HY – FLY GAME HATCHERIES

Breeder Health Programme

Presented by
Alan Pearson
BVM&S DPVM MRCVS.

Outline of the Paper

- History of the Practice
- History of Hy – Fly
- The Impetus for recent developments
- Vaccination
- Other Disease Controls
- Conclusions

Lanes Vet Group

- Formed in 2006 by merging two existing practices
- A mixed practice with 16 Vets
- A total staff of over 50 people
- 3 sites
- The business sections include
  - Companion Animal
  - Farm Animal
  - Avian
  - Export
  - Meat Hygiene
  - Teaching

The Avian Section is run by Mr Pearson & Mr Thompson
Who have practiced Poultry medicine for 15 years

•Hy – Fly Game Hatcheries

•Is the largest Game Hatchery in the UK and probably in Europe
•Founded in 1963 by Mr Wilf Holden.
•In 1983 Raymond [Wilf's son] laid the foundations of the modern business
• The business has grown every year and last year hatched 4.65 million birds in 18 weeks
•35,000 breeding pheasants
•18,000 breeding Mallard
•13,000 breeding pairs of Partridge
•90% of the breeding stock is home reared
•The only Commercial breeder of Pure Japanese Green Pheasants in the UK


Little Old England
Where they
Talk Funny
Pheasant
2008
Hey You
Wakey
Wakey!!
Where in the World ?

