

## Frequently Asked Questions (FAQs) ROTAVAX

### **Is Rotavax a killed vaccine?**

Yes Rotavax is a killed vaccine. There are no live elements in it.

### **Is Rotavax safe?**

So far there are no reports of any safety issues. Pigeons seem to tolerate the vaccine quite well.

### **When is it safe to exercise the birds after training?**

We are still gaining experience with this. So far it doesn't seem to be necessary to rest them for more than a day or two. But fliers need to observe their own birds and make common sense decisions about the return to loft flying.

### **Does Rotavax pose any risk to human health?**

The vaccine contains some oil and this can be irritant if accidentally injected into humans. That's particularly so if injected near a knuckle joint, as swelling in a confined space can put pressure on nerves and blood vessels. However the type of oil used in Rotavax is relatively mild compared to other vaccines. Moreover a prick with the needle without actually injecting some vaccine into the flesh doesn't generally cause any problem other than slight soreness for a few days. If accidental injection occurs, follow the label directions and see a doctor. Apart from the oil none of the other components of the vaccine have known human health risks associated with them at this time.

### **Is Rotavax effective?**

Feedback has been mixed following the first year of use with a lot of variation from loft to loft. Clearly it doesn't work 100% at stopping the diarrhoea and vomiting. However the overall impression is that it seems to reduce the severity and duration of the disease, particularly with respect to mortalities.

When the disease first broke out the high mortality rate of up to 40-50% was the number one consideration and the vaccine was developed with that in mind. Getting good protection against the gut signs can be difficult with this type of vaccine. We are doing what we can to tweak the vaccine for the coming year's production to try to get the best results we can with it. Plus it will be available for use earlier in the year and so can be given earlier and the two shots spaced out more.

The story is complicated by two factors:

- a) We don't have any real way of testing the vaccine's efficacy before putting it out in the field. It's not just a matter of measuring antibodies or exposing the birds to droppings that might be infected. We would need an established, reliable disease model where unexposed birds are vaccinated and then challenged with a known, standardised dose of the virus. The university that carried out the early stage research work did only limited studies in this area, due to their limited funding, and basically found the virus was too hard to grow to go any further with testing the vaccine. So it would take another research project and lots of money to get this happening, something that's unlikely to happen in a case like this where there is a new disease in a small industry.
- b) The widespread presence of the virus circulating among pigeons results in some degree of immunity anyway, although partial, unpredictable and unreliable. This complicates interpretation of the vaccination results.

Bear in mind the vaccine was approved by the government regulator with the caution that efficacy was yet to be determined. If we waited to investigate efficacy thoroughly before supplying the vaccine it would take another couple of years or more to become available, and only then if funds were available for the research.

### **Can vaccinated birds still carry the virus?**

Yes. The vaccine is designed to stop the birds getting sick. But it doesn't stop pigeons becoming silent carriers of the virus. Therefore vaccinated birds mixing with other birds carrying the virus could still become infected. Subsequently those infected vaccinated pigeons could bring the virus home to their loft and spread it to unvaccinated loft-mates. However the amount of virus particles they spread around would likely be much less than that spread by recovering unvaccinated sick birds. Not many vaccines completely stop animals from carrying the pathogen. PMV was spread to Sydney by healthy vaccinated pigeons.

### **What is the dose volume?**

0.3 mL under the skin.

There has been feedback that some people give a 0.5 mL dose and that they believe this helps. We don't have any way of knowing for sure if this really helps or not. However, there doesn't seem to be any safety issue with giving a 0.5 mL dose.

### **Where should the vaccine be given?**

In the loose skin of the back of neck or the inner thigh, as for PMV.

There has been some query about oral use. The vaccine has not been tested at all for safety by the oral use. This type of vaccine would not normally be given orally, partially because it tends to be digested in the gut before it can have its effect. We don't know if the oil content can protect against that to some extent. We don't know what dose would be appropriate for oral use. Most oral vaccines are live vaccines. Given our lack of knowledge of these basic matters we don't recommend oral use.

