<table>
<thead>
<tr>
<th><strong>Title</strong></th>
<th>Developing a brucellosis reporting form and an accompanying investigation format</th>
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</thead>
<tbody>
<tr>
<td><strong>Authors(s)</strong></td>
<td>O'Keeffe, James</td>
</tr>
<tr>
<td><strong>Publication date</strong></td>
<td>1999-09</td>
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<td><strong>Series</strong></td>
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<td><strong>Publisher</strong></td>
<td>University College Dublin. Centre for Veterinary Epidemiology and Risk Analysis</td>
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<td><strong>Item record/more information</strong></td>
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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.
| 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 77  Tuberculosis Investigation Unit, UCD
SVI Check List  Draft 6

All Brucellosis breakdowns should have a report on backtracing and a report at the derestriction stage

<table>
<thead>
<tr>
<th>Required</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes/No</td>
<td></td>
</tr>
</tbody>
</table>

- Back-tracing of Reactors
  (Page 4)

- Report at de-restriction stage
  (Page 8 - 9)

The following reports are **only required** in confirmed outbreaks:

- Forward tracing
  (Page 5)

- Index Herd Visit
  (Page 6 - 7)

- Validated Contiguous Herd List
  (Page 10)

Where a breakdown is identified following a Whey ELISA Positive or by a Positive Abortion fill the following:

- Follow-up on Whey ELISA
  (Page 3)

- Follow-up on abortions
  (Page 3)

- Epidemiology data to TIU

---
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: ______________

Date of 1st Blood test __/__/__

<table>
<thead>
<tr>
<th>Tag No.(s)</th>
<th>Result</th>
</tr>
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<tbody>
<tr>
<td>__________</td>
<td>______</td>
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<td>__________</td>
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Date of 21 day retest __/__/__

<table>
<thead>
<tr>
<th>Tag No.(s)</th>
<th>Result</th>
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<td>__________</td>
<td>______</td>
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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:

_________________________________________________________________________________
_________________________________________________________________________________
_________________________________________________________________________________
_________________________________________________________________________________
_________________________________________________________________________________
**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>
<thead>
<tr>
<th>Tag No</th>
<th>DVO</th>
<th>Tag No.</th>
<th>DVO</th>
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</thead>
<tbody>
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ERAD/TEAGASC

Tuberculosis Investigation Unit, UCD
Report of Farm Visit to Index Herd. Draft 6

Date of farm visit ___/___/___
Is herdowner farming Fulltime/ Partime 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 Al used Yes/No If yes, is DIY used Yes/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**

<table>
<thead>
<tr>
<th>Nat. Grid Co-ord. X</th>
<th>Y</th>
<th>Relevant Area</th>
<th>Acres/Hectares</th>
<th>Highest CF, SAT, EIA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Cows</th>
<th>Preg. Heifers</th>
<th>Other Heifers</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. Animals</td>
<td>No. Aborted</td>
<td>No. Rs</td>
</tr>
<tr>
<td>_______</td>
<td>_______</td>
<td>_______</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Nat. Grid Co-ord. X</th>
<th>Y</th>
<th>Relevant Area</th>
<th>Acres/Hectares</th>
<th>Highest CF, SAT, EIA</th>
</tr>
</thead>
<tbody>
<tr>
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<table>
<thead>
<tr>
<th>Cows</th>
<th>Preg. Heifers</th>
<th>Other Heifers</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. Animals</td>
<td>No. Aborted</td>
<td>No. Rs</td>
</tr>
<tr>
<td>_______</td>
<td>_______</td>
<td>_______</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Nat. Grid Co-ord. X</th>
<th>Y</th>
<th>Relevant Area</th>
<th>Acres/Hectares</th>
<th>Highest CF, SAT, EIA</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Cows</th>
<th>Preg. Heifers</th>
<th>Other Heifers</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. Animals</td>
<td>No. Aborted</td>
<td>No. Rs</td>
</tr>
<tr>
<td>_______</td>
<td>_______</td>
<td>_______</td>
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</tbody>
</table>

Comments:

________________________________________

________________________________________

________________________________________

________________________________________

________________________________________

________________________________________

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

<table>
<thead>
<tr>
<th>Tag No.</th>
<th>CF</th>
<th>MSAT</th>
<th>EIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2</td>
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<tr>
<td>3</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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>
</tr>
</thead>
<tbody>
<tr>
<td>Cows</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bulls</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preg. Heifers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Heifers</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

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):
________________________________________________________________
________________________________________________________________
________________________________________________________________
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:

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

Report finalised on ___/___/___  VI ___ ___ ___ ___ ___  SVI ___________
The Risk Evaluation element is optional.

List of validated contiguous herds:

<table>
<thead>
<tr>
<th>County</th>
<th>HerdNo.</th>
<th>Cd</th>
<th>Status*</th>
<th>Risk Evaluation (1-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(To be completed at derestriction of index herd.)</td>
</tr>
</tbody>
</table>

List of associated herds:

<table>
<thead>
<tr>
<th>County</th>
<th>HerdNo.</th>
<th>Cd</th>
<th>Status*</th>
<th>Risk Evaluation (1-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(To be completed at derestriction of index herd.)</td>
</tr>
</tbody>
</table>

*Options: Status = Depopulated, Restricted or Clear