



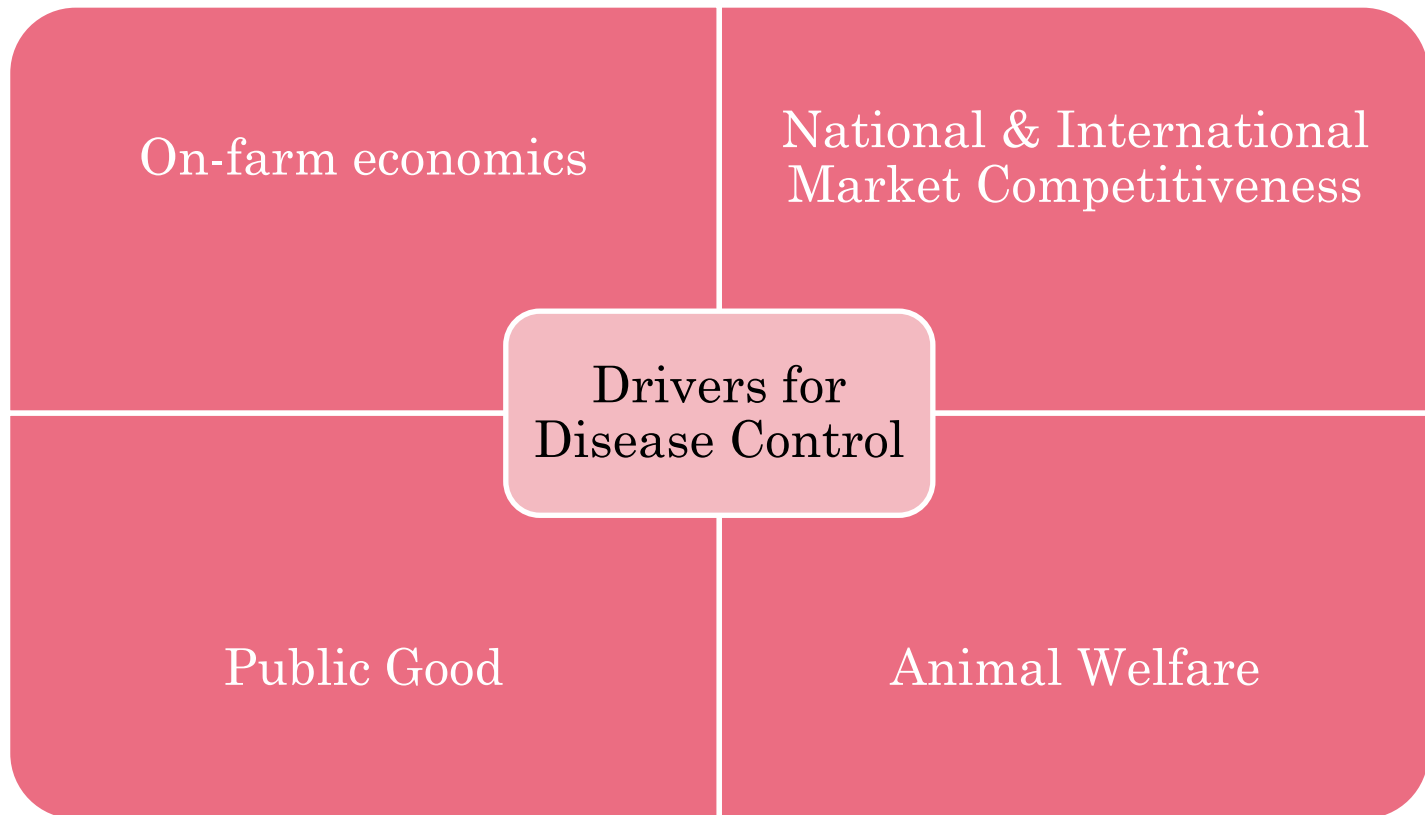
**Animal Health
& Welfare NI**

www.animalhealthni.com

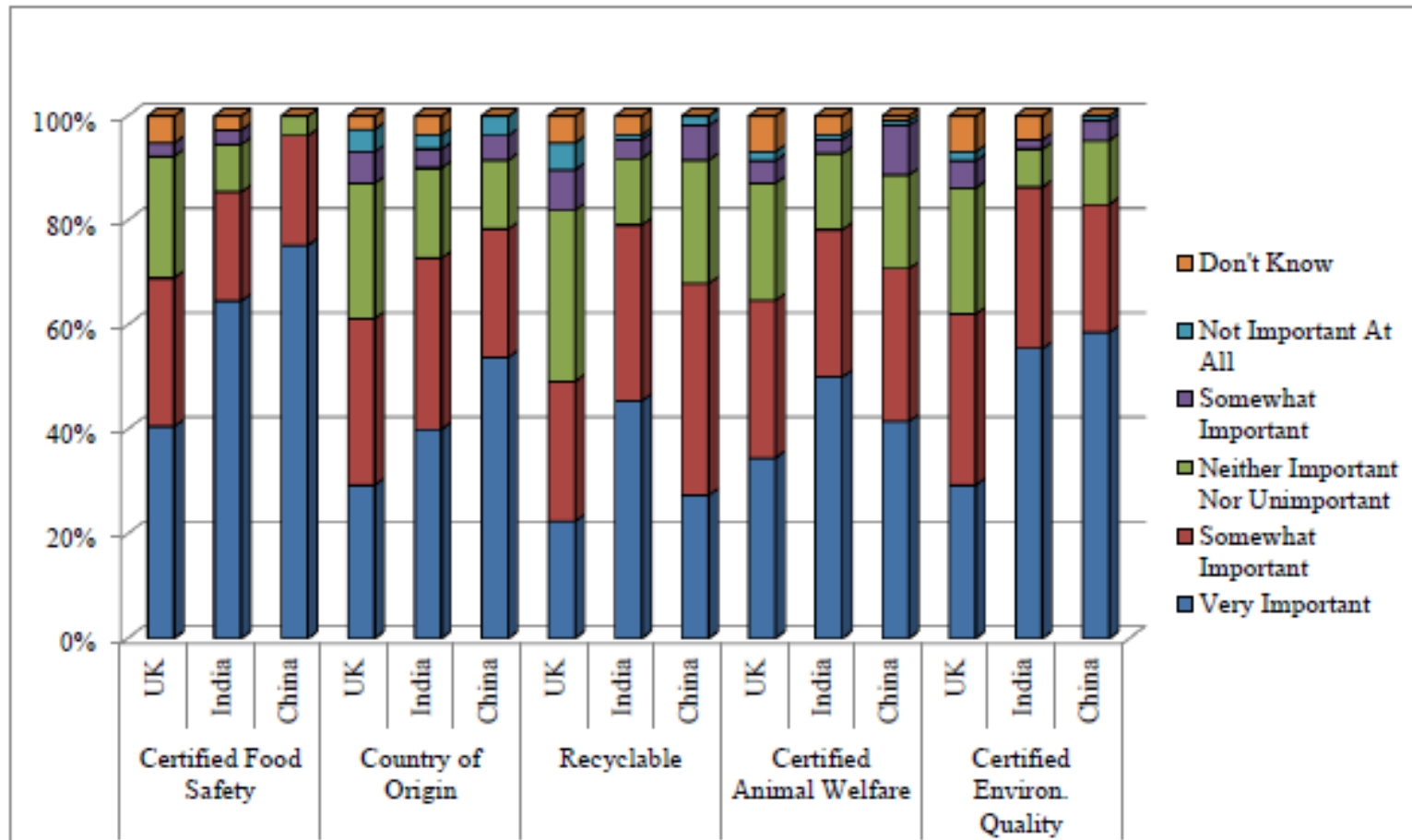
NEW APPROACHES TO THE CONTROL OF ENDEMIC DISEASES

Dr Sam Strain
AHWNI Programme Manager

DRIVERS FOR THE CONTROL OF ENDEMIC INFECTIONS



WHAT DOES AN INTERNATIONAL BUYER WANT?



