

COOPERATIVE L'ENVOL DE RETZ

Pheasant & Partridge Production in France

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- History of gamebird rearing in France
- Organisation of the gamebird industry
- Figures and development of the gamebird industry
- The different markets for gamebird producers
- The production of pheasants
- The production of French and grey partridges
- The cooperative: L'envol de Retz
- Shooting in France
- **History of gamebird rearing in France**

Gamebird rearing in France started in around 1955.

During the early years, the owners of shoots captured birds on their estates and held them in captivity for breeding.

The chicks were reared to 7 weeks old for pheasants and 12 weeks for partridges before being released back onto the estate for the following shooting season.

From the 1960's and 1970's, urbanisation, changes in farming practices, and the increased use of agrochemicals, led to a significant reduction in the various populations of wild game. The

number of licensed guns continued to grow strongly and commercial gamebird production units were created to meet this growing demand.

Up until the 1980's, such production units were small and bred and reared the birds themselves. They sold the majority of their game in July and August to repopulate the hunting estates, and adult birds during the shooting season.

Since 1980, organisers of shoots have changed the way they manage their estates and now purchase adult birds from producers during the shooting season (from September to February).

A few estates continue to reintroduce birds in the summer, but this only represents 10% of the game that is released each year.

The years between 1990 and 2005 were highly propitious to the development of breeding units to meet the significant export demands (eggs and chicks). The farms and hatcheries became more modern, and the techniques and selection of breeding stock improved.

Since 2008, the number of farms has remained stable.

The development and professionalization of the activity have split producers into two groups:

- Egg producers and their hatcheries.

- Producers of poults and adults gamebirds.

- **Organisation of the gamebird industry**

- Producers of eggs and hatcheries

Since the 1990's, when the first export markets opened up, most egg producers have grouped together and become more organised.

The majority of producers are located in the West of France. The oceanic and temperate climate is highly favourable.

There are three companies in France, including Envol de Retz who represents 75% of pheasant and partridge egg production.

These companies also rear significant quantities of pheasants, partridges, poult and adult, to meet the demands of producers who do not have sufficient space in flight pens.

Each of these three companies possesses one or several hatcheries to cover the hatching period from mid March to mid-August.

Smaller farms continue to produce eggs, incubate them, and raise chicks to adulthood. Their number is decreasing each year, and the restructuring of the profession is forcing them to specialise in one field or another.

- The producers

Gamebird production units, which previously bred and reared the birds themselves, have become specialised and now order their chicks from specialised hatcheries.

They are distributed over the ensemble of the territory, with higher concentrations in regions where shooting is most popular.

More than 95% of reared gamebirds are destined to be released for shooting. A very small percentage is destined for abattoirs for consumption. In France, hunters eat the game that they have shot and only a few estates commercialise dead game for restaurants.

The production of gamebirds (breeding, hatching, rearing) is a highly regulated profession. To practice it, producers must undergo specific training, hold official qualification, and undertake numerous administrative and disease control procedures.

Producers who wish to export their produce are subjected to additional regulations (export licence, blood testing of the various flocks, heightened veterinary control and monitoring, etc.), which are getting stricter each year as a function of the requirements of each country and their disease status.

The professional syndicate of gamebird producers comprises around 70% of producers. Its aim is to promote the quality of the game and provide a go-between with public authorities to discuss any new legislation or regulations.

Since 2010, all of the partners of the hunting and shooting industry came together to discuss changes in legislation on a European level and how to preserve it. This INTERPROCHASSE association comprises producers of gamebirds, gun makers, breeders of hunting dogs, manufacturers of feeds for game, the national federation of hunters, etc.

- **Gamebird production in France**

There are currently 1,000 professional production units in France.

Around 180 producers are involved in the breeding side of the business, 120 of whom are grouped into the three main companies.

The 820 remaining producers rear the birds to supply the shoots.

Annual production in France:

- . 50 million pheasant eggs
- . 30 million French partridge eggs
- . 3.5 million Grey partridge eggs
- . 12 million poult or adult pheasants
- . 6 million poult or adult French partridges
- . 2 million poult or adult grey partridges
- . 1 million mallard ducks

- **The different markets**

The biggest markets are in Western Europe: United Kingdom, Italy, Spain, and France.

There are also regular exports to other countries with smaller markets: Denmark, Belgium, certain Eastern European countries, North Africa, and a few countries in the Middle East.

Envol de Retz started exporting partridge eggs to the United States 5 years ago.

