

**Routine sample numbers:**

Blood packs: 15 GPO approved safety-packs were sent out in response to email requests from fanciers UK wide for blood sample collection by their GP.

Lanark: 13 fanciers attended for advice and donated a blood sample

Blackpool: 161 Fanciers attended for advice and donated a blood sample.

**Research:**

The research team assembled in the Winter gardens on a fine Saturday morning of the 40<sup>th</sup> anniversary of the BHW Blackpool Show. As ever, there was intense discussion and activity. Over the weekend, many fanciers met with the research team and shared their concerns about pigeon lung. 161 fanciers donated a blood test and were given detailed advice, and some were supported with breathing tests.

The strong impression of the research team was that number of fanciers with symptoms of pigeon lung have decreased year on year. We hope this is a justification of our continuous advice to reduce exposure to dust in the pigeon loft by wearing a suitable dustcoat and mask, which is now much more acceptable even at shows. We also stress to try to improve loft ventilation to reduce dust especially when cleaning out or during the moult.

Pigeon fanciers derive excellent quality of life from the sport and the vast majority don't develop pigeon lung. However, some fanciers experience symptoms of pigeon lung and finding out how this occurs has been our challenge. We find that pigeon lung is a complex condition. Some fanciers describe symptoms similar to asthma, others experience episodes of influenza-like symptoms, and occasionally pigeon lung can develop after many years of keeping pigeons and this can emerge as shortness of breath on effort. It is clear therefore that although most fanciers are tolerant of the exposure to pigeon dust some are susceptible, but in different ways causing different symptoms.

When fanciers inhale dust from pigeons, the lungs can react as if the dust was an early warning of an infection. Our current findings are that following high dust exposure the lungs can release a chemical (called CCL10) into the blood to recruit immune cells from the blood to migrate into the lung to react against the dust as if it was an infection. This can cause the flu-like symptoms. The lung also releases a chemical (called CCL18) which switches off this response and promotes healing. The balance between the activities of these natural chemicals can regulate the inflammation and resolution in order to maintain healthy lungs.

This work is currently being prepared for publication. This will be important not only for understanding pigeon lung but it is also relevant for general medicine for many other more common lung diseases. The generosity of the pigeon fanciers who support this is gratefully acknowledged.

Future work: The blood cells recruited into the lung after exposure to pigeon dust are called monocytes. We are currently looking at the behaviour of the cells from blood samples taken at Blackpool to identify why some might cause excessive inflammation. We will report on this next year.