



Scan me

Case study of the market situation of calves from Alpine dairy farms and the effect of dams' grazing during the last three months of gestation on auction parameters

Thomas Zanon

Lorenzo Degano, Matthias Gauly, Pietro Sartor, Giulio Cozzi

Table of contents

- Study area
- Background of the study and research question
- Material and Methods
- Results and Discussion
- Conclusion



Study area



- South Tyrol is in the northernmost part of Italy
- 86 % of the total area located above 1000 m asl.
- Ruminant livestock farming and hereby especially dairy cattle farming has a long tradition.
- Beef production plays a minor role
- Total of 128,000 cattle. Of these, 66,600 are dairy cows
- 42 slaughterhouses in South Tyrol processed roughly 11,000 cattle



Background of the study and research question

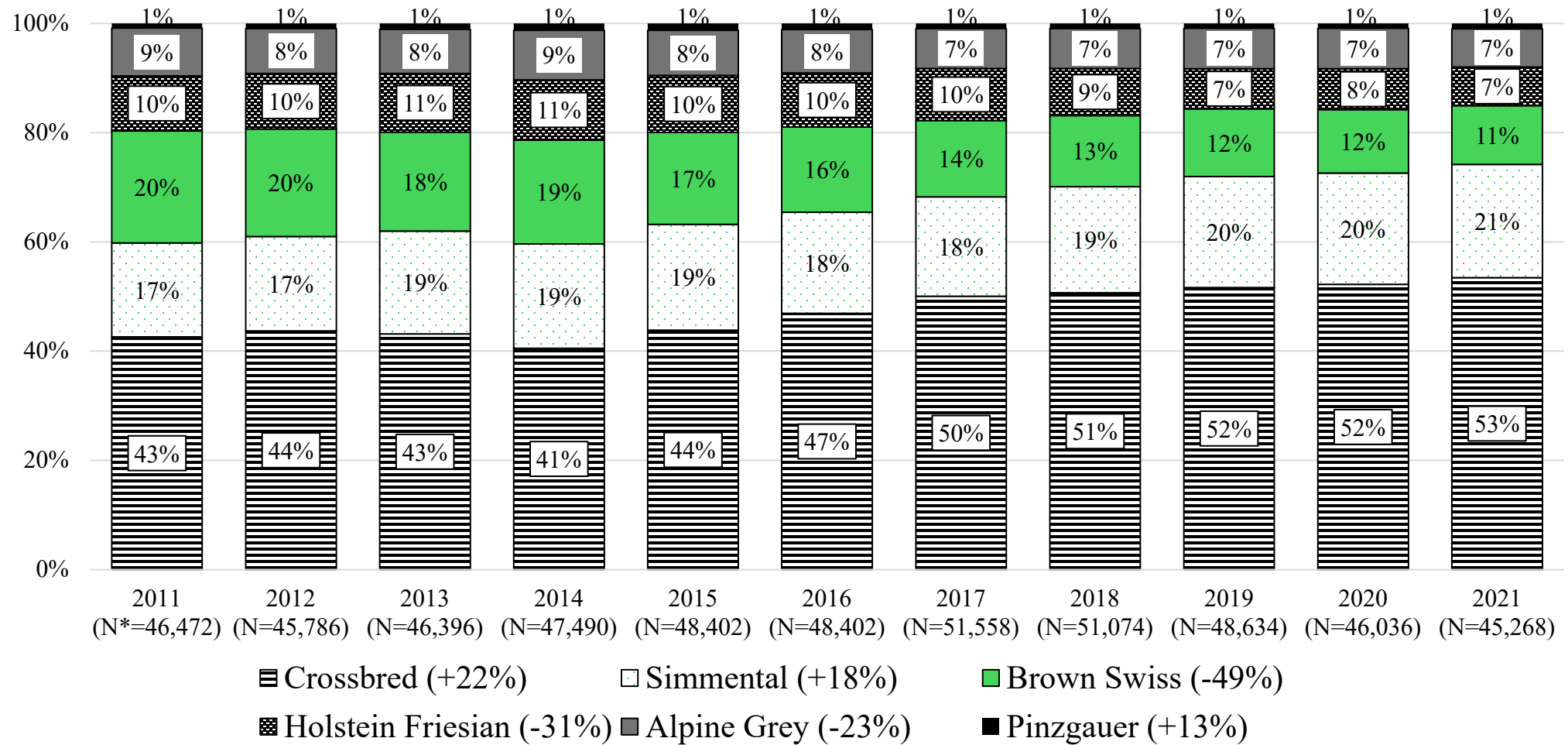
- Mostly small-scale dairy farming in South Tyrol (Ø 15 cows per farm)
- Beef production as an alternative for preserving mountain farming
- Local and animal friendly production of beef

