

Paramyxovirus 1: the pigeon plague

by Frank Mosca
Montclair, California

A pigeon sits on the ground. It tries to fly to its perch but succeeds only in crashing into a far wall. Another bird tries to peck a grain from the feed tray. It fails because, at the last second, its head jerks spasmodically and is twisted violently away and back around. It tries again, and fails again. Desperate, the bird tries to fly. Instead, it rolls into an uncontrollable series of fit-like spasms.

Domestic pigeon breeders around the world have seen this happen in their lofts since the first report in Europe in 1982. Other symptoms include an early and extremely watery diarrhea. Many breeders have characterized it as a "flood" in the loft. Some birds show partial or complete paralysis. On posting, some specimens show lesions of the brain and other internal organs. Mortality rates are above 90 percent with those surviving often showing manifestations of the disease for the rest of their lives. One breeder I know lost over 300 birds in two weeks.

The disease is *paramyxovirus 1* (PMV-1). PMV-1 is related to the virus which causes atypical fowl pest (Newcastle disease) in chickens and related birds but *PMV-1 is not a threat to anything but pigeons and doves*. The virus has been shown to attack *Columba* and *Streptopelia* species. It may be capable of attacking other genera also. I have not heard of it attacking any of the native American doves but this may simply be because infected birds die without being noticed. Flocks of feral pigeons have been decimated.

The virus is spread by direct contact from bird to bird or indirectly through dust infected with the virus. It may be spread from dust on a loft, visitors' shoes or clothing. The incubation period is about three weeks. During this time, there are no symptoms but infected birds may spread the disease to others at shows, in the loft, or when sold.

There is no cure! However, *there is a preventative vaccine*. Joe Quinn, then chairman of the *American Pigeon Fanciers Council*, was able to interest the Maine Biological Laboratory in producing a killed virus vaccine. He was then able to get the vaccine okayed for use in all states. This oil-based vaccine is injected under the skin of the neck. Effective protection is provided by two injections spaced a month apart with a yearly booster. The vaccine retails for about \$15 per 50-dose vial and \$20 per 100-dose vial. These doses are racing-homer-sized bird doses which is 0.5 cc/bird, much more than would be required for smaller doves.

My friend, his two sons, 14 and 15, and I have personally vaccinated over 2,000 racing pigeons and many ringneck doves (*Streptopelia roseogrisea* — Goodwin). We lost only three birds. These were in the first hundred we did and we were still nervous and learning the technique. All the dead birds were posted. We found two died due to our carelessness in inserting the needle. The other died of anaphylactic shock (a severe allergic reaction).

Over the last five years, hundreds of thousands of show and domestic pigeons have been vaccinated across the United States and Canada. The number reported as lost due to vaccination is so low as to be practically zero. There are still some foolish breeders who believe the whole story is a scam thought up by a company to make money. None of these breeders have sat and watched his whole loft die within a week or so.

I put a stray bird into my loft for less than a half hour while I readied its holding cage. I lost ten birds and a season's breeding. Thankfully, all my older stock was vaccinated. None of the vaccinated birds showed any symptoms. Remember, it's your choice. For your birds' sake, please don't make the wrong one.

Emergency vaccination after infection can sometimes produce enough antibodies to protect a few of the latest infected birds. Early vaccination can eliminate the worry totally. Don't take a chance with a virus that could wipe out your years of breeding or your valuable stock. The first step is to quarantine anything you bring in for a minimum of three weeks. The second is to vaccinate.

If your own suppliers don't yet have the vaccine available, it may be purchased along with needles and syringes from Foy's Pigeon Supplies, Box 27166, Golden Valley, MN 55427 or Strecker Supply Co., Box 330-P, Selbyville, DE 19975.

Directions for Use for Avian Paramyxovirus Vaccine — Type 1 Killed Virus

Introduction

Avian Paramyxovirus-Type 1 (called PMV-1) was first diagnosed in the United States in early 1984. By 1985, it was widespread throughout the Northeast and had been diagnosed in many other areas. The pathogenicity of the disease varies greatly but in many cases heavy losses have been reported. Shows and races bring together large numbers of pigeons from different locations which provides an ideal opportunity for the virus to be spread from bird to bird. The infected birds are then returned to their lofts to infect their penmates. There is no cure. Prevention through vaccination is the only way to control this disease.

Signs and Symptoms

The most outstanding symptoms of PMV-1 are incoordination, twisted necks and paralyzed limbs. Less specific symptoms include decreased feed intake, increased water consumption, loss of weight and watery droppings. In the most advanced stages, the birds may be found laying on their sides with complete paralysis.

