

Scottish Association for Country Sports



Advice on Shotgun Cartridges for Game Shooting & Wildfowling

July 2006

Introduction

It is not necessary to be an expert in ballistics to be a good and a safe game shot. It is, however, a distinct advantage to have an understanding of ammunition and how it works.



Most will realise that in modern shotgun cartridges when the trigger is squeezed the tumbler strikes the firing pin, which then indents the primer cap in the cartridge. Friction causes the compound in the cap to detonate which, in turn, ignites the main powder charge in the cartridge. It is the rapid burning of the powder that causes the pressure on the base of the wad inside the cartridge to start the shot charge. As the gasses generated continue to evolve, the shot charge accelerates until it leaves the muzzle at around 1,200 to 1,300 feet per second.

The reliability of modern shotgun cartridges owes much to the compounds used in their manufacture. Plastic hulls have, for the greater part, replaced card or paper cases. Modern primers are reliable and there are a variety of fast burning powders that are very stable and perform well under a wide range of temperature and humidity.

Choke

Choke is simply the restriction at the muzzle of the shotgun barrels. It acts on the shot charge as it exits the muzzles by slightly restricting its exit. The greater degree of choke the more effect there is on the density of the pattern of shot. There are four main levels of choke and they should produce a 30 inch circle at the following three ranges;



Choke	Range (yards)			Degree of Choke thousandths of inch
	20	30	40	
True	80%	60%	40%	Nominal
Improved	92%	72%	50%	5
Half choke	100%	83%	60%	20
Full choke	100%	100%	70%	40

The figures quoted are nominal, as the choke constrictions will also depend upon a number of other factors, primarily the profile of the choke and the length of the barrels. Really short barrels, for example, will require more chocking to achieve the required patterning than would the traditional 28 or 30 inch barrels.

Matching Cartridges to Quarry

Hare



In Ireland and Scotland hares are often shot on upland and generally at a fairly short range. Normal game guns are well equipped for hare shooting, especially driven hare shooting where the ranges would not normally be in excess of 35 yards. The use of number 5 or even number 4 shot is recommended.

Rabbit

Rabbits are normally shot at a short range so the most "open" of game guns are ideally suited to rabbit shooting. A 28-gram load of number 6 shot is generally accepted as the best cartridge for this job.



Woodcock



Ireland is the Mecca for woodcock shooting in the British Isles although some areas of Scotland can be very productive in the early part of the season. They are mainly shot either during pheasant drives or from cover such as rhododendrons or hedgerows. Loads designed for pheasant shooting are quite adequate as are normal game guns. For specialised woodcock shooting the combination of an open choked gun with small shot size, typically number 7, will ensure maximum pellet count in the killing circle.

Snipe

This is by far the smallest game bird encountered in the British Isles and one of the most plentiful of our truly wild game birds, although technically it is a wading species. For the majority of snipe shooters the preferred load is number 7 or 8 shot, using open choked guns to attain the best possible pellet count.



Pheasant



The preferred shot size for pheasant is number 5 & 6 shot with fairly open choked guns. Because much of the pheasant shooting carried is driven shooting, many shooters will use a combination of the two shot sizes in different choked barrels to achieve the maximum spread of shot at the required range.

Duck

Duck shooting at normal ranges should present no great problems for the majority of game shotguns. The shot sizes tend to go up, however, and it is more common for 4 & 5 shot to be used in combination with guns choked at half and full rather than the more conventional, open choked game guns. For wildfowlers requiring something extra, magnum loads are preferred.



Geese



The influx of grey geese into Northern Britain and Ireland each winter presents the shooter with some great sport and to capitalise on this he must match shot size with choke to ensure maximum hitting power at extended ranges. Tightly choked guns are order of the day with 3/4 and full chokes being preferred by many. Larger gauges such as 10 and 8 bore are also not uncommon. For the goose shooter using a 12 bore the combination of tight chokes and number 3 or 4 shot is desirable

Other Game Birds

For partridge and grouse shooting the traditional game guns matched with number 6 shot is almost universal. Open chokes with a load capable of bringing down birds at medium ranges ensure first time kills without damaging the flesh of the bird. In driven grouse shooting, as in driven pheasant shooting, the shooter can, by the clever use of load and choking arrangements, ensure maximum penetration of pellets within the kill circle.

