

SAMPLE

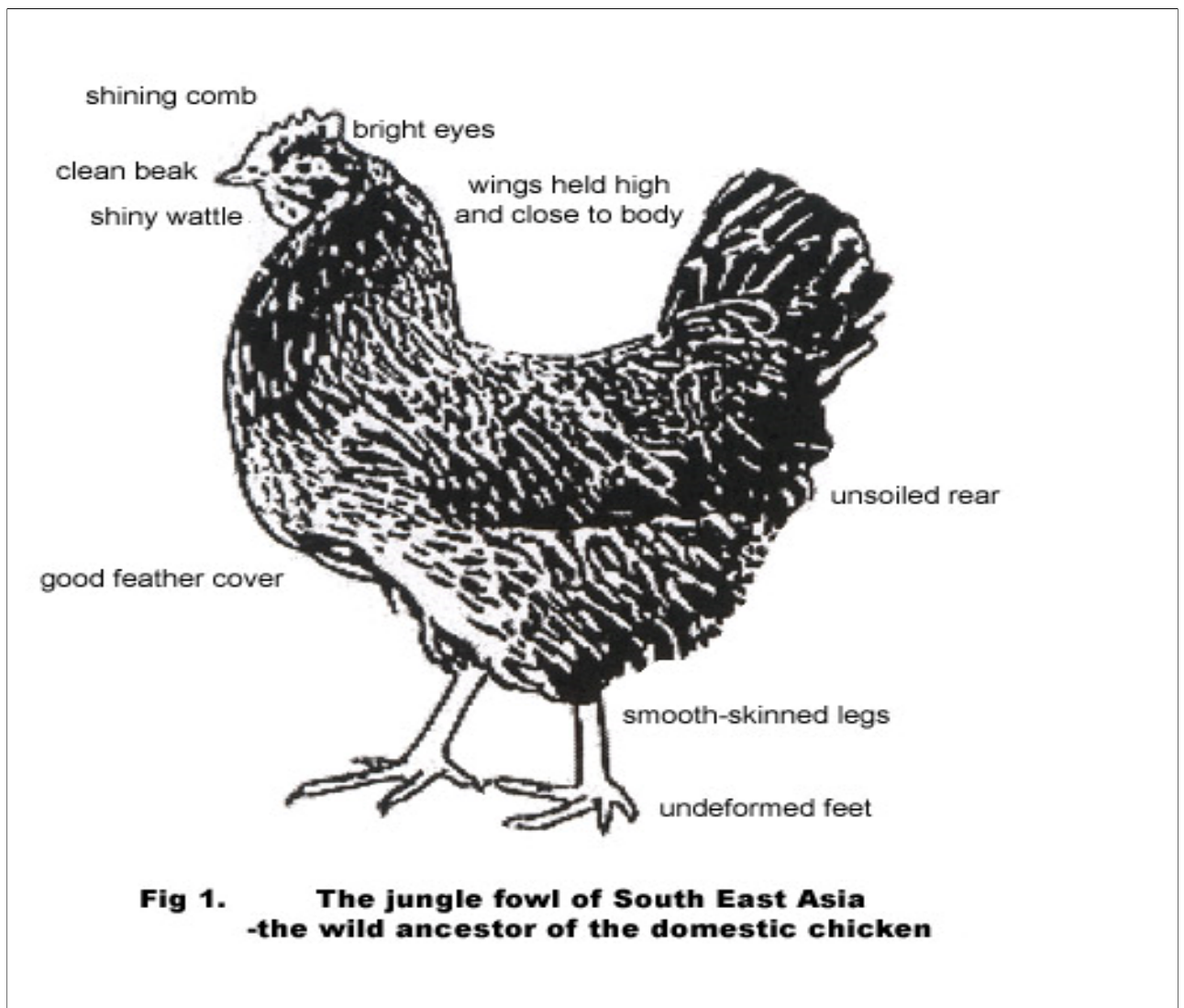
Introduction, Terminology and Breeds

Aim

Discuss the scope and nature of domestic poultry keeping including terminology and breeds

The ancestors of the domestic chicken can be genetically traced back to two birds living in the jungles of South East Asia. These are small, partridge-coloured red jungle fowl *Gallus bankiva* and grey jungle fowl *Gallus sonneratii*.

