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# **SALMONELLA** **RISK ASSESSMENT**

**SALMONELLA... SPOT IT... STOP IT - VACCINATE NOW!**  
**ASSESSMENT BOOKLET**

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 **MSD**  
Animal Health

# ARE YOU IN TOUCH WITH *SALMONELLA*?

*Salmonella* has serious economic consequences on a farm, potentially devastating effects for livestock. As a zoonosis, it poses a risk to human health.

On farm biosecurity combined with vaccination can help to reduce the spread of disease.

This assessment will help to highlight any areas of high risk and show where improvements can be made.

## INSTRUCTIONS FOR COMPLETING THIS RISK ASSESSMENT

- Complete all 6 sections of this assessment to identify strengths and weaknesses.
- For each question choose the most appropriate statement for the situation on farm and circle your score.
- Add up the score for each section and plot on the graph on the back page.
- Discuss the results with your veterinary surgeon and create an action plan for any necessary improvements.
- Repeat this checklist every 6 - 12 months to monitor progress.



SCAN TO VIEW THE INFORMATION PACK

## 1 CALVING AREA

THE RISK	ANSWER	SCORE
<b>1. MANY COWS CALVING IN THE SAME PEN</b>	Never	0
	Occurs rarely and only when cows are considered low-risk based on serological testing or no previous episodes of consistent clinical signs	5
	Occurs frequently but only when cows are considered low-risk based on serological testing or no previous episodes of consistent clinical signs	15
	Occurs rarely but regardless of test status or clinical history	20
	Occurs in about half of calvings, regardless of the cows' test status or clinical history	25
	Occurs all the time, regardless of cows' test status or clinical history	30
<b>2. CONTAMINATION OF CALVING AREA WITH MANURE</b>	Never	0
	Pen bedded daily and cleaned out every two weeks. Only small amounts of manure visible	6
	Pen bedded once to twice per week, cleaned out monthly. Only small areas contaminated with manure	10
	Pen bedded once to twice per month. Most of the area is contaminated with manure	14
	Pen cleaned out less than once a month. Extensive manure contamination	20
<b>3. SICK COWS IN THE CALVING AREA</b>	Not used for sick cows	0
	Used for lame cows	5
	Used for cows suspected of suffering from ketosis, milk fever or other metabolic conditions	10
	Used for cows that appear weak but no diagnosis has been reached	10
	Used for cows with GI disorders other than salmonellosis	15
	Used for cows suspected of suffering from salmonellosis	20



# 1 CALVING AREA ctd...

THE RISK	ANSWER	SCORE
<b>4. AMOUNT OF TIME NEWBORN CALVES STAY WITH THE DAM</b>	Always removed from the dam less than an hour after birth	0
	Always removed from the dam less than 6 hours after birth	6
	Removed from the dam more than 6 hours after birth in 1-5/10 calvings	15
	Removed from the dam more than 6 hours after birth in more than half of calvings	20
<b>5. CALVES SUCKLING THE COWS</b>	Never	0
	Rarely and only in low risk dams	3
	Frequently but only in low risk dams	6
	Frequently regardless of clinical history of the dam	10
<b>6. CONTAMINATION OF UDDERS WITH MANURE</b>	Never	0
	Teats are clean. Udders of some of the cows are moderately contaminated	3
	Teats are clean. Udders of the majority of cows are contaminated	5
	Teats are moderately clean. Udders of the majority of the cows are very contaminated	7
	Teats and udders of the majority of the cows in the area are very contaminated	10

**TOTAL SCORE FOR SECTION 1**

**110**

# 2 CALVES BEFORE WEANING

THE RISK	ANSWER	SCORE
<b>1. FEEDING OF POOLED COLOSTRUM</b>	Never	0
	Feeding of pooled colostrum 1-2 times per year	3
	Feeding of pooled colostrum 1-2 times per month	5
	Feeding of pooled colostrum most of the time	7
	Feeding of pooled colostrum all the time	10
<b>2. FEEDING OF POOLED RESIDUAL MILK (BULK TANK MILK)</b>	Never	0
	Feeding of pooled residual milk 1-2 times per year	1
	Feeding of pooled residual milk 1-2 times per month	3
	Feeding of pooled residual milk most of the time	4
<b>3. FEEDING OF MILK FROM SICK/TREATED COWS</b>	Never	0
	Feeding of milk from sick cows 1-2 times per year	1
	Feeding of milk from sick cows 3-4 times per year	2
	Feeding of milk from sick cows 1-2 times per month	6
	Feeding of milk from sick cows most of the time	8
<b>4. PHYSICAL SEPARATION OF CALVES AND COWS</b>	No contact at all (Separate units/buildings and no risk of contamination with manure from other units/buildings)	0
	Only contact with adult cattle where necessary. Building sections separated by partition walls without bars	5
	Calves can come in contact with cow manure in connection with manure removal	10
	Calves are in frequent/close physical contact with manure from adult cattle or heifers	15
	Calves are in close contact with cows/adult heifers or their manure all the time	20



