

Monitoring quality of young stock rearing in dairyherds: a data-based scoring method

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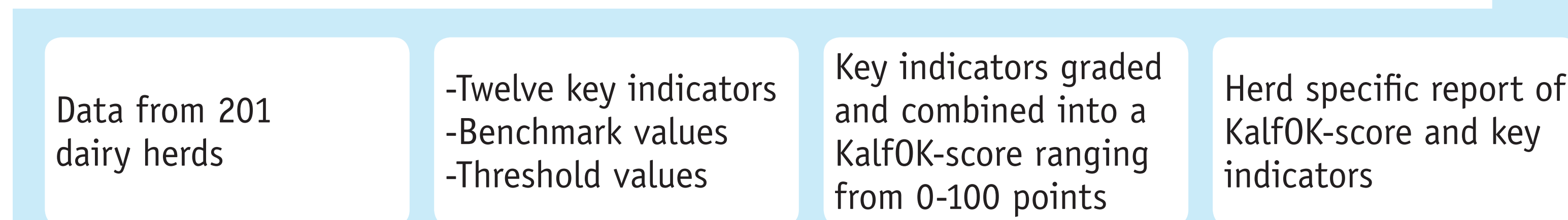
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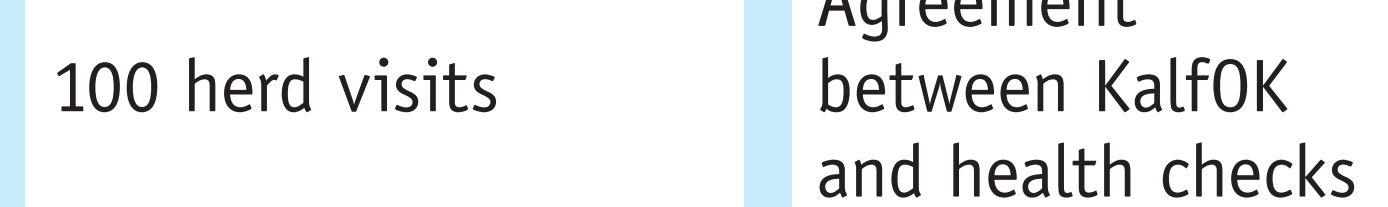
Goal

To develop a system based on routinely collected census data to assess the quality of young stock rearing in Dutch dairy herds. The system is called KalfOK and aims to provide an objective and standardised evaluation of the quality of young stock rearing in a herd.

