Developing a Brucellosis Reporting Form and an Accompanying Investigation Format

J. J. O’Keeffe

Introduction

A review of the systems within the Department of Agriculture and Food in relation to brucellosis in cattle was undertaken in October 1997 by a study group which was representative of the veterinary and administrative personnel most intimately involved in brucellosis. The Tuberculosis Investigation Unit acted as facilitator to the group which met on five occasions and addressed two broad set of needs:

A. Needs of Local/Regional/ HQ Managers (Operations).
B. Needs of Epidemiology/ DAF Managers (Policy).

A primary objective of the study during the five meetings was to agree draft reporting formats for use by field veterinarians investigating brucellosis breakdowns. The group also defined a structured approach to the investigation, which would standardise procedures. These proposed reporting formats were tested by field staff in Cork, Kerry, Limerick and Tipperary during 1998. The current draft (Draft No. 6) has been modified in line with suggestions received during trialling to date and is being applied in Counties Clare, Cork, Kerry, Limerick, Tipperary and Offaly from 1st July 1999 onwards.

The present draft is a modular format containing 7 individual reports, in bound form. Individual breakdowns may qualify for differing combinations of reports. It is intended that the structure of each investigation will return data which (1) will assist in establishing the source of the breakdown and, (2) will identify risk factors that might have contributed to the outbreak.

Breakdowns investigations to which the format will apply.
The procedure described here will be applied in the following circumstances:

- All breakdowns require a report on the tracing of purchased reactors.
- All breakdowns require a report to be completed at de-restriction.

The following additional reports are only required where two or more serologically positive animals are identified during a breakdown:

- A validated contiguous list at de-restriction.
- A herd visit and report.
- Forward tracing of potentially infected cattle moved out of the herd.

Breakdowns identified following a positive whey ELISA test or during the follow-up testing of reported abortions require additional details to be recorded.

Feedback from staff at the participating DVO’s will be sought at regular intervals of 4–6 weeks. The progress of investigations will then be reviewed with each participating VI. on attendance. A final review of the reporting format and procedures will be undertaken at the end of 1999 with a view to adopting this procedure on a national basis from thereon.
Brucellosis Restricted Herd. Draft 6

Herd Number

Name

Address

Phone Number

Private Practitioner PVP Code

Creamery (if supplier of milk) VI

Date Restricted

Identification method (circle as appropriate):

Whey ELISA Pos. Positive Abortion Blood Test Tracing

Date Derestricted

Depopulated Yes / No

Depop date

ERAD/TEAGASC

Tuberculosis Investigation Unit, UCD
All Brucellosis breakdowns should have a report on backtracing and a report at the derestriction stage

<table>
<thead>
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<th>Completed</th>
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<tbody>
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<td>Yes/No</td>
<td>Date</td>
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<tr>
<td>Back-tracing of Reactors</td>
<td>(Page 4)</td>
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<tr>
<td>Report at de-restriction stage</td>
<td>(Page 8-9)</td>
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The following reports are **only required** in confirmed outbreaks:

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<tr>
<td>Yes/No</td>
<td>Date</td>
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<tr>
<td>Forward tracing</td>
<td>(Page 5)</td>
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<tr>
<td>Index Herd Visit</td>
<td>(Page 6-7)</td>
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<tr>
<td>Validated Contiguous Herd List</td>
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Where a breakdown is identified following a Whey ELISA Positive or by a Positive Abortion fill the following:

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<th>Required</th>
<th>Completed</th>
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<tr>
<td>Yes/No</td>
<td>Date</td>
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<tr>
<td>Follow-up on Whey ELISA</td>
<td>(Page 3)</td>
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<tr>
<td>Follow-up on abortions</td>
<td>(Page 3)</td>
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<tr>
<td>Epidemiology data to TIU</td>
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</table>
Commence report at this point if the breakdown was identified following a positive Whey ELISA or alternatively in blood testing following on a reported abortion. Otherwise skip this page and commence report on page 4

