

Monitoring

Animal Health

Cattle

Highlights Report, Fourth Quarter 2016

Cattle demographics

Dairy farms: In the fourth quarter of 2016, there were 17,354 dairy farms with cattle in the Netherlands. Dutch dairy farms had on average 105 animals older than two years in the fourth quarter of 2016. The ratio of young stock rearing farms to dairy farms was 11.6 percent in this quarter (third quarter 2016: 11.7%).

Non-dairy farms: In the fourth quarter of 2016, there were 18,665 non-dairy farms with cattle in the Netherlands. The non-dairy farms cover various types of farms. Small-scale farms had an average of 6 cows, suckler cow farms had an average of 33 adult cows, young cattle rearing farms an average of 65 animals, and beef cattle farms an average of 447 animals.

Conjunctivitis in dairy cattle

In the third and fourth quarters, the Veekijker received reports from a number of veterinary practices regarding farms with conjunctivitis in the herd. The infection resulted in purulent ocular discharge. It was striking that the animals generally had no inflammation of the cornea, unlike the normal clinical presentation of pink eye (infectious bovine keratoconjunctivitis (IBK)). There were also hardly any other symptoms. It was decided to start a pilot study and to take eye swabs from five cows with conjunctivitis at three farms, in order to investigate whether the conjunctivitis had a bacterial cause and to map out possible risk factors. While an IBR outbreak was thought to be the cause of the conjunctivitis at some farms, no virus or antibodies in bulk milk were detected.

At one farm, the *Moraxella* bacteria was discovered in the five cows tested. The sample contained both *Moraxella bovis* and *Moraxella bovoculi*, both of which are known pathogens of pink eye. At the same farm, *Mycoplasma* spp. was also cultivated from one eye swab. No *Moraxella* spp. or *Mycoplasma* spp. was detected at the other two farms, only mixed bacterial growth. There were no changes or common factors which might serve as risk factors at the farms. It was concluded that this was probably not a new disease but rather an alternative manifestation of pink eye.

Short news

- **BVD:** the number of dairy farms with a BVD-virus free status or BVD-bulk milk antibody unsuspected status increased to 49 percent.
- **IBR:** the number of dairy farms with an IBR-virus free status or IBR-unsuspected status increased to 60 percent. 12 percent of non-dairy farms had an IBR-virus free status.
- **Salmonella:** GD Animal Health detected an infection at 1,013 farms (third quarter 2016: 903 farms).
- **Liver fluke infection** detected at 193 farms.
- **Screening for BTV circulation** commissioned by the Ministry of Economic Affairs showed (95% reliably) no circulation of BTV in 2016, on the assumption that at least 20 percent of cattle would be infected in case of BTV circulation.
- **Schmallenberg virus infections** detected in autumn 2016.

Information which is used for the surveillance is collected from different sources. The initiative comes in part from veterinarians and farmers, and partly from GD Animal Health. The information is fully interpreted to achieve the objectives of the surveillance programme – the quick identification of animal health problems on the one hand, and monitoring of more general trends and developments on the other hand. The Ministry of Economic Affairs (EZ) and the livestock farming sector consisting of the Dutch inter-branch organisations DairyNL (ZuivelNL) and the Calf Industry Association (SBK) are co-financing the surveillance programme.



Data analysis (up to and including the third quarter of 2016); disposal and slaughter

Indicators relating to sustainability (including animal trade or culling) are analysed within the Dutch Animal Health Surveillance System to reveal any trends. The percentage of animal trade remained stable at dairy farms and suckler cow farms alike. In the third quarter of 2016, 1.9 percent of cattle at dairy farms and

6.5 percent at suckler cow farms were traded. The percentage of cattle culled at suckler cow farms remained stable at 5.4 percent in the third quarter of 2016, versus the previous period. For this indicator, a change in trend was seen in dairy farms. In the third quarter of 2016, 3.8 percent of cattle at dairy farms were

culled, versus 3.3 percent in the same quarter of the previous year. Over the entire analysis period of five years, the percentage of culled cattle from dairy farms remained stable at an average 3.5 percent per quarter.

Resistance to antibiotics; *Salmonella* spp.

When requested, pathogenic bacteria isolated upon bacteriological examination are subjected to an antimicrobial susceptibility test in order to determine for which antimicrobial agents these bacteria are susceptible under laboratory conditions. This allows the veterinarian to effectively target antimicrobial treatment. GD Animal Health collects the antimicrobial susceptibility results in order to detect possible changes in antimicrobial susceptibility of bacteria over a longer period of time.