The reputation and professionalism of MacFarlane enabled us to implement a partnership with promising beginnings, which we hope will continue to develop in coming years.

For all export shipments, the eggs are supplied with an export health certificate and are individually stamped with the number of the farm of origin.

Border countries are supplied directly with our own vehicles and the furthest by plane.

The different sales:

- Eggs:

Principally for export

- Chicks:

France and border countries

(United Kingdom, Spain, Italy, Belgium)

- Poults gamebirds: Pheasants from 7 weeks old

Grey partridges from 10 weeks

French partridges from 16 weeks

Poults gamebirds are supplied to France, the United Kingdom, Belgium, and Italy.

- Adult gamebirds:

Delivered during the shooting season, the vast majority being destined for France and Italy.

PHEASANTS

Numerous breeds of pheasant are produced in France to meet the very diverse demands of hunters.

- The different strains of pheasants reared in France

Common ring-neck pheasant: the most popular pheasant. The cock is very red with a few white feathers on the wings and a very pronounced white collar. The hen has very light-coloured plumage.

With a large muscle mass, this pheasant displays fast and very homogenous growth. It is very robust and well adapted for release on the estates from 7 weeks old.

Adult weight: Cock 1.7 kg (3.8 lbs), Hen 1.3 kg (2.9 lbs)

Melanistic pheasant: Highly appreciated for its particular colouring, the melanistic cock has black feathering with green highlights. The hen is brown, very sombre and homogenous. It is highly appreciated by hunters for its capacity to hide.

Adult weight: Cock 1.6 kg (3.6lbs), Hen 1.2kg (2.6lbs)

American blue-black pheasant: originating from MacFarlane Pheasant, this pheasant was imported to France many years ago for driven-up sporting shoots. This pheasant walks a lot and needs a large hunting estate.

The small and streamlined cock has two distinctive white marks on the head. Its plumage is light and speckled with a blue-grey back.

Adult weight: Cock 1.2 kg (2.6lbs), Hen 0.9kg (1.9lbs)

Manchurian pheasant: Increasingly popular, this pheasant is very distinctive with a very wide white collar on the cock and a white spot on the side of the head.

With its flying abilities and vivacity, it is particularly suitable for flatter grounds of moderate surface area.

Adult weight: Cock 1.4kg (3.1 lbs), Hen 1.1kg (2.5 lbs)

American cross pheasant

This is the result of a cross between an American cock and a ring-necked hen.

Smaller than the ring-necked pheasant, it has the same flying abilities as the American pheasant. It is lighter in colour with a bluish back. It is highly appreciated in France in small hunting estates.

Adult weight: Cock 1.4kg (3.1 lbs), Hen 1.1kg (2.5 lbs)

Black neck pheasant (without a ring around the neck)

Originating in Great Britain, it is still very popular there and notably in Northern regions.

With a uniform dark red colour, it is characterised by the absence of collar.

It has very similar behaviour and growth to the ring-necked pheasant.

Adult weight: Cock 1.6kg (3.5 lbs), Hen 1.2kg (2.6 lbs)

Reeve pheasant:

This pheasant with its very particular plumage is reared in very small numbers. It has a golden colour and at 2 years of age, the feather of the tail can reach up to 2 metres in length.

It is only hunted in big, mature forests.

Adult weight: Cock 1.6kg (3.5 lbs), Hen 1.2kg (2.6 lbs)

Breeding

Breeding pheasants are kept for one year for reproduction. At the end of the laying season (August), the birds are placed into large flying pens to moult, regain weight (muscle mass), and are then sold to the estates for shooting.

They are generally issued from eggs that are laid at the start of the season (March-April) and are reared up to November in flying pens on the ground.

During December, the cocks are selected and placed in outdoor laying pens on wire netting. This new method, which started in the mid nineties, is now widespread and used by all of the main egg producers. It guarantees an excellent sanitary condition of the birds throughout the duration of the laying season (February to July) and provides a supply of clean eggs that do not come into contact with the ground.

The hens are placed in the laying pens 15 days after the cocks. The ratio is 7 to 9 hens per cock, depending on the breed. The birds are given artificial lighting to bring the laying period forward and peak at the time when the demand is at its highest (April, May, June).

The cocks are changed in the laying pens every week to stimulate their fertility.

The hens start to lay in mid February. Depending on the breed, they produce between 75 and 100 eggs per year.

Rearing

The hatching season starts between the 15th and 20th of March and ends in the first or second week of August.

To guarantee that the chicks get a good start in life, gamebird producers following three key principles:

1° AIR 2° WATER and 3° FEED

Air: Good draft-free ventilation to ensure good air quality and turn over.

