



Experience and interim results on on farm culture and selective treatment of clinical mastitis

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O'Neill Report, 2016

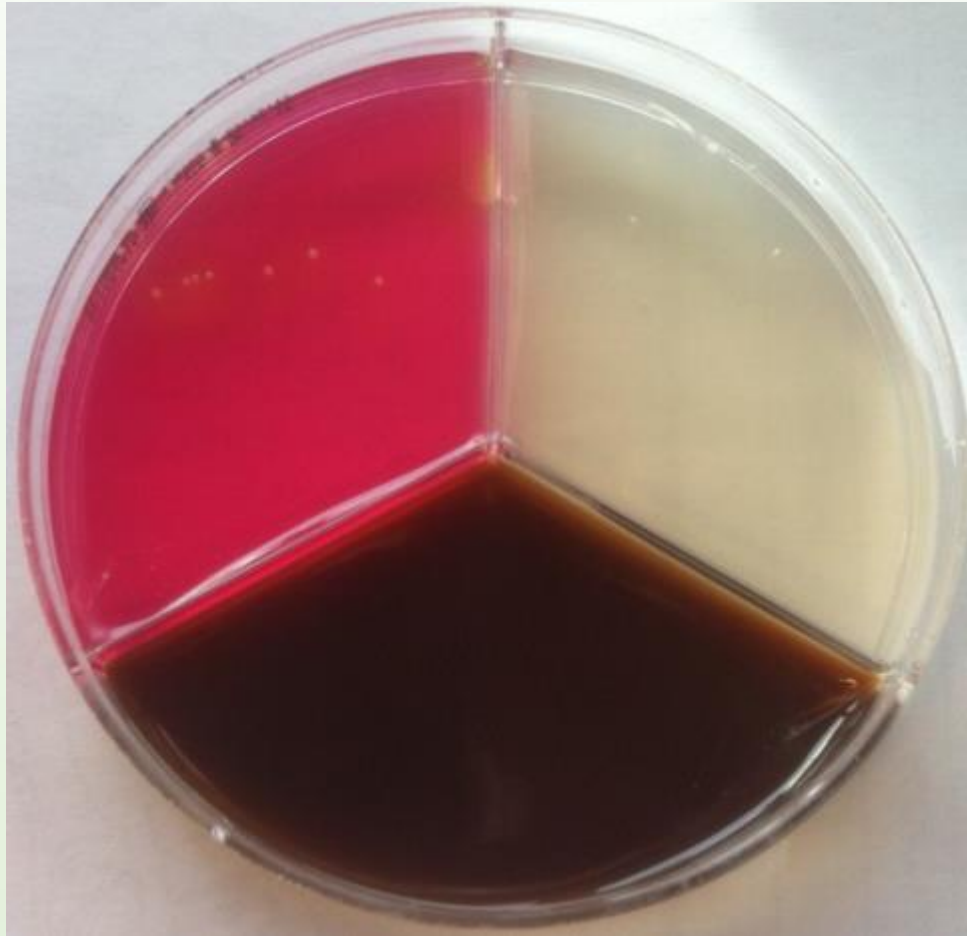
10 main recommendations.

Relevant to farming are

- Agriculture and environment
 - Setting targets by 2018, e.g. 50 mg/kg
- Vaccines and alternatives
- Surveillance and **Rapid diagnostics**



Vetorapid triplate for on farm culture (Viora 2014)



Field lab approach (Soil Association)

- Initial information meeting, recruitment of 10 organic farmers
- Training sessions, handbooks and record sheets
- Farmers submitting data, contacts via phone, e-mail and via their vets
- High budget for a field lab, low budget for a research project





