5	6	2	1	1
BCS (% of very lean animals)	15	14	10	25	18	14

QBA (Qualitative Behavior Assessment)

AD (Avoidance Distance test)

SCC (Somatic Cell Count)

BCS (Body Condition Score)

The results will help the farmers to identify and thus address potential welfare issues in their farms while also providing information for comparison with neighbouring farmers having similar farming practices. The proper dissemination of results to the farmers ultimately aims at improving and supporting dairy cows welfare on alpine small-scale farms.

Foreseen Publications

1. Alpine dairy farms practicing transhumance to highland pastures and adapted protocols for welfare assessment.
2. Animal-based measures relevant for welfare assessment in alpine dairy farms.
3. Alpine pasture: Does it matter for welfare of dairy cows on small-scale farms?