**Follow-up on Positive Whey ELISA Results** Draft 6

Positive Whey ELISA test date __/__/__

Testing Laboratory ________________

**Follow-up on reported abortions.**

Date abortion reported __/__/__  Blood test/Phone/Reg.Lab (B/P/L) ___

Was material sent for culture Y/N __  Result ________________

Tag No.(s) of animal(s) that aborted: ____________________________

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<th>Date of 1st Blood test <strong>/</strong>/__</th>
<th>Tag No.(s)</th>
<th>Result</th>
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<th>Result</th>
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ERAD/TEAGASC 79  Tuberculosis Investigation Unit, UCD
Backtracing. Draft 6

1. Total females |__|__|__| 2. Total cards for females |__|__|__|

3. No. of females introduced over last 2 breeding cycles |__|__|__|

4. Number of introduced animals at 3 **that are now reactors** |__|__|

5. On how many animals at 4 was tracing commenced |__|__|

6. On how many was tracing completed |__|__|

7. Was there any evidence of introduced animals having had previous exposure to brucellosis infection? Y/N |__|__|

8. Herd Nos. in which introduced reactor animals were traced to:

   ___________________________________________________
   ___________________________________________________
   ___________________________________________________
   ___________________________________________________

Comments on investigation into purchasing:

   ___________________________________________________
   ___________________________________________________
   ___________________________________________________
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ERAD/TEAGASC 80 Tuberculosis Investigation Unit, UCD
**Forward tracing. Draft 6**

1 Date prior to the outbreak from when animals were traced __/__/__
2 Forward tracing initiated on ___ ___ ___ animals in own DVO.
3 Tracing completed on ___ ___ ___ animals in own DVO area.
4 Other DVOs notified of ___ ___ ___ animals at risk.

Comments:

________________________________________________________________________

5 Of the ___ ___ ___ animals traced in own DVO area:
   ___ ___ ___ were test positive in destination herds.
   ___ ___ ___ were test negative, deemed reactor and slaughtered following tracing.
   ___ ___ ___ were test negative in the destination herd and not slaughtered.
   ___ ___ ___ were slaughtered as part of normal culling.
   ___ ___ ___ were retagged and could not be traced.
   ___ ___ ___ could not be traced. Give reason(s) ____________________________

________________________________________________________________________

6 In own DVO area, Tag Nos. of at risk animals not slaughtered:

________________________________________________________________________

7 Enter Tag Nos and DVO code of animals traced outside own DVO area:

<table>
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<tr>
<th>Tag No</th>
<th>DVO</th>
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<th>DVO</th>
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ERAD/TEAGASC 81 Tuberculosis Investigation Unit, UCD
Report of Farm Visit to Index Herd, Draft 6

Date of farm visit: ___/___/___
Is herdowner farming Fulltime/ Parttime  Haulier Yes/No  Registered Dealer Yes/No

Herd Profile: Total Cattle at Time of Breakdown: ___
Dairy Cows: ____  Suckler cows: ____  Fattener cows: ____  Bulls: ____
Pregnant Heifers: ____  Other Heifers: >1yr: ____  Other Heifers: <1yr: ____

Are breeding animals housed at calving Y/N: ____  In isolation facilities Y/N: ____
Start/Finish of calving season: ______to______ No of reactors calved/aborted: ____

No of Dry Cows: ____  Are replacements purchased Y/N: ____
Do Cows and Replacement Heifers graze land parcels in common Y/N: ____

Comments on purchases: ____________________________________________

Milk produced previous year: ______ (G/L)  Milk Quota leased: ______ (G/L)
No. of Relevant Land Parcels: ____  Relevant area farmed: ______ (Acres/Hectares)

Is AI used Y/No  If yes, is DIY used Y/No  Are bulls used with Cows Y/N Heifers Y/N

Vet. Practitioners(s) that attended calvings or abortions during the last calving season:
Name(s) and Reg. No(s): ________________________________________________

Are farm relief personnel used Y/N  If yes, list names/duties: __________________

Was there shared labour identified (family or otherwise) Y/N
If yes give details: _______________________________________________________

Is waste from calving area disposed of safely Y/N: ____

Comments: ___________________________________________________________

_____________________________________________________________________

ERAD/TEAGASC 82  Tuberculosis Investigation Unit, UCD
Was there any sources of mechanical spread identified Y/N ___