### **What is the vaccination program?**

The program is similar to PMV. Not previously vaccinated birds: two doses 4-6 weeks apart. Birds vaccinated in the previous year: one annual booster.

There has been feedback that some people give young birds 3 shots of 0.3 mL, each separated by a few weeks, and that they believe this helps. We don't have any way of knowing for sure if this really helps or not. However, there doesn't seem to be any safety issue with giving 3 shots, at least to the best of our knowledge so far.

### **How long does it take for immunity to occur after the second shot?**

It's too early to be sure as the university did only limited work in this area. We think it takes about 3-4 weeks. However this hasn't been thoroughly tested scientifically.

Remember that it's important to keep the birds as separate as possible until the vaccine takes effect. That includes things like keeping strays out, avoiding group tosses, and not racing 2 year olds before the young birds have been well and truly vaccinated.

### **Is there any immunity from the first shot only?**

It's possible there is a little bit of protective immunity from the first shot. But generally speaking most of the protection with this type of vaccine comes from the second shot.

### **What is the duration of immunity?**

It's not really known for sure at this stage. We are hoping it lasts through the racing season and until the annual booster shot given the next year, but we will have to keep an eye on this until we get more experience with using the vaccine in the field. There does not seem to be any adverse effect from giving an earlier booster shot if required.

**Does any immunity pass from parents to young birds?**

If the parents have been either vaccinated or exposed to the wild virus in the last few months they will have some antibodies which will be passed to their young. Unfortunately this effect doesn't last very long and by the time the young birds are moved out of the breeding loft it is more or less gone. So there is no ongoing protection of the young birds from the parents.

**Can Rotavax be given at the same time as PMV and/or Pigeon Pox vaccine?**

It's not really known for sure at this stage. We think it's safer to separate the Rotavax from other vaccinations by at least a week for the time being, until we get more experience with using it.

**Can Rotavax and PMV be mixed and given as one injection?**

We don't recommend this. The total dose volume of 0.8 mL is too big for a pigeon. The two vaccines use different oils that may not be compatible. We don't know to what extent each vaccine interferes with the action of the other.

**Can Rotavax be used while the birds are on antibiotics?**

Yes there is no particular incompatibility between Rotavax and antibiotics, as it is not a live bacterial vaccine.

**Can Rotavax be used after the birds have had wild rotavirus infection?**

There is no particular problem with using the vaccine if the birds have recently had the wild infection. But the birds develop a fair degree of immunity following wild infection and so it is often not necessary to do so. There may be some justification if the disease was in the very mild form and you aren't sure if all the birds became exposed. In this case sometimes one dose may be enough.

**Does Rotavax need to be kept cold during administration?**

No the vaccine only needs to be kept cold during long term storage. There is nothing wrong with it warming up to moderate temperatures (say in the 20 degrees) while using it. Bear in mind that after being injected into the bird it warms up to pigeon temperature anyway.

**Can leftover vaccine be put back in the fridge and used later?**

Yes but with great care. Good sterile technique needs to be used at all times. Only un-used sterile needles should be used to puncture the rubber stopper in order to remove vaccine from the packs. Guns should be cleaned between uses, according to the manufacturer's directions. If handled properly, partially used packs can go back into the fridge after use and be kept for the second shot. But we don't recommend that partially used packs are carried over to the following year.

**Will the vaccine be allocated in 2020 as per this year?**

No our intention is that the vaccine will be available for purchase in 2020 as per any other product on a first come first served basis. There will be no allocation list.

**What packs sizes are available?**

100 dose and 1,000 dose packs are available.

**How can I minimise wastage of doses?**

Check that the volume setting on the gun is not slightly higher than that which you intended. That's easier said than done as the settings on most guns are not that clear and the guns are not super accurate. Some will also be wasted when you prime the gun and some will be left behind in the vaccine pack and draw off tube.

**How should Rotavax be stored?**

The vaccine should be stored in the fridge. DO NOT FREEZE.

**What is the expiry?**

18 months from the date of manufacture.