Location


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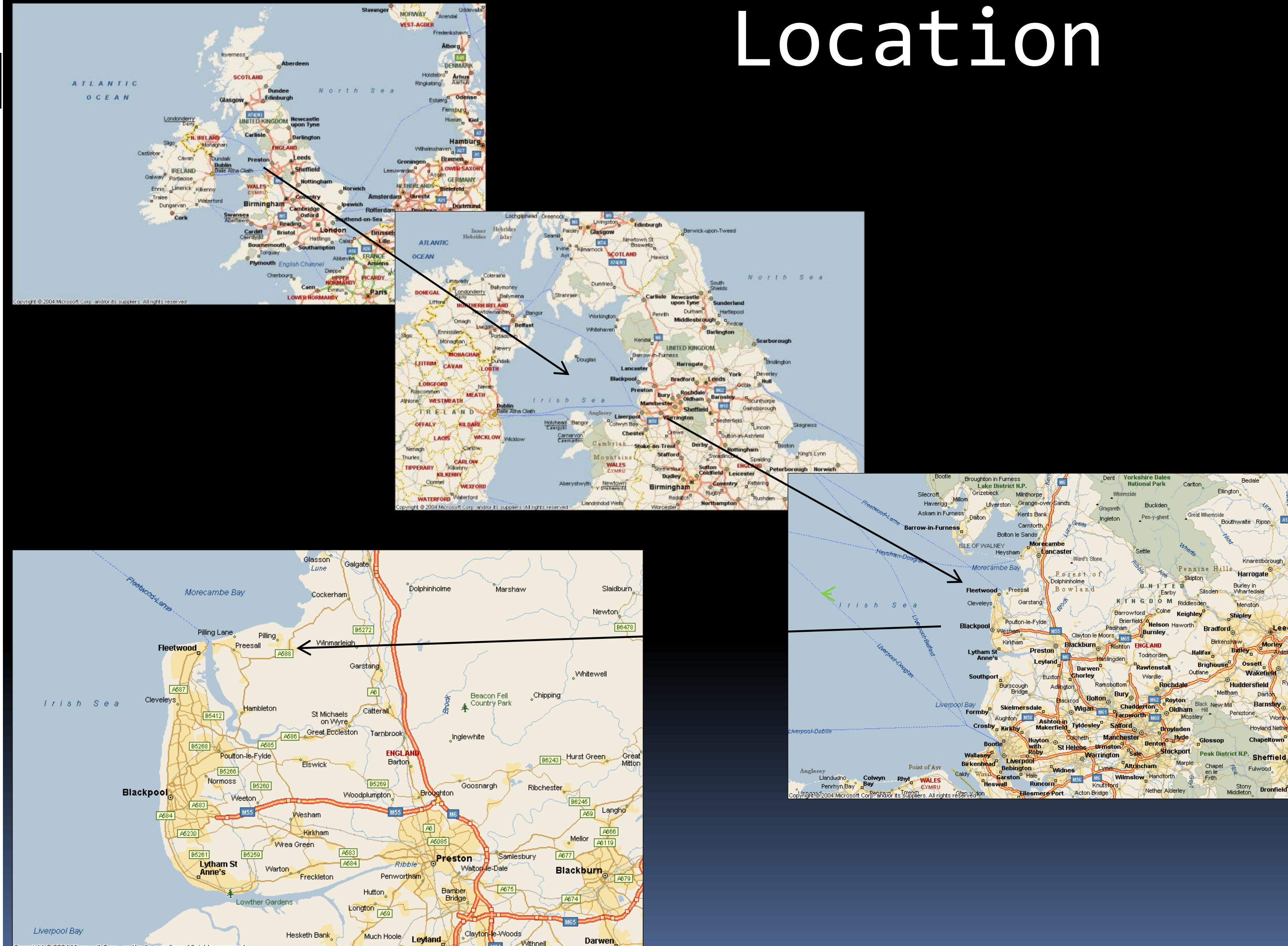
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Hesketh Bank
Much Hoole
Longton
Hutton
Penwortham
Leyland
Bamber Bridge
Walton-le-Dale
Samlesbury
Blackburn
Darwen
Clayton-le-Woods
Withnell
Broughton
Goosnargh
Ribchester
Inglewhite
Beacon Fell Country Park
Chipping