Development of KalfOK



Validity of KalfOK



Results - Herd report

Strengths and weaknesses

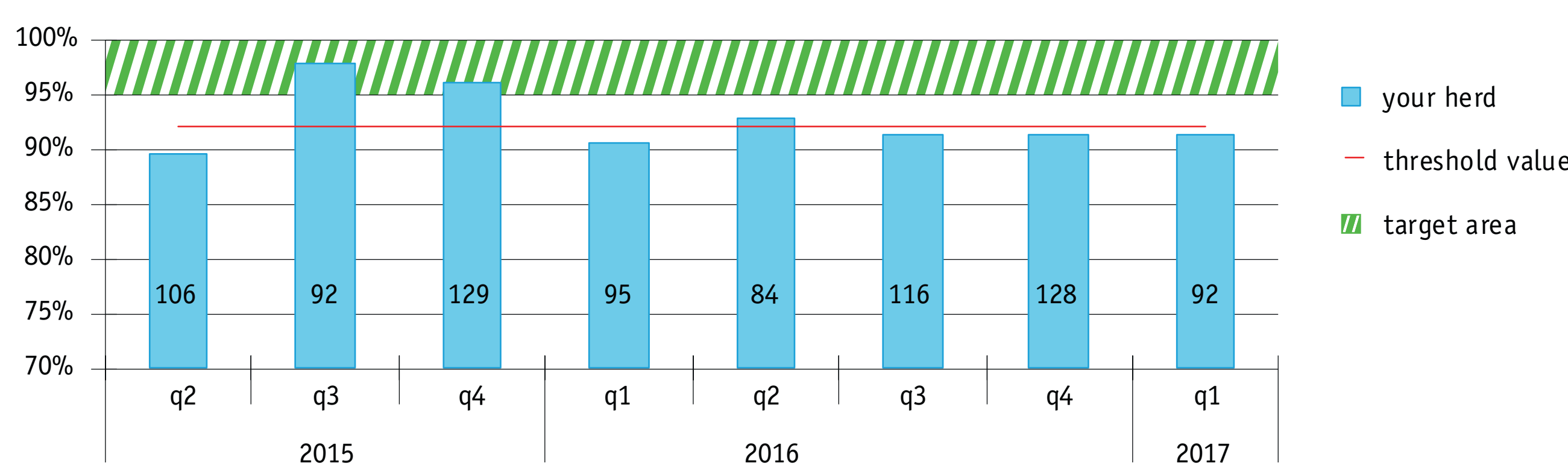
Strong points in the past year

- Antimicrobial usage in young stock ≤56 days old
- BVD-status
- IBR-status

Points of attention

- Live births
- Successful rearing of young stock 15-56 days old
- Antimicrobial usage in young stock 56 days-1 year old

Average per key indicator in time (Example: Live birth)



KalfOK-score in time

	2015			2016				2017
	q2	q3	q4	q1	q2	q3	q4	q1
Quarterly-score	65	80	82	62	90	75	80	65
Annually moving average	73	74	76	72	79	77	77	78

■ 25% highest score
□ 50% average score
■ 25% lowest score



Overview of key indicators and benchmark in the past quarter

Key Indicator	Your herd	Bench mark	Threshold value	Target area	Max points	Granted points
Live births and young stock rearing						
Live births (%)	91.3	91.9	92.0	≥ 95.0	15	0
Successful rearing of ear-tagged bull calves ≤ 14 days old (%)	97.9	95.6	92.0	≥ 97.0	15	15
Successful rearing of ear-tagged heifer calves ≤ 14 days old (%)	97.3	95.7	92.0	≥ 97.0	15	15
Successful rearing of young stock 15-56 days old (%)	87.5	91.8	92.0	≥ 97.0	15	0
Successful rearing of young stock 56 days-2 yrs old (%)	100.0	99.4	98.0	≥ 98.0	10	10
Antimicrobial usage						
Use for respiratory infections in young stock ≤ 56 days old	0.00	1.98	≤1.70	1.70	5	5
Use for diarrhoea problems in young stock ≤ 56 days old	0.00	0.51	3.00	≤3.00	5	5
Use for other infections in young stock ≤ 56 days old	0.00	0.82	3.10	≤3.10	5	5
Use in young stock 56 days-1 yr old	0.29	0.13	0.10	≤0.10	5	0
Herd health status						
Certified BVD-free (%)	Yes	43.1	Yes	Yes	6	6
Use of BVD-vaccin in the past year (%)	No	18.0				
Certified IBR-free (%)	Yes	Yes	Yes	Yes	2	2
Use of IBR-vaccin in the past year (%)	No	21.4				
Certified Salmonella unsuspected (%)	Yes	32.8	Yes	Yes	2	2
Additional information						
Use of medicines for treatment of coccidiosis (%)	No	21.7				
Use of medicines for treatment of cryptosporidiosis (%)	No	26.9				
No purchase of cattle (%)	Yes	72.7				

Validity

Detect herds with **excellent** (80-100 points) quality of young stock rearing:

- ✓ Sensitivity: 88% (95% CI: 47-100%)
- ✓ Specificity: 67% (95% CI: 54-78%)

Detect herds with **insufficient** (0-60 points) quality of young stock rearing:

- ✓ Sensitivity: 86% (95% CI: 42-100%)
- ✓ Specificity: 77% (95% CI: 66-86%)

Discussion and conclusions

In KalfOK routinely collected data were combined into herd specific information in support of animal health and welfare. The participating farmers valued the information and the system will be nationally implemented on a voluntary basis. Given the increasing availability of automatically assembled data, the development of similar monitoring tools seems feasible.

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