Water: Sufficient numbers of drinkers such that all of the chicks can rapidly reach a source of good quality, fresh water.

Feed: Available in numerous sites and adapted to the size of the birds, highly nutritious and equilibrated to promote good development.

The chicks are raised indoors for the first four weeks of life. The first week, they are confined in circles of wire mesh, wood, or cardboard under gas-powered radian heaters. The second week, the circles are removed giving the birds more space. From the second week, the intensity of the light in the housing is reduced to limit aggression.

From three weeks, the pheasants have access to a covered outdoor area, where they can adapt to outside temperatures whilst being sheltered from the rain. Just before they are released from under this shelter, a bit is inserted on the beak.

At five weeks of age, they have access to small flying pens on grass. From six or seven weeks, depending on weather conditions, they are placed in large flying pens covered with netting or wire mesh with a ground cover of crops (maize, sorghum, etc.).

At ten or eleven weeks, we replace the bit with a hood that they will keep until the day that they are released.

The houses used for rearing pheasants are on average 300 m², and generally divided into 4 or 5 pens with a central corridor.

The bedding is composed of dried chopped straw.

An iodine-based product is systematically sprayed on the bedding to prevent mould development, which could lead to aspergillosis.

The buildings are heated with gas-powered radian heaters.

The ambient temperature is 25°C and the temperature under the radian is 37°C.

Adjusted to between 1 m and 1.20 m high, we put two radians in each circle (if one of them goes out, there will always be a source of heat without the need to repair the other immediately).

Observation of the birds' behaviour provides the best indication of temperature levels (whether the birds crowd around or avoid the heat source).

The density of pheasants is around 50 chicks / m².

Feed and water are distributed automatically

To begin with, the birds have one nipple drinker per 15 to 20 chicks (or 1 drinker) and one feeder for 100 chicks.

In the first 4 or 5 days, the producers put the food on large sheets of paper (bags) or cardboard. The noise the chicks make when pecking at the food on the card attracts others to come and do the same. It is also much easier to monitor the birds' droppings with this system.

The paper or card is changed several times a day so that the birds do not eat dirty food.

The use of nipple drinkers has become widespread and gives the chicks constant access to optimal quality water (clean and fresh). Automatic drinker are still used but are much

more time consuming and need to be cleaned more often. The water stagnates in them, deteriorates, and heats up. The chicks do not drink enough and such water is more likely to harbour diseases.

The majority of buildings are equipped with a ventilation system (static or dynamic), which provides a healthy atmosphere for the first five weeks of rearing.

The outdoor shelters, which usually cover approximately half the surface area of the buildings, enable the birds to go outside earlier or when climatic conditions are unfavourable. The roof is made from corrugated iron and the walls from double-thickness windbreak mesh. The ground is covered with sand or beaten earth.

The first flying pens are on grass. They measure 2.5 to 3 times the surface of the starter houses. The pheasants will stay in them for up to 7 weeks old.

The release pens in which the pheasants will finish their growth are cultivated to provide plant cover.

Maize, sorghum, or any other ligneous and resistant plant will provide comfort and calm to the birds. Pecking and cannibalism is very limited in such conditions.

The surfaces are variable, but it is not unusual to see flying pens that are 200 to 300 metres long by 30 to 50 metres wide. Very high, 6 to 8 metres, they enable the pheasants to develop their flying technique properly. The stocking density is 4 to 5 m² per pheasant. They used to be covered with chicken wire, but are now renovated with netting, which is easier to install.

All of the flying pens are fitted with corridors, which allow the birds to circulate without the need to handle them.

At the time of dispatch, the birds are directed into the catching pens via these corridors. They are then placed in single-use boxes, made from wood or cardboard for delivery.

The dietary programme:

There are many different feed manufacturers in France.

Only a few of them have made the necessary investments to develop specific formulations and ensure an appropriate pellet size for gamebirds.

The formulations are generally composed of cereals (maize, wheat), soya, and a mineral supplement.

Manufacturers have specific fabrication tools for making crumbs and fine pellets without dust.

The use of products derived from meat sources is prohibited (meat meal). Fishmeal, which has a very high protein content is no longer used as it is too difficult to manage in the feed production factories. Instead, proteins are supplied by soya and synthetic amino acids, fish oils, and nutritional supplements in the drinking water.