Whitewell
Dolphinholme
Marshaw
Slaidburn
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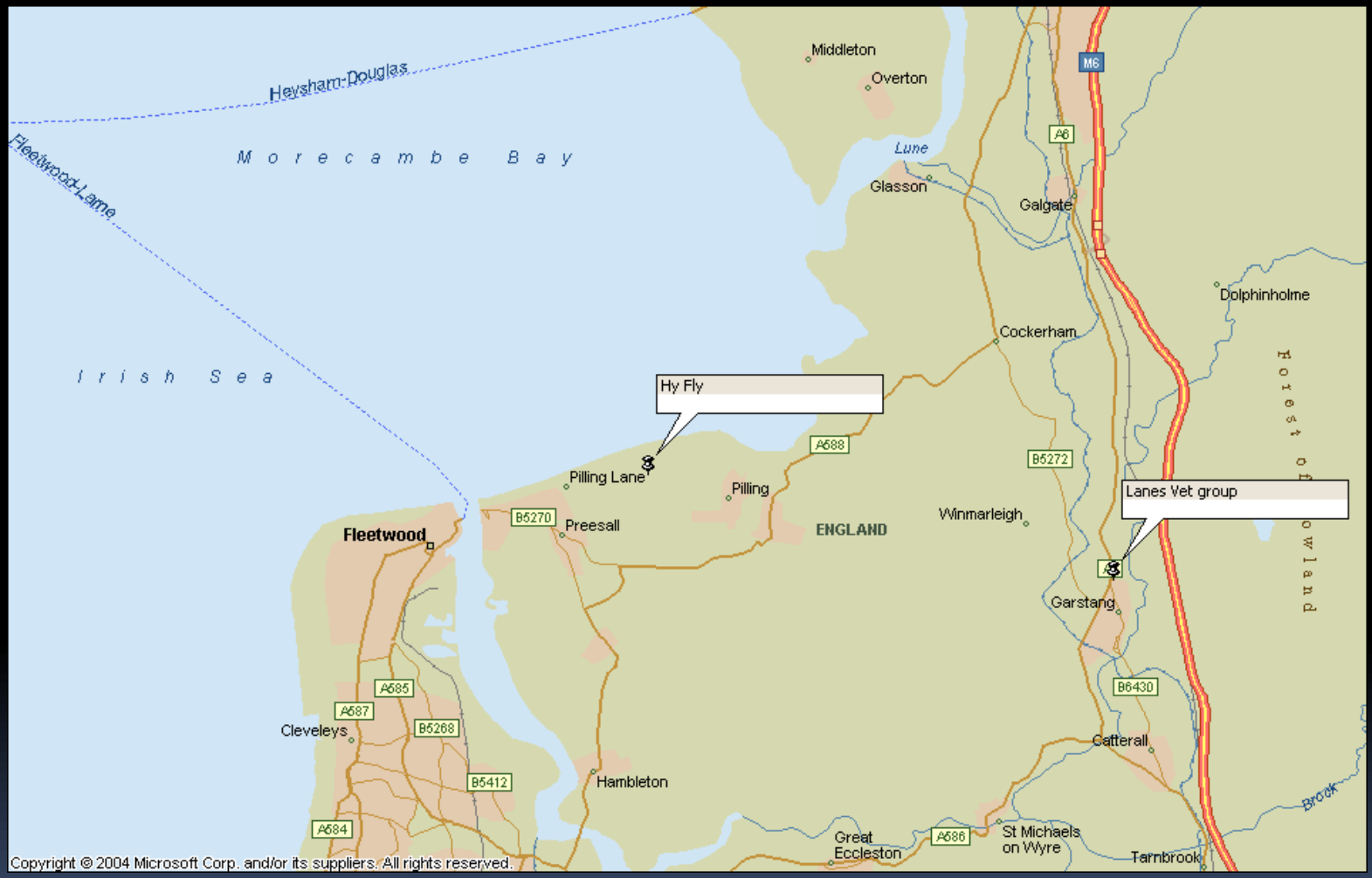
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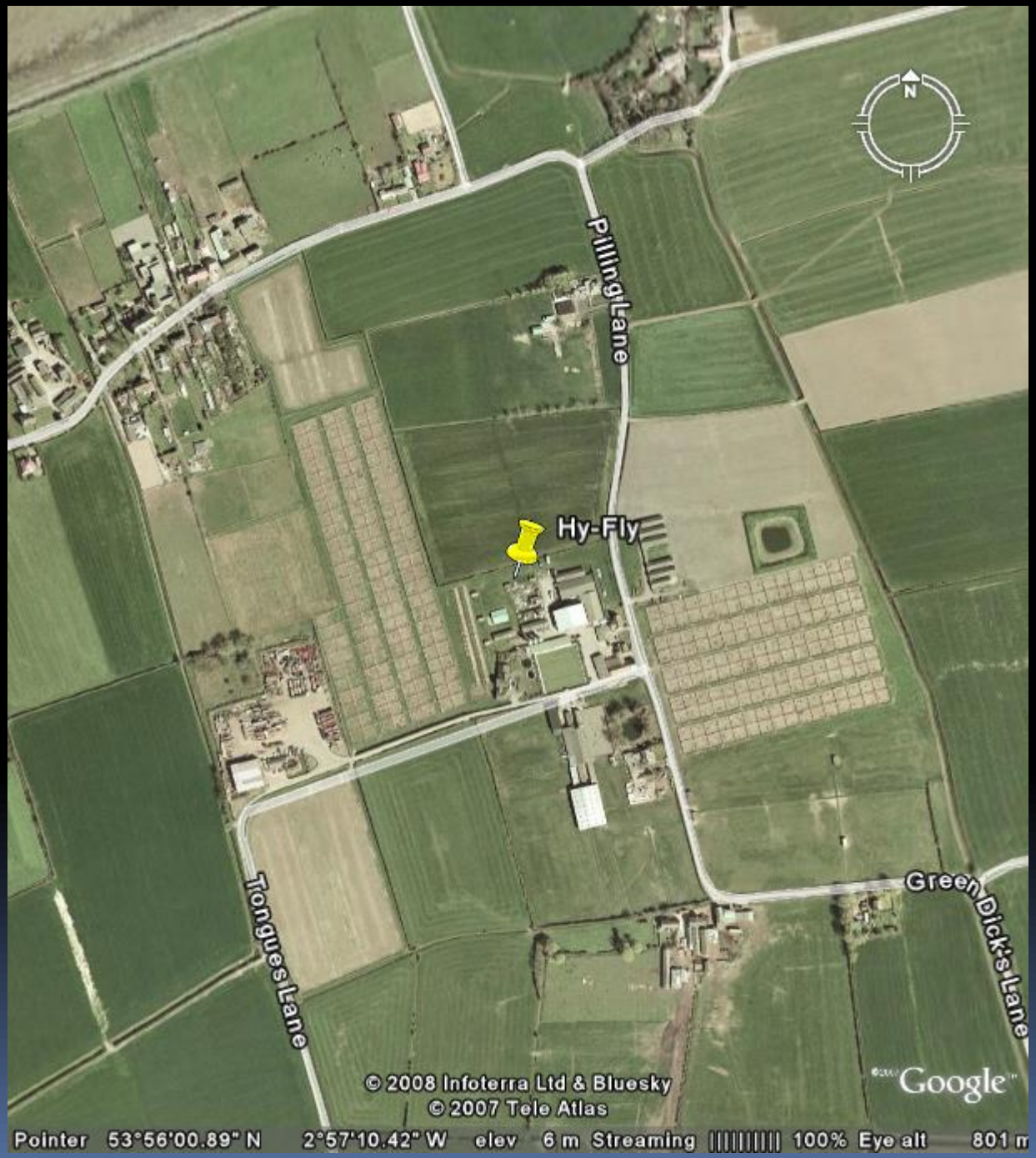
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Green Dick's Lane
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The English System