From Saunders et al Annual Agricultural Economics Society Meeting, Warwick 2013

AHWNI

AN INDUSTRY DRIVEN APPROACH TO INFECTION CONTROL



AVSPNI



Department of
**Agriculture and
Rural Development**

www.dardni.gov.uk

AN ROINN
**Talmhaíochta agus
Forbartha Tuaithe**

MÄNNYSTRIE O
**Fairms an
Kintra Fordèrin**

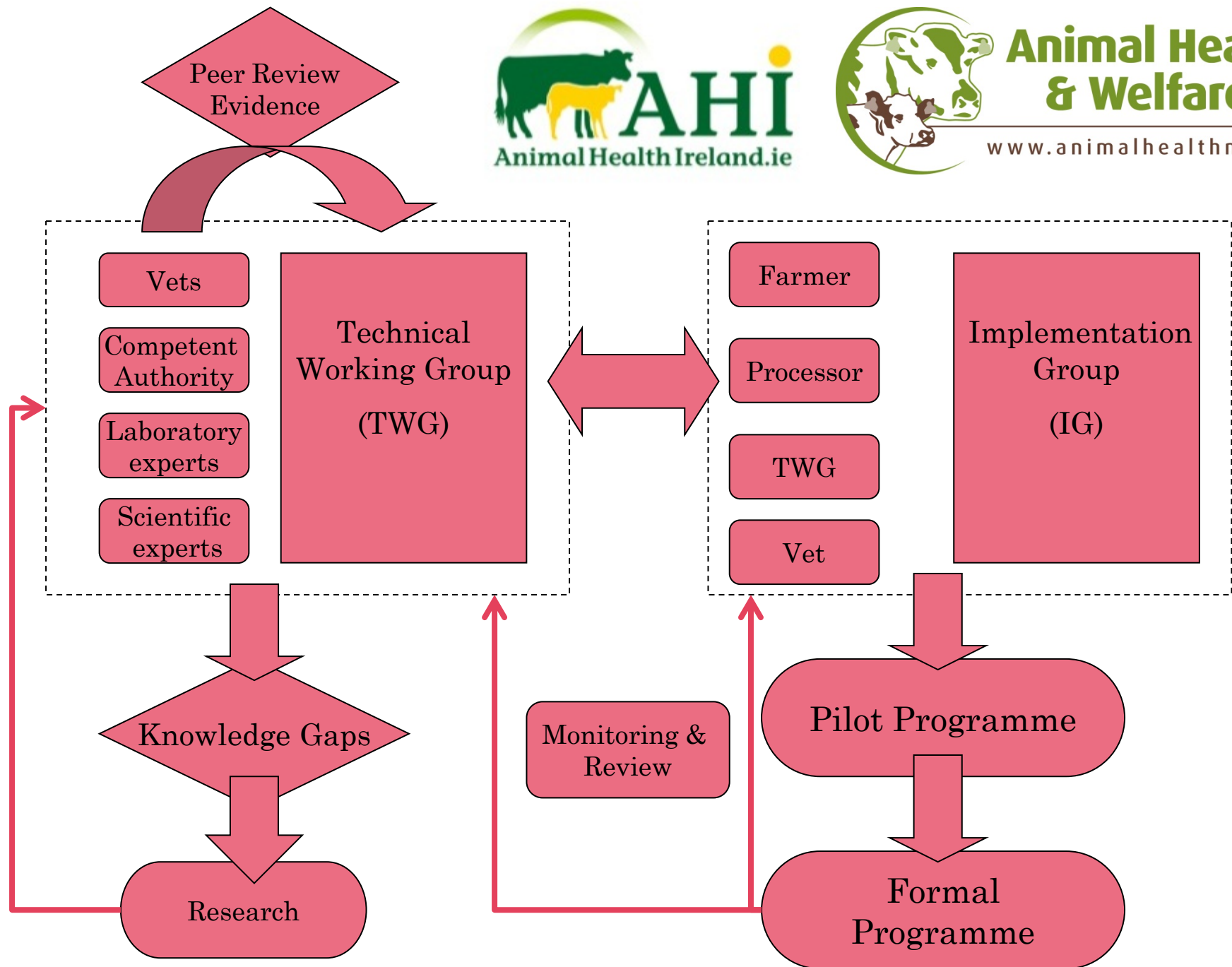


Dairy Breed Societies

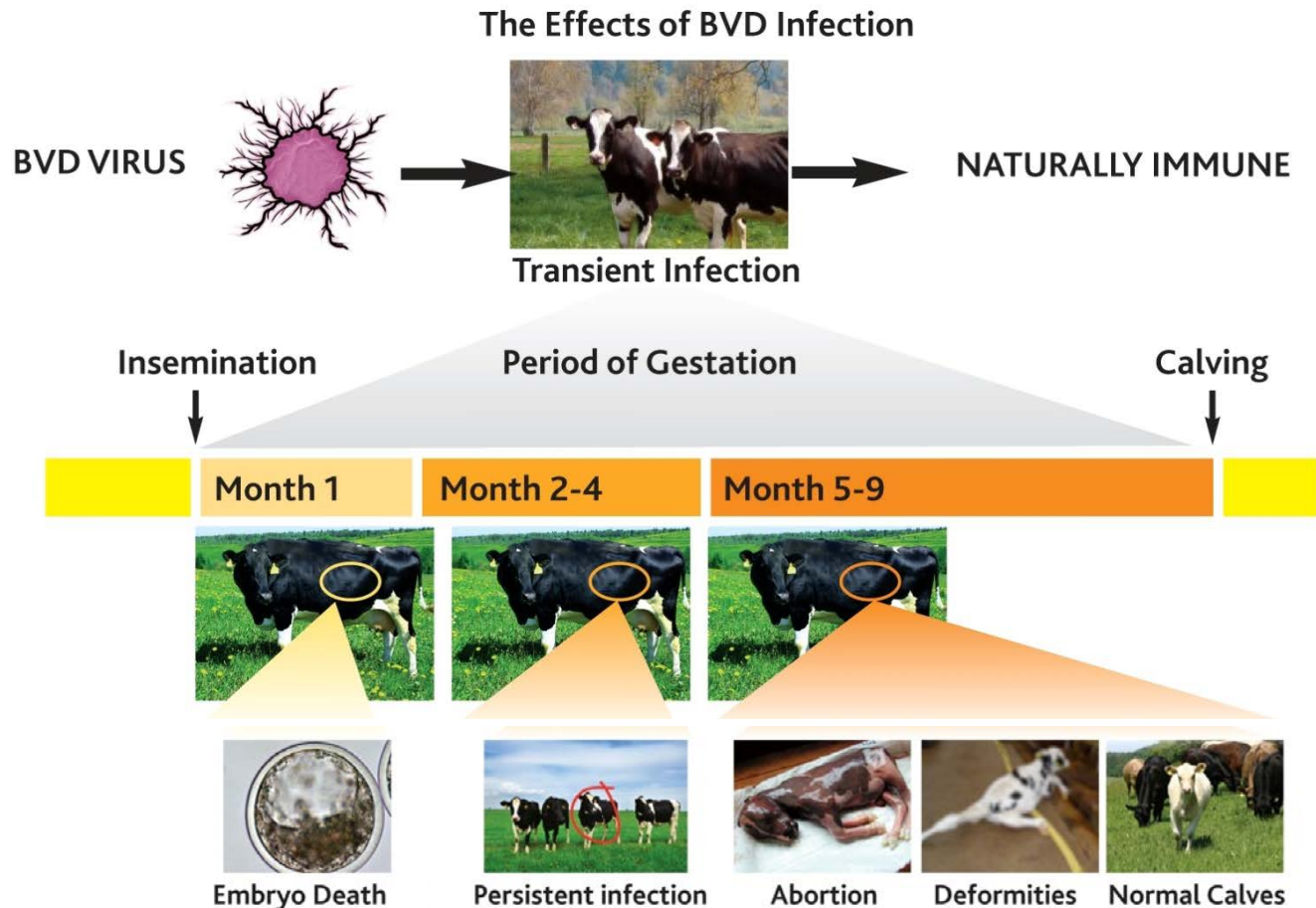
Livestock Auctioneers

LMC





A TALE OF TWO DISEASES & TWO MODELS FOR INFECTION CONTROL



Animal Health & Welfare NI
**BVD Eradication
Programme**

www.bvdni.com

DAM

INDINEG
1,2,3



DAMPI

OFFPI

POS

NEG

CALF

POS



Animal Health & Welfare NI

**BVD Eradication
Programme**

www.bvdni.com

JOHNE'S DISEASE – KEY DIAGNOSTIC CHALLENGES

- Giving a herd the 'all-clear,' when it is infected
 - Animals usually become test positive late in the disease process
 - A major concern for buyers
 - International solution
 - *Repeated testing over several years*
 - *The use of herd classification (to assist buyers)*
- Risk of suggesting a herd is infected when it is not
 - International solution
 - *Testing 'in series'*
 - *Blood or milk test*
 - *...if positive, then faecal culture (PCR)*
 - *Particularly in the absence of infection history or in low prevalence herds*