In 2016, to various antibiotics, higher percentages of *Salmonella* spp. isolates from post-mortem material were resistant than in previous years. In particular, this accounts for *S. Dublin* and *Salmonella* group B isolates. Figure 1 shows the development of resistance of *S. Dublin* isolates. Only data of antimicrobials for which significantly higher percentages of

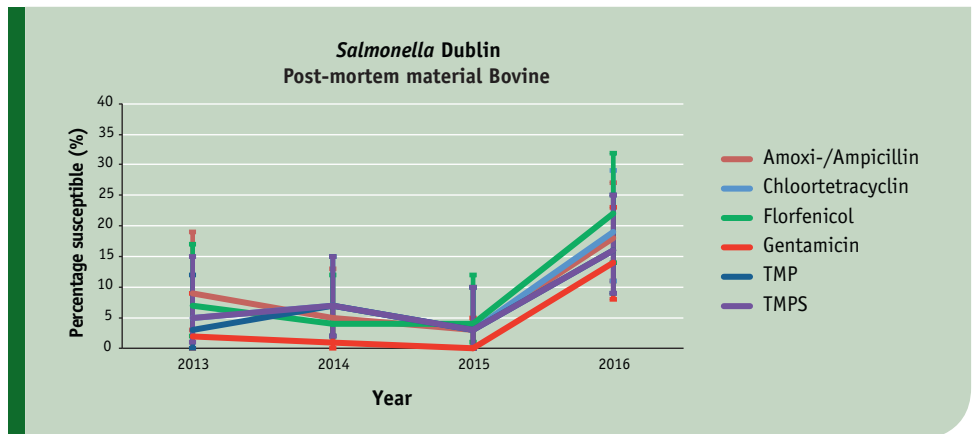


Figure 1 Susceptibility of *Salmonella Dublin* for ampi-/amoxicillin, chloortetracyclin, florfenicol, gentamicin, TMP and TMP/S (source: GD-LIMS)

resistance were seen in 2016 than in 2015 are presented. For *S. Typhimurium*, there was only a significant increase of the percentage of isolates resistant to florfenicol. For *Salmonella* group B

isolates, significantly higher percentages of resistance were found for amoxicillin/ampicillin, florfenicol and gentamicin.



Table 1 Percentage of *Salmonella* species cultured from necropsy material from cattle, which were resistant to antibiotics, 2013 through 2016 (source: GD-LIMS)

Bacteria		2016	2015	2014	2013
<i>Salmonella</i> Dublin	<i>Number of isolates</i>	90	68	73	57
	Amoxicillin/Ampicillin	18	3	5	9
	Amoxicillin+clavulanic acid	1	0	0	3
	Apramycin	1	0	1	0
	Ceftiofur/Cefquinome	1	0	0	0
	Chlortetracycline	19	3	7	5
	Colistin	4 (70)	1 (47)	4 (48)	5 (42)
	Enrofloxacin/Danofloxacin/Difloxacin/Marbofloxacin	1	0	0	2
	Florfenicol	22 (52)	4 (25)	4 (14)	7 (19)
	Flumequine	2	0	0	2
	Gentamicin	14	0	1	2
	Neomycin	3	0	1	0
	Trimethoprim	16	3	7	3
	Trimethoprim-sulfonamides	16	3	7	5
<i>Salmonella</i> Typhimurium	<i>Number of isolates</i>	71	86	98	99
	Amoxicillin/Ampicillin	56	50	57	37
	Amoxicillin+clavulanic acid	0 (34)	5 (24)	24 (29)	19 (19)
	Apramycin	0	0	0	1
	Ceftiofur/Cefquinome	0	0	0	0
	Chlortetracycline	83	87	76	71
	Colistin	0	0	1	0
	Enrofloxacin/Danofloxacin/Difloxacin/Marbofloxacin	0	0	0	1
	Florfenicol	55 (42)	31 (50)	39 (55)	7 (39)
	Flumequine	1	0	0	12
	Gentamicin	30	17	20	6
	Neomycin	10	5	1	8
	Trimethoprim	18	17	17	24
	Trimethoprim-sulfonamides	18	17	16	22
<i>Salmonella</i> Group B	<i>Number of isolates</i>	42	32	23	
	Amoxicillin/Ampicillin	95	72	87	
	Amoxicillin+clavulanic acid	0 (27)	0 (9)	13 (52)	
	Apramycin	0	0	0	
	Ceftiofur/Cefquinome	0	0	0	
	Chlortetracycline	93	91	91	
	Colistin	0	0	0	
	Enrofloxacin/Danofloxacin/Difloxacin/Marbofloxacin	0	0	0	
	Florfenicol	64 (32)	22 (63)	30 (65)	
	Flumequine	2	0	0	
	Gentamicin	45	9	4	
	Neomycin	20	9	9	
	Trimethoprim	34	22	13	
	Trimethoprim-sulfonamides	34	22	13	