DIETARY PROGRAMME FOR PHEASANTS

PERIOD (week)	FOOD	QUANTITY / BIRD	PRESENTATION	PROTEIN
1	starter	45 g	Small fine crumbs	28.5%
2 and 3	stage 1	250 g	crumbs	26.5%
4 to 6	transition	700 g	Short vermicelli	24.5%
7 to 12	Stage 2	2,200 g	vermicelli	22 %
12 to 16	Stage 3	2,500 g	pellets	19.5%
16 and after	senior	500 g / week	pellets	16 %

From 12 weeks of age, the farmers progressively incorporate cereals (usually wheat).

The association of wheat in the feed enables the birds to familiarise themselves with the diet that they will be likely to find when released onto the shooting estates.

This also helps to reduce the cost of feed.

The quality of the feed, both in terms of composition and presentation is essential, but the drinking water is even more important.

Many production units are starting now fitting metering pumps to treat the water. These pumps are used to adjust the acidity (pH 6.5) of the water and the levels of iron, chloride, etc. which it contains.

The use of drinking nipples requires specific attention to the cleanliness of the pipes. The biofilm (algae), which is deposited in the pipes can cause blockages. Metering pumps also enable the addition of treatments to clean the pipes. Such treatments are iodine based, and can be consumed by the birds without risk.

The water is analysed twice yearly to determine its composition and quality. It is taken from individual wells or from the regional water board.

Prophylaxis

Prophylaxis can be administered in the food and / or water. In all cases, treatments are only administered after the veterinarian has visited the farm or after a laboratory analysis. Each farm is monitored by a veterinarian.

The use of any drugs must be accompanied by a veterinary prescription and be recorded in the farm's medicine register.

This register is obligatory and must include: date of introduction to the farm, species, number, date of medical treatments, date and nature of feed deliveries, withdrawals and destinations of birds.

This register is checked regularly by the healthcare authorities and hunting regulators.

Breeding animals are systematically wormed before being placed in the laying pens.

A laboratory analysis is performed on each batch of breeders before the laying season to check for salmonellosis and mycoplasma.

During the laying season, a second blood sample is obligatory to check the condition of the birds and monitor the sanitary progress of each farm.

These analyses are obligatory for the game licence.

On farm, the first batches of pheasant do not need any specific preventive treatment. However, we systematically implement prophylactic programmes for chicks reared at the end of the season.

The microbial disease and parasitism naturally present in a farm and the repeated starters require more specific attention.

Commonly encountered diseases and parasites include: coccidiosis, enteritis, trichomona, aspergillosis, marble spleen, syngamus (gapeworm), lice.

General prophylactic programme and interventions

Age (day)	Action	Mode of treatment
1	REHYDRATING (incite the birds to drink and thus to feed)	water
21	PARASITE CONTROL	Laboratory analysis
23	BITTING	
	ANTISTRESS	water
25 - 26 - 27	ANTICOCCIDIAL	water
28	PARASITE CONTROL	Laboratory analysis
	VACCINATION AGAINST MARBLE SPLEEN AND NEWCASTLE DISEASE	water
Once a week	PREVENTION OF TRICHOMONA	Water (acidifier)
Once a month	WORMING	Water or feed

PARTRIDGES

Two clearly distinct breeds of partridge are reared in France: the French partridge and the Grey partridge.

The French partridge is the most widespread and represents 75% of all partridges shot in France and 90% of the breeding stock.

This difference is related to the shooting methods employed and to the different markets.

The French partridge is hunted throughout France, Great Britain, and in Spain.

The Grey partridge is hunted in Northern France and Italy.

Breeding

French partridges are kept as breeders for 3 years and grey partridges for just one season.

As with pheasants, the birds are reared from eggs that hatch at the start of the season.

Couples of partridges are placed in pens in October and November.

The birds are given artificial lighting to bring the start of the laying period forward.

French partridges start to lay in early February and grey partridges at the end of February, one month after the start of artificial lighting.

The incidence of artificial lighting on grey partridges can be deleterious if it is introduced too quickly (very short laying season and poor fertility).

French partridges lay around 50 to 55 eggs during their first year, 65 to 70 in the second year, and 60 to 65 in the third year.

The start of laying depends on lighting and is generally during the month of February, and stops towards the end of July.

Grey partridges lay between 65 and 70 eggs from February to the end of May.

Rearing

French and grey partridges are not reared in the same manner.

French partridges are started in a similar fashion to pheasants. The grey partridge needs to be stimulated during the first week with lots of lighting to incite them to consume water and feed.

The chicks are raised indoors for the first six weeks of life.

