



Clinical Aspects of AMR

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Reasons for antibiotic + antiparasitic use

Cow with mastitis:



Therapeutic



Pneumonia outbreak:



Metaphylactic



Blanket dry cow antibiotics:



Prophylactic



Case study 1: Reducing antibiotic use

- Flock lameness problem
- Infectious causes
- High antibiotic use



Case study 1: Reducing antibiotic use

- Improved infection control
 - Flock health plan
 - Installed new batch footbath



Case study 1: Reducing antibiotic use

Product	2015	2019
Alamycin 300LA	33 x 100ml	4 x 100ml
Penstrep	9 x 100ml	Nil
Cyclo Spray	9	5
Estimated cost	€903.60	€145.20

Case study 2: Reducing antiparasitic use

- Blanket worm dosing in calves and heifers
- No evidence of high worm burdens



Case study 2: Reducing antiparasitic use

- Regular monitoring worm egg counts, weights
- Strategic worm dosing



Case study 2: Reducing antimicrobial use

Product	2017	2019
Ivermectin pour-on	2.5L	0
Ivermectin injectable	250ml	100ml
Albendazole	2.5L	2L
Estimated costs	€160	€80

Case study 3: Reducing antibiotic use

- Large split-calving dairy farm
- Blanket use of intra-mammary antibiotics at dry-off to prevent new infections during the dry period



Case study 3: Reducing antibiotic use

- Switch from blanket to selective dry cow therapy
- Routine monitoring using milk recording
- CellCheck guidelines and support

ICBF Irish Cattle Breeding Federation

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Milk Recording SCC - Current/Previous Lactation.

Showing 1 to 96 of 96 entries

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Animal Details				Milk Recording SCC Results														
Jumbo	Tag	EBI €	Lact	Calving Date	Dry Date	Days In Milk	Avg Previous Lact	Avg Current Lact	23-JUN-17	25-APR-17	13-OCT-16	09-SEP-16	22-JUL-16	08-JUN-16	22-APR-16	22-OCT-15	15-SEP-15	28-JUL-15
656	10656		12	25-JAN-17		149	69	33	44	25	75	116	48	55	67	71	68	72
790	40790		11	07-MAR-17		108	174	40	38	42	531	364	101	69	119	266	209	338
793	70793	29	10	18-MAR-17		97	194	167	115	242	267	305	234	160	91	250	100	101
867	60867		9	16-APR-17		68	375	296	1034	85	261	327	473	311	588	659	80	62
935	80935		9	10-APR-17		74	215	44	47	42	253	152	133	237	383	147	97	69
945	10945		9	12-FEB-17		131	82	159	244	103	90	97	43	44	224	92	68	58
978	10978		9	13-MAR-17		102	127	84	88	81	125	236	86	79	163	187	150	107
989	40989		9	22-FEB-17		121	46	45	35	57	57	40	31	44	66	299	341	1976
1001	91001		8	23-FEB-17		120	61	32	43	24	135	59	44	49	50	132	101	59
1010	11010		8	24-JAN-17		150	136	92	171	49	931	200	61	59	70	678	584	209
1016	71016		8	14-FEB-17		129	61	243	334	177	72	58	43	50	96	109	88	226
1019	11019		8	28-JAN-17		146	80	37	41	33	120	104	62	50	85	275	120	116



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Case study 3: Reducing antibiotic use

	2015	2020
No. of cows getting antibiotic at dry-off	300	45
% of cows getting antibiotic at dry-off	100%	8%
Average SCC	135	155

Summary

- “As little as possible but as much as necessary”
- “Prevention is better than cure”