### 3 CALVES AFTER WEANING (UNTIL THE AGE OF 6 MONTHS)

THE RISK	ANSWER	SCORE
<b>1. DIRECT CONTACT WITH CATTLE IN OTHER AGE GROUPS</b>	Never	0
	Calves are only close to other animals when necessary (e.g. for handling). Sections separated by solid partition walls	5
	Calves can come in contact with cow manure in connection with manure removal	10
	Calves are in frequent/close physical contact with manure from adult cattle or heifers	15
	Calves are in close contact with cows/adult heifers or their manure all the time	20
<b>2. CONTAMINATION OF FEED, WATER OR PENS WITH FAECES FROM OTHER CATTLE</b>	Never	0
	Small amounts of manure visible. Water and feed troughs cleaned more than once a week	5
	No manure is visible. Water and feed troughs cleaned less than once per week	10
	Large amounts of manure are visible. Water and feeding troughs are rarely cleaned	15
	Highly contaminated with manure	20
<b>3. GRAZING WITH COWS OR ON LAND GRAZED BY COWS WITHIN THE LAST YEAR</b>	Never	0
	Only when fencing fails	3
	Share pasture with adult animals more than 25% of the time but not all the time	7
	Co-graze all the time	10

### 3 CALVES AFTER WEANING (UNTIL THE AGE OF 6 MONTHS) ctd...

THE RISK	ANSWER	SCORE
<b>4. APPLICATION OF MANURE/ SLURRY TO GRASSLAND</b>	Never	0
	Pasture not grazed for a minimum of 2 years after application	1
	Pasture is not grazed for 10 months to 2 years after application	3
	Pasture is not grazed for 4-10 months after application	6
	Pasture is grazed less than 4 months after application	8
	Manure frequently applied to pasture used for grazing	10
<b>5. HOUSING OF CALVES IN GROUP PENS</b>	All in - all out method is practised and the pen is cleaned between every batch of calves. No contact with calves in other group pens	0
	All in - all out method is practised, but the calves have contact with calves in other group pens	5
	All in - all out method is practised where possible, but a calf may be added to an existing group if necessary	10
	Calves are continuously housed in group pens, and they have no contact with calves in other group pens	15
	Calves are continuously housed in group pens, and they have contact with calves in other group pens	20
<b>6. NUMBER OF ANIMALS IN GROUP PENS</b>	2-4 animals in one pen	0
	5-7 animals in one pen	5
	Greater than or equal to 8 animals in one pen	10



# 4 REARING HEIFERS (FROM THE AGE OF 6 MONTHS) ctd...

THE RISK	ANSWER	SCORE
<b>5. HOUSING OF MATURE HEIFERS AND CALVING HEIFERS</b>	All in - all out system with small groups of 2-8 heifers. No contact with heifers in other groups	1
	All in - all out system with large groups of 8 or more heifers. No contact with heifers in other groups	5
	All heifers are housed in the same unit, but they are divided into groups. Contact with heifers in other groups	10
	All heifers are housed in the same unit ungrouped and contact with heifers in other groups is possible	15
<b>6. STOCKING DENSITY PER ANIMAL (m<sup>2</sup>)</b>	Cubicles should be 5% understocked. For heifers loose housed, animals of 200 kg+ require 6 m <sup>2</sup> . This increases to 7.5 m <sup>2</sup> in late pregnancy	
	More space than recommended	0
	0.75-1 x the recommended space allowance	5
	Less than 0.75 x the recommended space allowance	10

**TOTAL SCORE FOR SECTION 4**

**75**

NOTES:

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# 5 COWS

THE RISK	ANSWER	SCORE
<b>1. CONTAMINATION OF WATER TROUGH WITH MANURE</b>	Never	0
	Manure visible. Occasional but not frequent cleaning	5
	Large amounts of manure visible. Insufficient cleaning	10
<b>2. CONTAMINATION OF STORED FEED WITH MANURE</b>	Never	0
	Manure contamination can occur occasionally	5
	Manure contamination can occur daily	10
<b>3. CONTAMINATION OF FEEDING TROUGH/AREA WITH MANURE</b>	Never	0
	Manure visible. Occasional but not frequent cleaning	5
	Large amounts of manure visible. Insufficient cleaning	10
<b>4. COWS HAVE ACCESS TO MANURE STORAGE AREA</b>	Never	0
	Occasional access	5
	Access possibly daily	10