The Vaccine

Avian Paramyxovirus Vaccine-Type 1, Killed Virus is a sterile product and contains no live organisms which can infect your pigeons or cause disease. Paramyxovirus immunity develops through the slow release of dead virus from the oil emulsion vaccine.

Care of Vaccine

This vaccine should be stored in the refrigerator but not frozen. It should not be injected when cold. Remove the vaccine from the refrigerator and allow it to warm to room tem-

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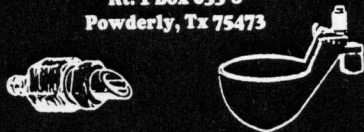
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perature (70°F to 80°F) before use. This will make the vaccine easier to inject and will greatly reduce the shock of injection. Shake well before using.

Vaccination Schedule

Young birds should be vaccinated at four weeks of age or older. A second vaccination should be given four to eight weeks after the first. Old birds, not previously vaccinated, should be given two vaccinations four to eight weeks apart. A single booster vaccination should be given annually. A suggested simple program is:

1. Vaccinate all young birds about four weeks prior to the start of the young bird racing season (or the show season).
2. Vaccinate all birds in the loft (both young and old) about two weeks before the breeding season.

This program will eliminate the vaccination of lost or culled homers and culled breeders.

Vaccine Dose

Inject 0.5 ml. (1/2 ml.) subcutaneously in the lower neck. For small breeds, inject only 0.25 ml. (1/4 ml.). A 1/2 inch, 20 gauge needle is recommended.

Warning

Extreme caution should be used when injecting any oil emulsion vaccine to avoid injecting your finger or hand. Accidental injection can be serious. If an accident occurs, immediate medical attention is recommended, preferably from a doctor with experience in hand injuries or call Maine Biological Laboratories, phone (207) 873-3989.

Caution

Store vaccine in refrigerator below 45°F (7°C). Do not freeze. Use entire contents of bottle when first opened. Keep permanent vaccine records including serial number. Do not vaccinate within 42 days of slaughter.

This vaccine has been carefully manufactured and has passed all tests for purity and potency according to the requirements of the company and the U.S. Department of Agriculture.

U.S. Veterinary License No. 240, Maine Biological Laboratories, Inc., Waterville, Maine 04901.

Injection Instructions

Have a partner hold the bird in a manner which allows you easy access to the neck area. Spray the lower portion of the neck with rubbing alcohol until the feathers are wet (a spray bottle or plant mister works well for this purpose). Grasp the skin in the midportion of the neck, pinch it between the thumb and forefinger, and lift it upward to form a "pocket" beneath the skin. A full crop may increase the difficulty of grasping a good fold of skin. Move the wet feathers out of the way so that the skin is visible. Carefully insert the needle through the skin in the midline of the neck. Do not inject through the skin on the side of the neck because there are large numbers of blood vessels found in this area which could be damaged by the needle. A slight resistance should be felt as the needle first penetrates the skin followed by the needle easily sliding through the skin into the pocket. If this difference in resistance is not felt, the end of the needle may be inside the skin. If the vaccine is injected into the skin, you will see the white vaccine inside the skin. This may develop into a hard lump or scab which will eventually disappear.

Special care must be taken vaccinating pigeons with tight neck skin (such as the Maltese) to avoid injecting the vaccine into the muscles of the neck as this may cause muscle damage.

Some fanciers prefer to vaccinate with the syringe pointed toward the body (Fig. 1) while others prefer to point the syringe toward the head (Fig. 2). We suggest you try both ways and use the method you feel most comfortable with. The important thing is to inject the vaccine into the pocket under the skin and not into the skin or the muscle of the neck (Fig. 3).

A dose of 1/2 ml. (0.5 ml.) must be injected after the needle is inserted into the bird. This is equivalent to one squeeze of the Jecta-Matic syringe or the distance between the larger markings of the 2.5 ml. disposable syringes (five of the smallest markings). After injecting the vaccine, slide the needle out of the bird at the same angle as it was injected.

If inexperienced, it is suggested that you practice on your least valuable birds first. Take special care to avoid injecting yourself. Cover the needle when not in use. The needle should be wiped with an alcohol swab after injecting each bird. ●

Figure 1

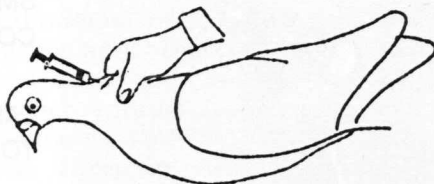


Figure 2

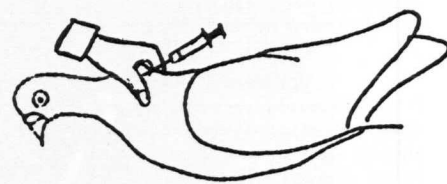


Figure 3