- Research question:
 - 1. Assessment of cattle breeding and auction parameters of calves
 - 2. Effect of dams' grazing during gestation on calves' auction parameters

Material and Methods

- 256,280 individual calf records recorded at auctions from the year 2011 to the year 2021
- Information on ear tag, breed, gender and date of birth; ear tag and breed of the dam; price (AC), live weight and market value (€/kg)
- 50,962 records between 2018-2021 for grazing dams during last three months of gestation
- Statistical model according to Dal Zotto et al. 2020 considering the fixed effect of gender, auction date, breeder, age of calve and dam

Results and Discussion



Results and Discussion

Breed	Live weight at auction (kg)			Auction price (€/kg live weight)		
	Male	Female	<i>Difference</i>	Male	Female	<i>Difference</i>
Brown Swiss	67.1	57.3	<i>17%</i>	2.01	1.52	<i>32%</i>
Holstein Friesian	64.3	57.8	<i>10%</i>	2.44	1.94	<i>26%</i>
Alpine Grey	67.1	60.1	<i>12%</i>	3.68	2.85	<i>29%</i>
Simmental	71.4	64.8	<i>15%</i>	5.04	4.24	<i>19%</i>
Pinzgauer	70.6	61.2	<i>11%</i>	3.17	2.47	<i>28%</i>

Results and Discussion

Breed	No Grazing	Grazing	Total	Percentage of calves from grazing
				mothers
Brown Swiss	11,626	1,292	12,918	10.0%
Holstein Friesian	7,422	502	7,924	6.3%
Alpine Grey	6,846	1,534	8,380	18.3%
Simmental	18,783	1,900	20,684	9.2%
Pinzgauer	920	136	1,056	12.9%
Total	45,598	5,364	50,962	10.5%

Results and Discussion

Traits:	DF	Live weight (kg)		Price per kg liveweight (€/kg)		Market value (€/calf)	
		F	Significance (P)	F	Significance (P)	F	Significance (P)
Auction	105	14.7	<0.0001	103.7	<0.0001	66.7	<0.0001
Seller	3398	16.9	<0.0001	6.4	<0.0001	9.4	<0.0001
Breed	4	385.9	<0.0001	5575.9	<0.0001	3469.1	<0.0001
Gender	1	1894.9	<0.0001	615.9	<0.0001	885.1	<0.0001
Age of calf	1	4291.9	<0.0001	750.2	<0.0001	43.9	<0.0001
Dam's age at calving	15	144.2	<0.0001	11.2	<0.0001	53.0	<0.0001
Grazing	1	12.7	0.0004	0.3	0.5974	0.1	0.9799
Breed*Gender	4	17.6	<0.0001	43.0	<0.0001	50.4	<0.0001
Breed*Grazing	4	8.1	<0.0001	8.1	<0.0001	7.3	<0.0001

Conclusion

- Growing trend towards cross breeding also in alpine area
- The use of pasture by late pregnant cows had no negative effects on economic parameters of their offspring at sale
- Promotion of local beef production with high animal welfare standards (grazing) for preserving mountain agriculture



Scan me

Thank you for the attention