

Virus Update 30th December 2016 - Progress Vaccine Development.

I have had discussions with two drug companies over the Xmas break. One has the ability to make an autogenous vaccine (ie vaccine made here from the Australian Reo) here in Australia. To do this however would require an APVMA permit and this may take months to obtain. The other cannot currently make a vaccine here but does have a combined PMV/ Reo vaccine registered for use in chickens overseas. It has not been trialled in pigeons. Because of the urgency of the situation a special permit could be obtained to import this vaccine. This would take about 2 months which is probably quick enough to immunise the birds before racing but the difficulty is that the Reo virus in the overseas vaccine may not be sufficiently similar to the Australian Reo for cross immunity to occur. One of the ways to find out if cross immunity is likely to occur is to sequence the Reo here and see how much it matches the vaccine Reo. A lot of similarities would mean that the vaccine would be likely to work here. What is involved and how long will this take? Dr Grant Rawlin from AAHL explains

“Assuming this thing is new, Whole Genome Sequencing will realistically take weeks rather than days (but not months). One good thing we know now, is that there was lots of virus in the lesion preparation under EM. This should make the sequencing run a bit more smoothly. Whole Genome Sequencing essentially multiplies up every bit of DNA in the sample - then you match the huge result with databases of DNA sequences and work out anything that shows up that matches or is unusual. As you can imagine, if you have more of the target virus in a sample the signal is better and it stands out more”.

So how likely is it that there will be enough similarities for cross immunity to occur?

Dr Rawlin goes on to explain:-

“There are about a dozen sero-types of reos in chickens, turkeys and geese and none of these cause disease pathology primarily in the liver (which is what the Australian Reo does). The vaccine contains 3 serotypes of most importance to poultry only. ie the chances of a cross reaction is pretty slim.”

In the meantime viral cultures are being harvested today and samples are being sent for molecular work to continue the ID process. There are other overseas vaccines that could be evaluated for cross immunity very quickly once the genome of the Australian Reo is known. If we get a match these could be imported and used. Also there are other vaccine companies that may be able to make an autogenous vaccine that could be supplied under direct veterinary script to clients negating the need for an APVMA permit (possibly). I will continue to investigate. Over the Xmas break I have had Phil Lehrbach from Pfizer, Robin Anderson from Intervet, Prof Amir from Melbourne Uni , Dr Rawlin from AAHL, pathologists at AgriBio and Peter Scott of CCEAD all take the time to respond to emails and phone me giving their time and advice freely when most are in real holiday mode. I am most appreciative.

Extent of the Disease.

Cases have been confirmed in Victoria, NSW and South Australia. There was a suggestion that some birds had the disease in Cairns in QLD but these have been shown to have PMV. Similarly a suspect case in Lysterfield yesterday is still undiagnosed but has already shown not to be Reo. A suspect loft in Dromana from yesterday is still being investigated. So far we have about 25 confirmed cases in Victoria; the majority are in rural lofts. There have been

further suspect cases throughout metro Melbourne but fanciers have failed to have diagnostic work done. Suspect cases have also been identified in Westminister in WA in high flying pigeons recently. I presume DAFWA is investigating.

Getting an accurate diagnosis of Reo - made easy by DEPI (Department Of Environment and Primary Industry)

It is important to remember that every unwell pigeon over the next few months will not have Reo virus. Many other problems look similar and are quite common. It is imperative that fanciers seek an accurate diagnosis if their birds become unwell. AgriBio is making this easy for fanciers. The government is still offering free testing. Fanciers simply need to take unwell pigeons or freshly dead pigeons to AgriBio at the Latrobe University campus. The birds need to be accompanied by a submit form completed by a veterinarian. AgriBio has asked vets to be discerning and only fill in submit forms for cases that are consistent with a possible Reo virus infection. So, if your birds are unwell, contact your veterinarian, explain what is going on, if he feels your birds could have Reo collect a submit form from him and take the birds to AgriBio. Even easier, if it is not possible for you to take the birds there, contact your local District Veterinary Officer (DVO) who may be able to collect the bird from you. The DVO can also provide the submit form. For all of this there is no charge. This is a great example of a special interest group and the DEPI working together to solve a problem. There is absolutely no reason not to get an accurate diagnosis of Reo. Of course if your veterinarian thinks that the problem is not a Reo infection then he will be able to diagnose the problem for you. In this situation you may or may not wish to proceed but if you do then normal charges will apply

Should we just let the virus run its course and then we can all get on and race this year?

This approach makes no sense. If the virus behaves the same way as in WA this would result in the deaths of 15% - 40 % of the Australian pigeon population. As there are an estimated 500,000 racing pigeons in Australia and these represent about half of all pigeons this would result in the deaths of 150,000 to 400,000 pigeons. Recovered birds are not immune for life and so therefore can catch the disease again. Recovered birds also carry the virus in their system for many months and are infectious to further birds during this time. Birds cannot be 'cleaned out' with medication .This approach will not allow the problem to go away. There will always be vulnerable birds and ongoing outbreaks (as we are seeing with PMV). We need to develop a vaccine to give fanciers a way of protecting their birds. Very few fanciers (myself included), I believe, would be prepared to risk racing this year and potentially lose 15% to 40 % of all their birds if their birds had not been immunised.

Regards,

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