Most birds are reared from either Day Old or from 8 weeks by the Gamekeeper

Birds are shot on driven shoots with the birds reared on the shoots we do not operate the 'place to take system' that you have in the US.

Most birds from Hy-Fly leave as either Day–olds or as reared Poults

Hy Fly rear up to 100,000 pheasants for replacement and reared bird sales

The same system applies to both the Mallard and Partridge

The Impetus

There have been several factors influencing our programme to improve breeder health and they are as follows:-

- Increased production per bird
- Increased fertility
- To improve our competitiveness
- The Salmonella outbreak
- To improve chick quality and robustness
- A desire to be a groundbreaking business.

Some of these are obvious but the Salmonella outbreak in 2006 was a real kick start

The Outbreak

- On 23rd May 2006 we received notification of 3 confirmations of Salmonella in poults from the hatch of the 15th [Hatch 9]
- 3 different areas of the Country
- All 3 species involved [Ducks and Pheasant mainly plus some partridge on a 'double drop']

The Source ?

- No isolations from routine DIS or fluff
- No commonality with Vehicles
- No commonality with supply farms
- No obvious cross contamination at take-off
- Despite late diagnosis it was obviously hatchery related

The Assumptions

- The ducks were the most likely host and it would be easier to swab them because they were all together
- Contamination from people multi-tasking
- At this point we only knew it was group B Salmonella. The Salmonellae are grouped into organisms with similar properties. Group B contains some of the more common types

Initial Actions

- Swab
  - 20 cloacal swabs from ducks
  - 6 environmental swabs from duck pens
  - 20 environmental swabs in take off area and on crates and boxes

The Results

- The Duck cloacal swabs were negative
- The Duck environmental swabs were negative
- The Hatchery Take off area was negative
- 1 positive isolation from a ‘clean’ crate

Actions

- Increase bio-security of people entering the Hatchery on an occasional basis
- Make crate and box handling a job to be done before working on the farm
- Take further environmental swabs to discover extent of contamination in 'non-white' rooms

Results 2

- Heavy Contamination in Box room and Crate store
- Positive samples from the Box room window sill, the fire exit step and the crate wash area
- It was noted that the staff worked with the window open and used the fire exit as a ‘rat – run’

The Rear of the Hatchery

Further Actions

- Close the window
- Lock the door
- Ban the Directors Dogs
- Improved hand-washing
- Increase crate wash temperature

Did it work

- Hatch 10 one report only
- Hatch 11 no reports
- Hatch 12 Numerous reports , but at the same time Rotavirus was reported [this is about the time in the seasons , early June when we first see the virus
- Isolations continued throughout the season gradually tailing off

Did it work 2

- The box room and crate store remained contaminated
- Delivery vehicles were contaminated
- Hands were generally negative
- So NO then !
- But we had controlled the bacteria in certain areas and the failure was not due to a lack of action but rather a huge problem – A sceraio we have since called ‘The Numbers Game’

Where next

- A winter clean-up
- Proofing of areas of the building against humans, birds, flies etc
- A vaccination programme for Salmonella
- A further review of biosecurity