Animal Health Situation in the Netherlands

ANIMAL DISEASE	DUTCH SITUATION	Surveillance – Highlights Fourth Quarter 2016
Article 15 GWWD (Health & Welfare Act) diseases (diseases named in articles 2-9 of the 'Rules for prevention, control and monitoring of infectious animal diseases and zoonoses and TSEs')		
Aujeszky's disease	Officially free since 2004.	No infections detected.
Bluetongue	Officially free since 2012 (all serotypes). Annual screening.	One suspicious clinical case, no infection detected.
Brucellosis	Officially free since 1999. Monitoring via blood samples from aborting cows.	No infections detected.
BSE	No more cases detected upon monitoring since 2010 (total 88 cases from 1997 - 2009). OIE status: 'negligible risk'.	No infections detected.
Leucosis (EBL)	Officially free since 1999. Upon monitoring of blood samples from slaughtered cattle and bulk milk.	No infections detected.
Lumpy skin disease (LSD)	Officially free.	Alertness due to spread in South-East Europe. Two suspicious cases, no infections detected.
Anthrax	Not detected since 1994.	No infections detected.
Foot and Mouth Disease (FMD)	Officially free since 2001, last regional outbreaks in 1986 and 2001.	No infections detected.
Rabies	Officially free since 2012.	No infections detected.
Bovine tuberculosis	Officially free since 1999.	No infections detected.
Article 100 GWWD (Health & Welfare Act) diseases (diseases named in article 10 of the 'Rules for prevention, control and monitoring of infectious animal diseases and zoonoses and TSEs')		
<i>Campylobacter fetus</i> ssp. <i>venerealis</i> and <i>Trichomonas foetus</i>	Last infection detected by surveillance in 2009.	No infections detected.
Leptospirosis	0.8 percent of non-dairy farms had animals with antibodies.*	99 percent of dairy farms had the <i>L. hardjo</i> -virus free status.
Listeriosis	Main source is poorly preserved grass silage.	Two infections detected at necropsy.
Salmonellosis	9.5 percent of non-dairy farms had animals with antibodies.*	Infection detected at 1,013 farms (903 farms in third quarter 2016). The third round of bulk milk monitoring via Qlip showed 88 percent favourable results.
Yersiniosis	Detected occasionally in cattle, mostly in aborted fetuses.	One infection detected in aborted fetus.



Table continuation

Other OIE-list diseases in the Netherlands subject to compulsory reporting

MCF	Infections with Ovine herpes virus type 2 occur occasionally.	One infection detected at necropsy.
IBR	15.6 percent of dairy farms had IBR antibodies in bulk milk**. The estimated prevalence at non-dairy farms is 9.6 percent**.	Among dairy farms, 60 percent had an IBR-virus free status or IBR-bulk milk antibody unsuspected status (2015: 51%). Bulk milk infections at 0.3 percent of the farms with an IBR-virus free status and at 1.4 percent with IBR-bulk milk antibody unsuspected status. Among the non-dairy farms, 12 percent had IBR-virus free status (2015: 11%). At fifteen farms (15% of the farms which submitted samples), IBR outbreaks were detected via nasal swabs (12 farms had an unknown IBR status).
Paratuberculosis	99.4 percent of dairy farms had PPN (Paratuberculosis Programme Netherlands) status,	76 percent of which had status A.
Tick borne diseases	Ticks infected with <i>Babesia divergens</i> , <i>Anaplasma phagocytophilia</i> and <i>Mycoplasma wenyonii</i> are present in the Netherlands.	No infections detected.

Other infectious diseases in cattle

BVD	8.7 percent of dairy farms had an indication of recent BVD-virus circulation**. 14.5 percent of non-dairy farms had recent BVD-virus circulation**.	Among dairy farms, 49 percent has a BVD-virus free status or BVD-bulk milk antibody unsuspected status (2015: 41%). Among the non-dairy farms, 5 percent had a BVD-virus free status (2015: 4%).
Liver fluke	Infected liver-fluke snails are found in marshy meadows.	Infections detected in samples from 193 cattle farms.
Neosporosis	Important infectious cause of abortions.	Infections detected in 5 percent of submitted aborted fetuses.
Q fever	73 percent of dairy farms had antibodies in bulk milk**.	One infection detected in an aborted fetus.

* Final Report Specific Surveillance 2013-2014; prevalence studies

** Final Report Specific Surveillance 2015-2016; prevalence studies