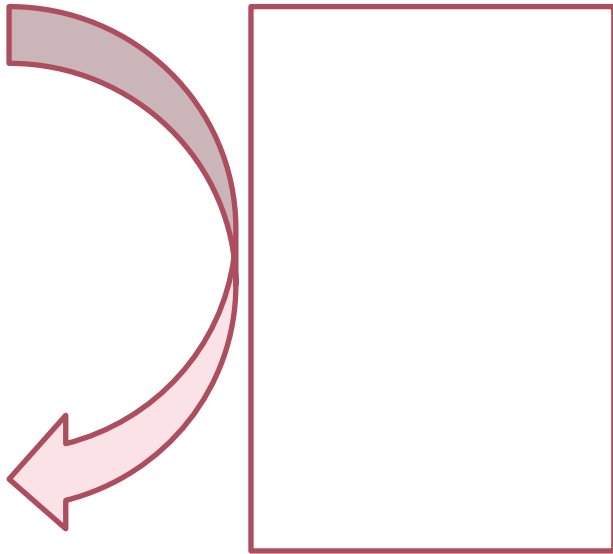
Animal Health & Welfare NI

**Johne's Disease
Control Programme**

www.johnesni.com

TWO KEY OBJECTIVES

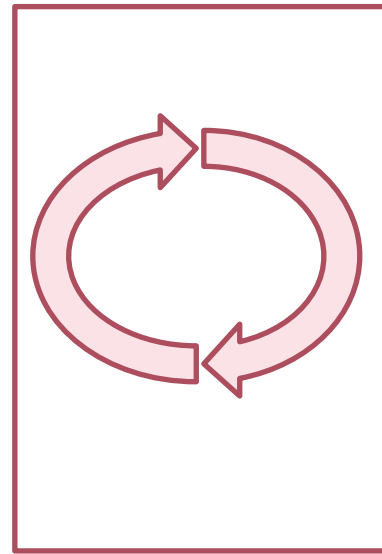
Uninfected
Herds



Keep Infection
Out

Veterinary, on-farm risk assessment
& risk management

Infected
Herds



Reduce Infection
Spread



Animal Health & Welfare NI
**Johne's Disease
Control Programme**

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On-Farm Training, Risk Assessment & Management Planning