# 5 COWS ctd...

THE RISK	ANSWER	SCORE
5. STOCKING DENSITY IN COW UNIT	Assessment of stocking density in lying areas, passages, feed spaces and water troughs. Cubicles should be 5% understocked, with 7.5 m <sup>2</sup> of lying area for cows housed in straw yards. Loose housed dry cows should have 1.25 m <sup>2</sup> per 1000 kg annual mean milk production.	
	Sufficient room	0
	Occasionally crowded, occasionally insufficient room or few areas with insufficient room	5
	Often insufficient room, queues etc in the cow unit. Insufficient dry cow or calving pen area	10

**TOTAL SCORE FOR SECTION 5**

**50**

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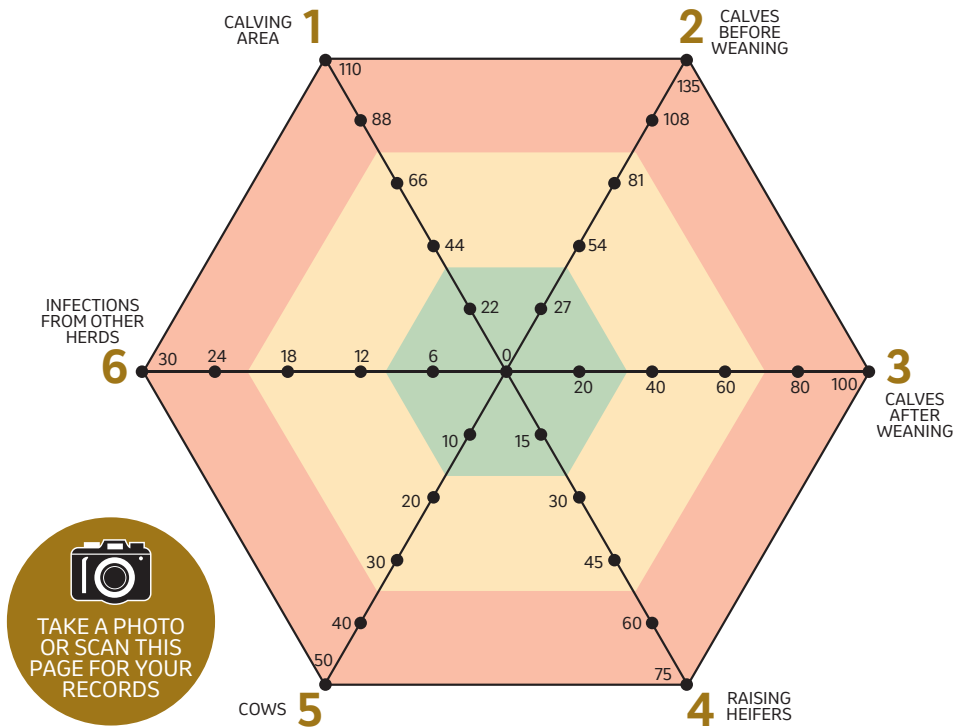
# 6 INFECTION FROM OTHER HERDS

THE RISK	ANSWER	SCORE
1. HYGIENE MEASURES FOR VISITORS	It is required that visitors wear overclothes and that they disinfect their boots before entering the cattle area	0
	Visitors are requested to wash their boots and walk through a boot wash before entering the cattle area	2
	No hygiene measures have been taken	5
2. SAFETY WHEN PURCHASING ANIMALS	No animals are purchased from other farms	0
	Low risk purchases - e.g. seronegative animals or seronegative beef bull	5
	Medium risk purchases -small number of purchases from herd thought to be free of <i>Salmonella dublin</i>	10
	Animals purchased from herds of unknown status with no individual testing	15
3. COLLECTION OF ANIMALS	Animals for slaughter collected from a separate delivery facility	0
	Occasionally collection of animals results in manure contamination of the premises	5
	No particular measures have been taken	10

**TOTAL SCORE FOR SECTION 6**

**30**

# YOUR RISK OF SALMONELLA



Mark on the graph the score for each section. Join the points on each axis together to make a hexagon.

The overall number of points for a section indicates the contribution of that section to overall risk of *Salmonella* on farm, and the shape indicates areas in need of most attention - the lower the score for each section the better.

Results within the red areas indicate **high risk**, amber indicates **areas for improvement** and green shows areas where you are **excelling**.

FARM NAME: \_\_\_\_\_

VET'S NAME: \_\_\_\_\_

	ACTION	PERSON RESPONSIBLE	DATE OF IMPLEMENTATION	DATE FOR REASSESSMENT
1				
2				
3				
4				
5				



Nielsen, L.R and Nielsen, S.S (2012)  
 'A structured approach to control of *Salmonella dublin* in 10 Danish dairy herds based on risk scoring and test and manage procedures.'  
 Bovilis® Bovivac® S contains inactivated cells of *Salmonella dublin*, strain S342/70 (1 x 10<sup>9</sup> cells/ml) and inactivated cells of *Salmonella typhimurium*, strain S341/70 (1 x 10<sup>9</sup> cells/ml). **POM-V**.  
 Further information is available from the SPC, datasheet or package leaflet.  
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