Shared machinery (direct contact with cattle) Y/N  Slurry/manure spread by contractors Y/N
Haulier Y/N  Foxes Y/N  Dogs (free to roam) Y/N  High splash plate slurry spreader Y/N
Other Y/N  Details __________________________

Total R’s disclosed at Index test |___|___| Test Date __/__/__  MRT/WE Pos Y/N ___

**Herd Profile at the Index test**

**Total Herd**

| Nat.Grid Co-ord. X | | | | Y | | | | Relevant Area | | | | Acres/Hectares |
|-------------------|---|---|---|---|---|---|---|---|---|
| Cows              | No. Animals | No.Aborted | No. Rs | Highest | CF | SAT | EIA |
| Preg. Heifers     | | | | | | | | |
| Other Heifers     | | | | | | | | |

**Division 1** (Divisions apply where two herds are covered by one herd number)

| Nat.Grid Co-ord. X | | | | Y | | | | Relevant Area | | | | Acres/Hectares |
|-------------------|---|---|---|---|---|---|---|---|---|
| Cows              | No. Animals | No.Aborted | No. Rs | Highest | CF | SAT | EIA |
| Preg. Heifers     | | | | | | | | |
| Other Heifers     | | | | | | | | |

**Division 2** (Divisions apply where two herds are covered by one herd number)

| Nat.Grid Co-ord. X | | | | Y | | | | Relevant Area | | | | Acres/Hectares |
|-------------------|---|---|---|---|---|---|---|---|---|
| Cows              | No. Animals | No.Aborted | No. Rs | Highest | CF | SAT | EIA |
| Preg. Heifers     | | | | | | | | |
| Other Heifers     | | | | | | | | |

Comments:

____________________________

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ERAD/TEAGASC 83 Tuberculosis Investigation Unit, UCD
Report at De-restriction Draft 6

Date restricted ___/____/____ De-restriction date ___/____/____

Depop (Part/Full/No) || on ___/____/____

Total Reactors (exclude incontacts) || Epi Status (2,3 or 4) ||

Titres of the 4 animals with the highest Compliment Fixation test titres

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<th>Tag No.</th>
<th>CF</th>
<th>MSAT</th>
<th>EIA</th>
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<td>Tag No.3</td>
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<td>Tag No.4</td>
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Details of the animal class of all the reactors identified during breakdown:

<table>
<thead>
<tr>
<th>Animal Class</th>
<th>No. Animals</th>
<th>No. Aborted</th>
<th>No. Rs</th>
<th>Culture Y/N/Unknown</th>
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<tbody>
<tr>
<td>Cows</td>
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<td>Bulls</td>
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<tr>
<td>Preg. Heifers</td>
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<tr>
<td>Other Heifers</td>
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In your opinion had this herd Brucellosis Y/N __

If no give your reasons: __________________________________________

__________________________________________

Number of contiguous herds with females ______
Number of contiguous herds restricted during previous 2 years ______
Number of the above herds with brucellosis confirmed ______
Herd No(s) of these herd(s):

__________________________________________

__________________________________________

__________________________________________

ERAD/TEAGASC 84 Tuberculosis Investigation Unit, UCD
VI Evaluation on possible sources of infection:

The investigating veterinarian should evaluate the risk of infection having originated from either

[Weights 1 to 5 to be defined]:

1. Purchased infected stock.
2. Residual animal from previous breakdown in the herd
4. Non-contiguous adjacent herds (area problems).
5. Associated herds
6. Mechanical sources.

VI opinion as to the source of this breakdown [__] [1 - 6 or Unknown]

Comments:
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
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Report finalised on __/__/____ VI ___ ___ ___ ___ ___________ SVI ____________
The Risk Evaluation element is optional.

List of validated contiguous herds:

<table>
<thead>
<tr>
<th>County</th>
<th>Herd No.</th>
<th>Cd</th>
<th>Status*</th>
<th>Risk Evaluation (1-5)</th>
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List of associated herds:

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<tr>
<th>County</th>
<th>Herd No.</th>
<th>Cd</th>
<th>Status*</th>
<th>Risk Evaluation (1-5)</th>
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*Options: Status = Depopulated, Restricted or Clear