Bio-exclusion

Slurry management

Commonage

Contract rearing

Animal movement practices

Calving area

Multiple cows in calving area

Manure build-up

Cow cleanliness

Proximity to sick animals

Calving not in designated area

Speed of calf removal

Pre-weaned

Colostrum management

Whole milk source

Group pens

Adult faeces exposure

Heifers & Breeding Bulls

Faeces exposure

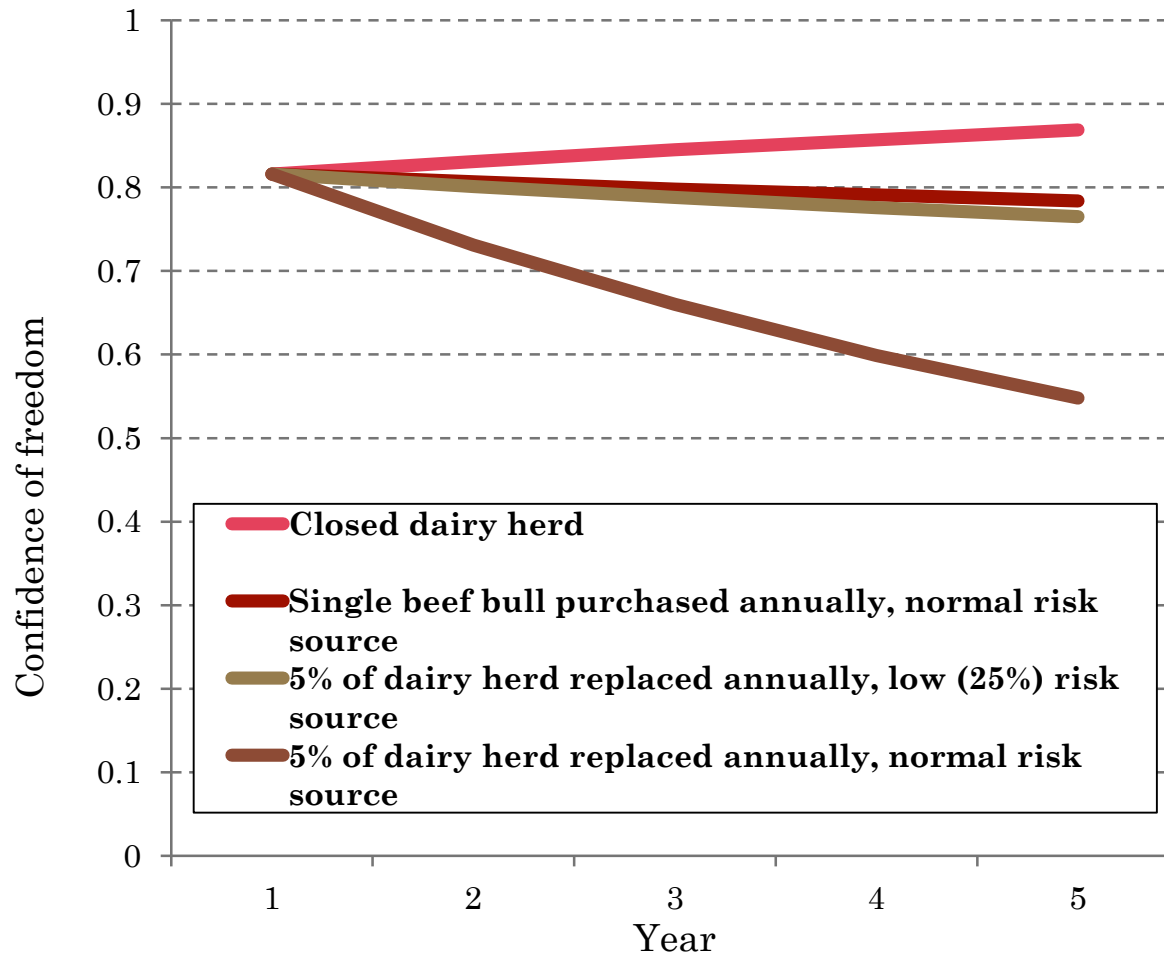
Hygiene score

Cows

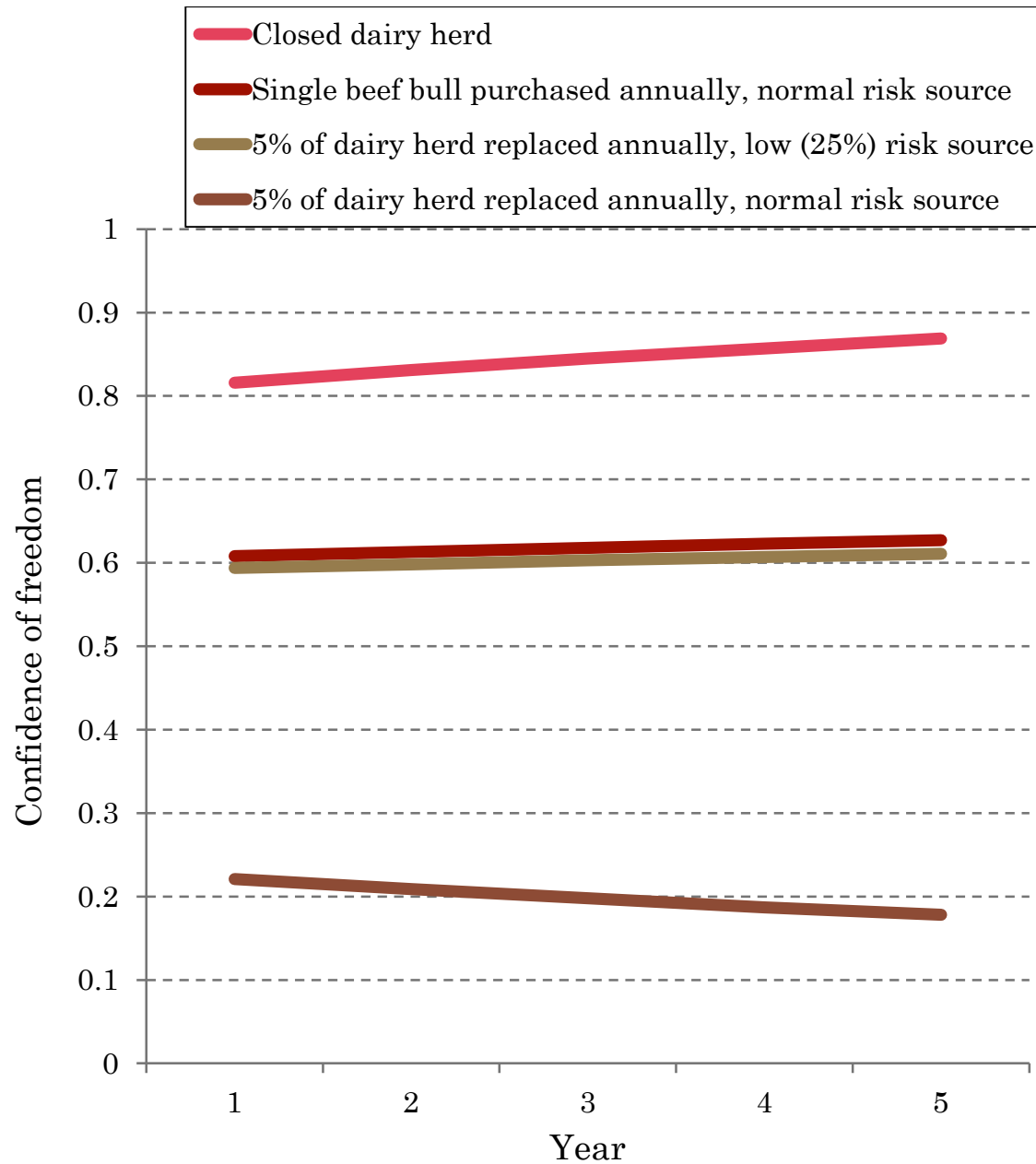
Cow area hygiene

Cow cleanliness

Defining Infection Status



From More et al., J Dairy Sci. 2013 pp. 1581-90



From More et al., J Dairy Sci. 2013 pp. 1581-90

Components of the Proposed AHWNI Johne's Control Programme

- **Risk Assessment (RA)**

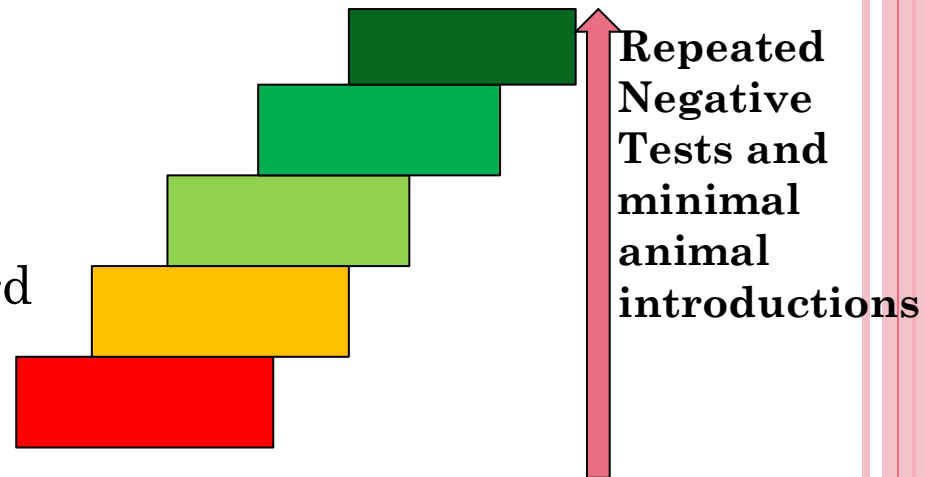
- Within Herd Transmission
 - Early removal of infected cattle/Calf Hygiene
- Between Herd Transmission
 - Closed Herds
 - If essential buy low risk
- Regular review

- **Testing**

- Use of Designated Labs
- Interpret tests in the light of herd history

- **Herd Categorisation**

- Based on animal movements
- Use of AHWNI database for RA scores, findings & herd categorisation



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UNDERPINNING NON-REGULATED INFECTION CONTROL



- **Economics**
 - On-farm infection & intervention costs
 - Market costs
 - gain/loss of markets relative to competitors
- **Financing**
 - Beneficiaries to a programme
 - Vary for different infections
- **Herdowner buy-in**
- **Veterinary Profession engagement**
- **Biological Sciences**
 - Veterinary Diagnostician Support
 - Infection Expertise
 - Development and maintenance of local expertise of international standing
 - Multidisciplinary Approaches to Research Priorities
 - Multiple inter-relationships
 - Infections eg Johne's Disease & bTB
 - Genetics & infection – resistance/resilience
 - Nutrition/husbandry
 - Underpinned by peer-review
- **Integration with DARD priorities**



Animal Health & Welfare NI

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