French partridges need light to ensure a good start, but grey partridges need to be placed in semi-darkness to limit pecking.

It is essential to put up barriers (in the form a triangle), in all of the corners of the building to prevent the French partridges from crowding into them and suffocating each other.

From the first week, it is a good idea to create breaks in the lighting so that the birds become used to obscurity and if there is an accidental power cut, the French partridges will not panic and crowd the corners of the building.

From six weeks, the partridges are given access to an outdoor shelter.

Grey partridges, as with pheasants, are fitted with a bit to prevent pecking.

At eight weeks of age, they have access to small flying pens on grass. From ten or twelve weeks, depending on weather conditions, they are placed in large flying pens covered with netting or wire mesh with a ground cover of crops (maize, sorghum, etc.).

Housing for rearing partridges is on average 150 to 200 m², and is generally divided into 8 or 10 pens with a central corridor.

The bedding is composed of dried chopped straw.

An iodine-based product is systematically sprayed on the bedding to prevent mould development, which could lead to aspergillosis.

The grey partridge is also very susceptible to candidiasis.

The buildings are heated with gas-powered with radian heaters.

The ambient temperature is 25°C and the temperature under the radian is 37°C.

The density of partridges in the building is around 80 chicks / m².

Feed and water are distributed automatically, as with pheasants. In the first week, it is also important to put more starter plates out, especially for the grey partridge.

The birds have 15 to 20 nipple drinkers (or 1 drinker) and one feed hopper per 100 chicks. The same paper bag system (as for pheasants) is used to ensure good food intake.

The flying pens are similar to those used for pheasants, just smaller.

PERIOD (week)	FOOD	QUANTITY / BIRD	PRESENTATION	PROTEINS
1	starter	30 g	Very small fine crumbs	28.5%
2 and 4	Stage 1	200 g	Small crumbs	26.5%
5 to 8	transition	600 g	Crumbs or Short vermicelli	24.0%
9 to 12	Stage 2	800 g	Short vermicelli	22 %
12 to 16	Stage 3	1,000 g	vermicelli	19.5%
16 and after	senior	250 g / week	vermicelli	16 %

FEEDING PROGRAMME FOR PARTRIDGES

From 12 weeks, the producers progressively incorporate cereals (usually wheat).

Prophylactic programme

The breeding stock and growing birds are subject to the same controls and analyses as pheasants.

The French partridge is very sensitive to stress and requires more precaution.

Various periods are susceptible to stress the birds: change in environment, change in feed, climatic change...

General prophylactic programme and interventions

Age (day)	Action	Mode of treatment
1	REHYDRATING (incite the birds to drink and thus to feed)	water
21 (from the 3 rd to the 10 th week)	PARASITE CONTROL (once a week)	Laboratory analysis water
35 -38	BITTING and antistress (for grey partridges)	water
Once a week	PREVENTION OF TRICHOMONA	Water (acidifier)
Once a month	WORMING	Water or feed

Commonly encountered diseases and parasites include: Coccidiosis (French partridges); enteritis, trichomona, gapeworm, candidiasis (grey partridges), lice.

- **The cooperative: L'Envol de Retz**

In France, the cooperative system is widespread in numerous sectors. Envol de Retz is the only cooperative in the field of gamebird rearing.

The cooperative is an association of producers, where each one is associated as a function of their production potential.

In 1999, gamebird producers from the same region grouped together to pool their expertise. A team of directors, administrators, and commercial and technical experts, organise, monitor, and commercialise the ensemble of the production.

The eggs, chicks, and game reared within Envol de Retz are closely monitored in accordance with the specifications drawn up with our clients.

L'Envol de Retz

40 farms

130,000 breeding French partridges

17,000 breeding grey partridges

120,000 breeding pheasants

300,000 poult and adult pheasants

280,000 poult and adult partridges

200 hectares of flying pens

20 employees

3 hatcheries (450,000 chicks per week)

20 vehicles fitted out for transporting chicks and gamebirds

- Shooting in France

Hunting in France is a right that was acquired during the revolution, in 1789. Each landowner is allowed to hunt on the land that they own.

If they wish, landowners can create an association to regroup the hunting grounds to have more space.

Legislation concerning hunting is defined by the State, which defines the regulations and is responsible for controlling their implementation.

The shooting season starts in August for waterfowl and September for land-based game. The season ends as a function of the species between February and March.

In France, 80% of shooting is walked-up or “rough” shooting, with only a small proportion on driven shoots as in the United Kingdom.

There are 1,400,000 registered hunters (for a population of 63 million).