

CASE STUDY: CALCULATION OF RETURN ON INVESTMENT (ROI) AFTER ONE YEAR USING A MASTITIS VACCINATION PROGRAMME

Baucells ^{1,2}, J.

¹CVTONA Consultors s.l.p.

²Universidad Autonoma de Barcelona

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OBJECTIVES

To determine whether a mastitis vaccination programme meets its objectives, and to identify the level of return on the investment (ROI).

METHODS

A dairy farm with some 850 highly productive adult cows in North of Spain, where the farmer presented us with the challenge of identifying whether the investment made in the implementation of a mastitis vaccination programme had been profitable. This was carried out after the consolidation of the vaccination programme and we present it below as an example and additional task of the work of the clinical veterinarian. In December 2013 a prophylactic vaccination programme of the whole adult herd was started with a mastitis vaccine (STARTVAC[®], HIPRA, Spain). This decision was not taken as a therapeutic measure, which was not necessary, but as a farm excellence policy action and the pursuit of better technical and economic results based on the arguments put forward by the specialists (work organization, fewer cases of mastitis, less serious cases, better milk quality etc.).

RESULTS

Technical and economic results for 2013 (without mastitis vaccination) and 2014 (with STARTVAC[®]) are presented in Tables 1 and 2.

Item	Expenditure (€)		Return (€)		
	Farm	Cow	Farm	Cow	%
Total expenditure on vaccination programme (€/year)	-12,900	15			
Cost savings associated with CM (I)			14,199	16.5	22 %
Increase in quality premiums (II)			39,075	45.5	61 %
Reduction in losses due to SCC (III)			11,269	13.1	17 %
Total	-12,900	15	64,543	75.2	100%
R.O.I (TOTAL/INVESTMENT x 100)			500 %		

Table 1. Calculation of Return on Investment.

	2013 NO	2014 STARTVAC [®]
Average number of cows (No.)	860	858
Mean monthly somatic cell count (x1000 cells/ml)	301	265
Linear Score (LS) based on individual SCC	3.04	2.66
Cases of mastitis (CM) (No. of cases per year)	505	400
Monthly mastitis %	4.9 %	3.8 %
Standardized daily production (L/lactating cow/day)	34.40	35.12
Annual production (L/cow/year)	11,311	11,790
Quality premium (months with premium)	-	3
Quality premium (months with penalty)	7	2
Quality deduction (months with penalty)	0	0

Table 2. Main technical results of the implementation of the vaccination programme for 2013 (without mastitis vaccination) and 2014 (with STARTVAC[®])

CONCLUSIONS

Investment of 12,900 € in vaccination and its implementation facilitated lower costs associated with the treatment of clinical mastitis (-14,199 €), a higher milk value (+39,075 €) and a reduction in the SCC, which contributed to the improvement in production (+11,269 €). The greatest return on this farm was the increase in quality premiums (61%) followed by the costs associated with mastitis (22%) and the reduction in SCC (17%). The ROI obtained after the investment was 500 % (64543/12900 x 100). On farms which do not have a quality premium, the ROI will be lower, but clearly positive at 197 % (25468/12900 x 100). The recommendation is to continue with the established vaccination programme with a reassessment next year.