



SHOT-SWITCH

Monitoring the transition from lead to non-lead shotgun ammunition for pheasant shooting in Britain

HOW TO FIND, STORE AND RECORD GUNSHOT PELLETS FROM THE CARCASS OF AN OVEN-READY PHEASANT

Pheasants are sold for human consumption in various forms, including with the skin and feathers on, plucked with the skin on but with guts, head, neck and wings removed (e.g., oven-ready) or as skinned or jointed cuts (e.g., breast fillets). This guide considers a whole oven-ready bird from which the guts have been removed and that we want to collect at least one shot that killed it.

We do not need you to recover all shotgun pellets present in a bird, but need a sample. However, this guide describes a procedure that could be followed to find as many shot as possible in a reasonable time. Required: sharp knife, cutting board, metal tray, paper towel, small container in which to place shot temporarily, paper and pencil and screw-topped polyethylene tube (supplied by the project in which recovered shot will be stored). Here are the recommended steps in the procedure.

- (1) Prepare a temporary container. A small dish or plastic pot will be suitable. Add 1-2 ml of water and a small amount of washing-up liquid.
- (2) Work on the carcass while holding it over or resting it on a metal tray. Shot often fall from the carcass and might be lost without the tray. Listen for the noise they make.
- (3) Carefully peel off the bird's skin, starting with the legs, then moving to the rear end of the breast and back, and finally to the anterior end of the body. You may need to free the skin from the body with a knife, but you will usually be able to pull it off with your fingers.
- (4) Inspect the skin carefully and also feel it between your finger and thumb, concentrating on areas where there is adhering subcutaneous fat. You are trying to find any shot adhering to the skin or embedded in it or in the fat. Place any shot you find in the small container.
- (5) Check the skin for small (ca. 2-3 mm diameter) puncture holes (Fig. 1) made by shot. Make a note, recording 'wounds' or 'no wounds'.

- (6) Inspect the surface of the skinned carcass. There are often shot embedded in the surface muscles or fat (Fig. 2). These have usually passed through the underlying tissues and have been stopped by the skin, which is strong and elastic. Place any shot found in the small container. Check the surface of the carcass for shot wounds which are small round holes, usually surrounded by bruising. Update your notes, recording 'wounds' or 'no wounds'. Often there are large bloody areas visible, especially over broken leg bones, where damage has occurred when the bird fell to earth, but these should not be recorded as wounds. It is just the round punctures in the skin and body that should be noted. We record this because we believe that some of the pheasants sold are birds slaughtered in game farms and which have not been shot in the wild. This is not the principal objective of this project, but the presence or absence of wounding from shot will help us to interpret the data on the proportion of pheasants in which no shot are found.
- (7) Divide the carcass into sections. Break the joint between the thorax and pelvis to detach the hind end of the body. Break the joints between the upper legs and the pelvis and cut off the legs. Break the joints between the upper and lower parts of the legs and cut to separate them. Use the knife to cut through the ribs to separate the back from the sternum and pectoral muscles.
- (8) For each section, dissect off the muscles from the bones and cut the flesh into approximate cubes with sides of a maximum of about 1.0 to 1.5 cm. You will find some shot as you make the cuts. Inspect each cube visually and also press it between index finger and thumb. Sometimes you will feel a hard nodule or see some protruding contour feathers that are embedded in the muscle. Cut into the cube to find the object. The nodule is often a shot on its own or embedded inside a ball of feathers that the shot has dragged into the bird's body (Fig. 3). Sometimes there are embedded feathers but no shot, because the shot has passed through the body. Look especially carefully at tissues which are heavily bruised and bloody or near to broken bones. Sometimes there is a shot inside a broken leg bone. Feel inside the internal surfaces of the body cavity in the pelvis and thorax to check for shot adhering to them. Tap the parts of the skeleton from which the flesh has been dissected against the tray. This will sometimes dislodge a shot. You may find fragments of shot or shot flattened by impact, which should also be collected.
- (9) When you have finished the dissection, agitate the shot you have collected in the detergent/water mixture in the temporary container to wash off any blood, fat or feathers. Place the shot on a piece of paper towel to soak up the liquid. Then put all of the shot in the labelled tube, having checked that the external label and the paper label inside the tube are present and legible. Write down the tube code and the numbers of shot and fragments put into the tube (Fig. 4). Enter these data in your spreadsheet.
- (10) Shake the shot into the tip of the tube and hold the side of the tip against a magnet (such as a fridge magnet) with the tip of the tube pointing downwards. Tilt the tube and magnet to see if any of the shot are held within the tip of the tube by the magnet, even when it is inverted (Fig. 5). Repeat this 2-3 times as a check. This test identifies the shot as being made from a magnetic material, probably steel, or non-magnetic materials such as lead, bismuth and tungsten. Note how many magnetic and non-magnetic shot are in the tube. Record numbers of magnetic and non-magnetic shot in your spreadsheet.

Completing the whole of this procedure takes about 30 minutes. However, you can stop after you have found the first shot, if you wish.



Fig. 1. Inside surface of the skin of a wild-shot pheasant. The arrows indicate holes caused by shot.

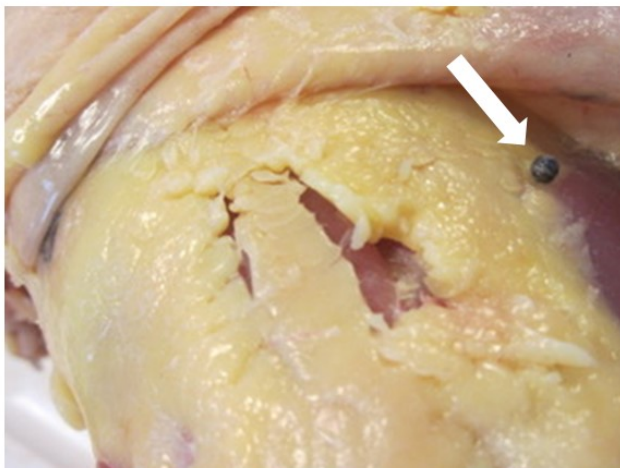


Fig. 2. Surfaces of the skinned carcasses of two wild-shot pheasants. The arrows indicate shot adhering to the carcasses.



Fig. 3. A piece of pectoral muscle from a wild-shot pheasant showing (top) an embedded ball of feathers detected as a hard nodule within the muscle piece. The lower panel shows the ball of feathers removed and the shot within it taken out.



Fig. 4. Two tubes containing gunshot pellets dissected out of wild-shot pheasants.



Fig. 5. Two different tubes (left and right) containing gunshot pellets, with the tube tip held against a fridge magnet with the tip oriented downwards (top) and then inverted so that the tip points upwards (bottom). The tube on the left contains non-magnetic shot and that on the right contains magnetic shot.