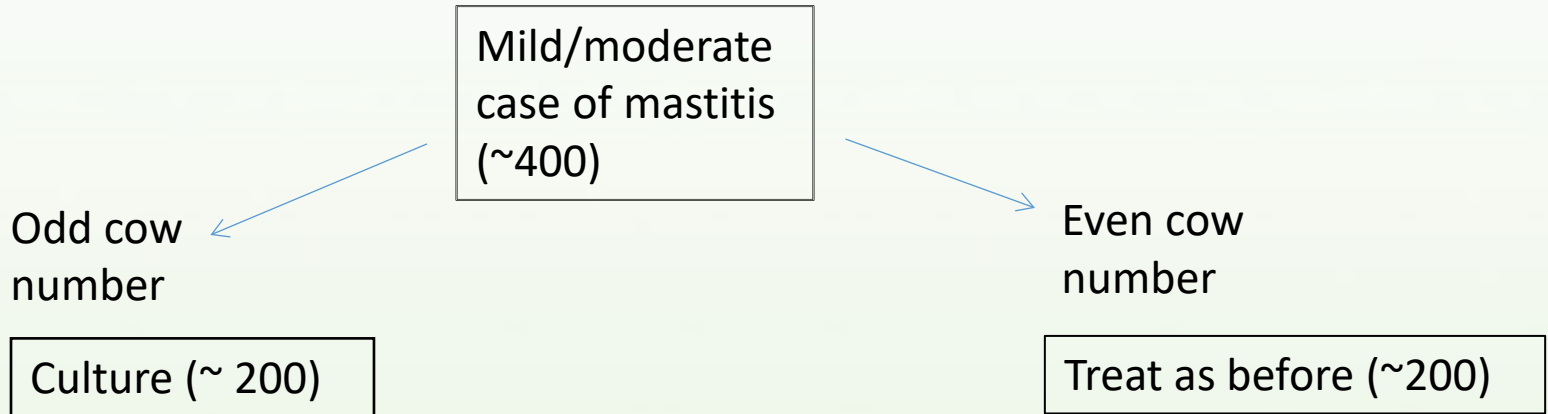


Trial protocol

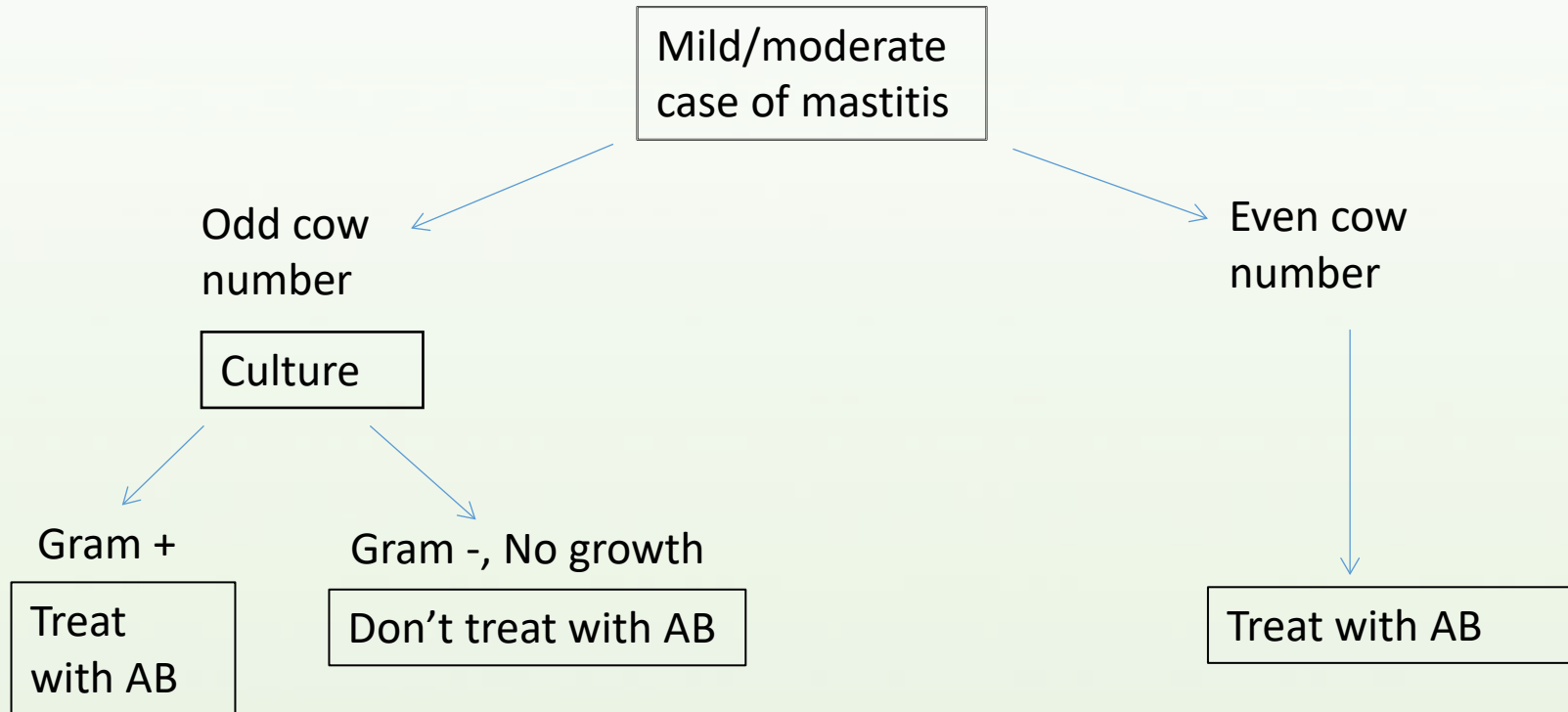
Mild/moderate
case of mastitis



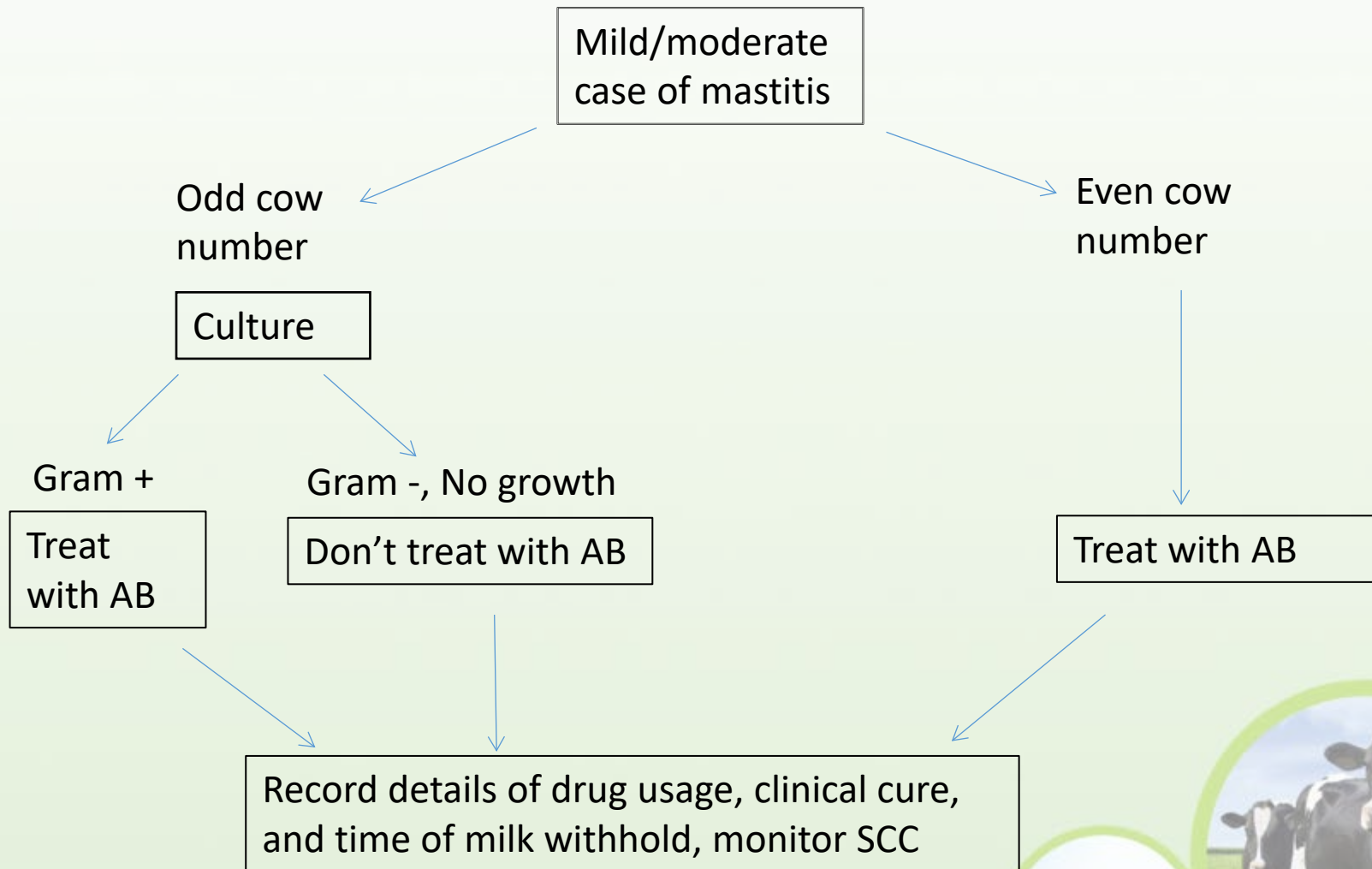
Trial protocol



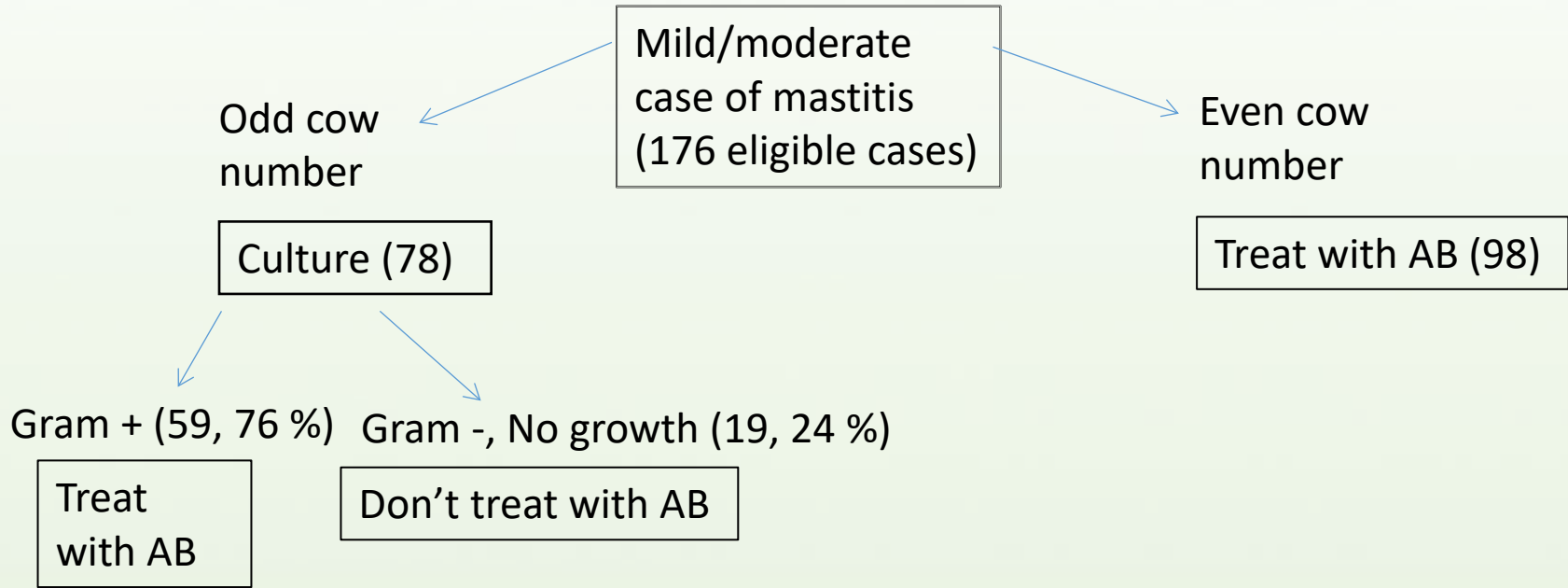
Trial protocol



Trial protocol



Interim results after 18 months – eligible cases from 6 farms/8 dairies



Difficulties

- Dropouts (some farms have not submitted any cases or stopped).
- Reasons
 - Few cases
 - All or almost all Gram positive
 - Staff issues etc
- Variable data quality
 - General mastitis records
 - Completeness of data sent in





With these limitations, interim outcomes are as follows:



Clinical cure rates

- Treatment cases: 91 out of 93 (98 %)

- Culture cases:
 - Total: 72 out of 75 (96 %)
 - Treated: 55 out of 57 (96%)
 - Untreated: 17 out of 18 (94 %)



Days to return to bulk tank

- Treatment cases: 13.7 days

- Culture cases:
 - Total: 13.2 days