The End of Season Review

We needed greater control over bird health to improve productivity and chick quality
This would be achieved by :-

1. Improving our disease protection by using vaccines to a greater extent
2. This should also have the added advantage of reducing our drug usage
3. We would try to up our vaccinations from one to two [this would only be achievable from the birds laid down in Summer 2007 as the birds had already been handled to the wintering pens this season]
4. We would continue to reduce the number of 'caught up' birds over which we had very little control as to quality
5. We would introduce Salmonella vaccines to the programme , this would protect the birds and also hopefully reduce the numbers or bacteria on the whole unit
6. In view of the Avian Influenza threat we would review our Contingency Plan and discuss it with the Department of Agriculture Officials

Salmonella Vaccination

- There were two vaccines available

1. An injectable licensed for laying poultry only
2. A water – borne vaccine again licensed for laying poultry only.

- Indication were that these would work in other species

Pheasants

- We needed to try and get two vaccinations into the birds which were already in the wintering pens.
- The pens are large fenced fields of maize
- Catching was not an option
- So water administration was the only option
- This had never been attempted before in a field of this size

Pheasant Wintering Pen January 2008

The Issues surrounding Water Vaccination in Pheasants 1

Length of dead pipe and the amazing volume of water therein Consider a 25mm [1 inch] pipe

Remember your High School Physics [surface area X length = volume] 1.9 litres per metre

An 8 acre field has a perimeter of 720 metres

That's 1368 litres or 300 imperial gallons [361 US gallons]

Just to fill the system !!

The Issues surrounding Water Vaccination in Pheasants 2

Other sources of water
Weather Windows
Thirst [how long can you withdraw water for without creating a Welfare problem]
Uptake
Temperature

The Vaccine Fieldsman had a nightmare

Ducks

- The ducks would be handled at least once during the winter as they have to move pens, or learn to swim in thick mud!
- Here the injectable vaccine was an option and provided cleanliness could be maintained this could be achieved
- The second vaccine would be given at penning up in early Spring.

The Vaccination Programmes Ducks

- On placing in winter quarters replacement ducks are injected with Duck Plague Vaccine and injectable Salmonella vaccine
- One catching up in January all ducks injected with Duck Plague Vaccine and injectable Salmonella vaccine
- So this years new ducks get a 2 shot course and the 2nd and 3rd season ducks get an annual booster

The Vaccination Programme Pheasants

At placement to Winter Quarters eye drop vaccination for the following Diseases:-

- Mycoplasma
- Avian Rhino Tracheitis
- Infectious Bronchitis
- Infectious Bronchitis Variant Strains

Two vaccines in one bottle, two in another and one drop in each eye

The Vaccination Programme Pheasants 2

In the Wintering pens :-

- Two doses of the Salmonella vaccine via the water system

On catching Up

- A repeat of all the eye drop Vaccines

In the Breeding pens

- A dose of Newcastle Disease vaccine via the water

Eye Drop Vaccination

Note the labelled bottle

Other Disease Controls

Ectoparasites

- Lice and mites have been seen on the breeding birds

Control

- Pour-on Ivermectin applied to the breeding birds at 'Catch-up'
- Diluted with glycol to achieve an accurate dose

Ivermectin Application

Other Disease Controls

Endoparasites

- Worms are controlled by the use of a variety of worming products throughout the season
- The Ivermectin has some worming properties
- Panacur [Fenbendazole] is given by mouth at catch-up.
- Bendazole derivatives are used either in food or water for the rest of the season.

Oral Worming

Hexamita and Trichmonas

- These two organisms are a major problem causing enteric disease in the young birds but can be seen in adults
- There is no 'licensed' single effective drugs
- Control is achieved using a cocktail of drugs
- The use of 'clean ground'
- Reducing stocking densities

Rotavirus

- This virus causes enteritis and death in young poults
- Being a virus disease there is no single effective cure
- Treatment is symptomatic and supportive
- Prevention is good hygiene and bio-security
- Investigations are under way to produce a vaccine for the adults thus creating immune competent poults

Summary

- Vaccinations are successful in disease prevention
- Bio-security is vital particularly in a multi-faceted operation
- Improving breeder health does improve both fertility and chick health
- You can reduce your dependence on antibiotics by improving flock health