 - Untreated: 4.4 days



Recurrence rate (preliminary)

- Treatment cases: 21 of 92 (23 %)

- Culture cases:
 - Total: 17 of 66 (26 %)
 - Treated: 10 of 48 (21 %)
 - Untreated: 7 of 18 (39 %)



Preliminary subsequent SCC linear scores (equivalent to SCC)

- Treatment cases: 4.19 (228,000)

- Culture cases:
 - Total: 3.99 (199,000)
 - Treated: 3.87 (183,000)
 - Untreated: 4.38 (260,000)



Initial economic assessment based on 9 days of milk saved per untreated case (organic farms)

- 20 litres per day
- 35 ppl (39 cent)

£ 63 (71 euros) per case not treated saved.

+ £ 10 (12 euros) in tubes saved

→ £73 (82 euros) per case saved in milk and treatment

Cost per culture: £ 8 (9 euros)

25 % of cases untreated → net saving of £ 10.25 (11.50 euros) per culture case)



Economic assessment highly dependent on

- Milk price and withdrawal periods
- Percentage Gram negative bacteria
- Mastitis outcomes

(see Peter Down's work on 5000 computer simulated cases)

More scope in cost saving and reducing antibiotics by reducing the rate of mastitis on most farms (£250 per case)

Additional measure for selected farms



Other benefits

- Justification for treatments, public pressure
- Engagement of enthusiastic staff
- Background surveillance more likely



Scope and limitations for on farm culture

- ONLY to help with individual treatment decisions, based on Gram positive/Gram negative
- For troubleshooting mastitis problems and background surveillance an accredited lab has to be used



Thank you to...

- The participating farmers and their vets (especially Rachel Hayton from Synergy Farm Health)
- Liz Bowles from the Soil Association and Duchy Originals Future Farming Programme for funding and coordinating the field lab
- Kristen Reyher from Bristol University for helping with study design and statistics
- Vetoquinol for providing the Vetorapid test plates