The jungle fowl of South East Asia – the wild ancestor of the domestic chicken.



Chickens feature in art work of the ancient Egyptians (around 4000 BC) when they were kept for religious purposes. The early morning crowing of cocks led the Egyptians to believe that they were announcing the Sun God. There are records of chickens being kept as domestic animals in India as long ago as 3200 BC. Chickens probably reached Europe about two thousand years ago where they were valued not only as food producers but for the sport of cock fighting.

Since the end of World War II, advances in both genetics and management practices have seen major improvements in the productivity of the domestic fowl, and it is now a very different bird from its ancestor. The modern layer bird now lays over three hundred eggs per year instead of one clutch of twelve eggs, whilst the modern broiler reaches a marketable weight of around 2.0kg live weight at around six to seven weeks. The desire to sit on eggs and hatch them has been bred out of the modern birds so that they seldom go broody.

SAMPLE

Young birds reach sexual maturity and begin laying at sixteen to twenty weeks of age unlike the wild jungle fowl who was only ready to lay at one-year-old.

Although the laying powers of chickens has been developed to a remarkable degree, birds stop laying once a year when they go into a moult (replace their feathers). Once over a moult, the birds will begin to lay again but production during this second laying season will be about 20% below the production of the first season. However, the eggs from the second layer season will be larger.

Healthy hens can continue to lay for many seasons but the normal practice with commercial poultry is to keep the birds for one season's lay and then replace the birds with a new batch of pullets. Because modern layers have been bred specifically for their egg producing qualities, their carcass is of little commercial value, and is often used for soup or pet food.

Depending on the size of the poultry unit and the available housing, a supply of eggs can be maintained throughout the year by replacing the various flocks at different times of the year. Under natural conditions, egg production is highest in spring and summer which is the period of lengthening daylight. However, all modern laying facilities provide the birds with a constant period of day light using artificial lighting. This ensures optimum production throughout the life of the bird. Birds that are kept on free range will follow the natural pattern of the seasons unless some form of artificial lighting is provided. Poultry are economic converters of home grown food into both eggs and meat. Poultry manure is also a very valuable source of plant nutrients.

POULTRY TERMS

There are several poultry terms with which you should be familiar and these are detailed below:

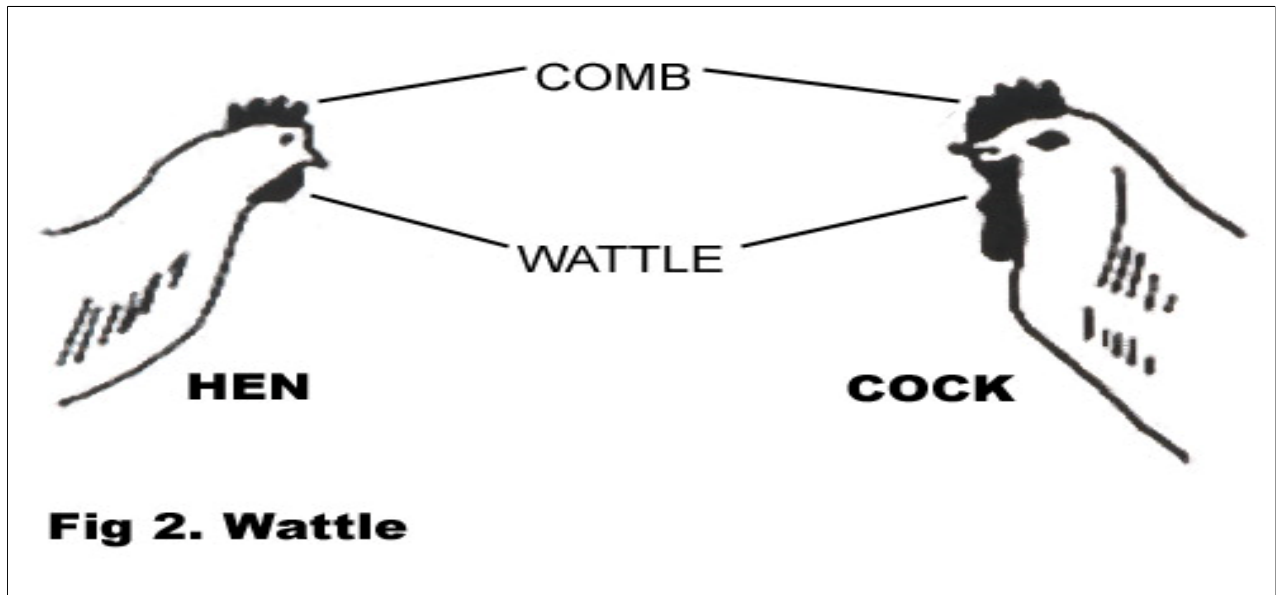
Poultry Terms

Brooding	The period during which the newly hatched chicks require to be kept warm
Broody	The condition of a mature hen when she will sit on a nest of eggs in order to incubate them
Broiler	A chicken reared to provide meat and killed at six to eight weeks
Capon	A male de-sexed chicken
Cockerel	A male chicken from one day old to sexual maturity
Comb	Growths on the head of a cock or hen which are used as signs of a pullet coming into lay (erect and red) or poor health in a bird (limp and pale)
Cull	To remove and destroy sick or aged fowls from a flock
Day old chick	A young chicken immediately after hatching
Feathering	The period during which the down of the young chick is replaced by feather. This happens at about four weeks old.
Hen	An adult female laying hen over the age of fifteen months
Incubation	The period during which the embryo is growing inside the egg prior to hatching
Moult	The period when a mature hen stops laying and her feathers fall out to be replaced by new growth
Point of Lay	A young hen just about to come into lay
Poussin	A meat bird weighing less than a spatchcock

SAMPLE

Pullet	Another term for a young hen from about twenty weeks old, (point of lay) to fifteen months old, when it has completed its first year of laying.
Stag	A rooster over the age of two
Spatchcock	A broiler weighing about 1kg live weight
Wattle	Fleshy appendages on the throat and chin of some breeds of fowl

Wattle



CONTRACT GROWING

Contract growing in the poultry meat and egg industry is an established world-wide trend. In contract growing a company and a farmer sign a contract to produce broilers, breeders or replacement pullets, commercial laying hens or eggs. The contract growing method has been an established way of conducting business in the poultry industry for the last fifty years and farmers see it as means of ensuring financial security.

In Australia (as an example) company or contract growers produce about 95% of the total meat bird production, the remaining 5% comes from independent growers. The success of contract growing is dependent on both parties fulfilling their obligations in relation to maximising flock performance. In some cases, the company will supply:

- Specifically formulated feed (to ensure maximum growth/egg production)
Genetically selected chicks (for health and vigour, the ability to efficiently turn feed into growth and/or optimum egg production)
- Professional support (in relation to helping the grower achieve maximum flock performance)
- Management programs that the grower must follow

At the other end of the contract the farmer (producer) supplies and maintains:

- Good quality housing (including appropriate temperature control)
- Good quality equipment
- Expert management (daily management of flock (feed and water removal of dead stock, vaccinations) and precise record keeping i.e. mortality, feeding regimes, vaccinations etc)
- Flexibility

SAMPLE

- As marketing needs change the grower needs to have the ability to change with it. This may include changing production systems i.e. the market demand may at some stage demand smaller or larger birds.
- Strong communication ties with the contract company (this ensures that both parties are meeting their obligations and that growers have the earliest possible knowledge of market trends).

REGULATIONS

Farming world-wide is governed by regulations and it is imperative that a prospective poultry farmer is aware of the guidelines, restrictions and regulations that exist in their region.

Contract companies will also have guidelines and restrictions that need to be followed as part of contractual obligations and farmers will need to ensure that they are aware of these before setting up a new poultry enterprise or buying an established one. Restrictions could include:

- Location (some companies have restrictions on how far a grower's farm can be located from the processing plant, hatchery or feed mill)
- Buildings (companies will have preferred housing standards and a set number and size)
- Equipment (some companies may have specified equipment and installation procedures)
- Access (easy access for company vehicles and farm equipment)

Government restrictions and regulations and conditions will vary (as mentioned before) depending on the country (or region within your country) of operation, but could include:

- Site Layout /Site Selection
- Proximity to neighbours
- Size of operation
- Waste management
- Access and traffic
- Visual appearance
- Chemical use and runoff or spray drift
- Water management
- Vermin control
- An environmental management plan to ensure low impact on natural environment.

MANAGEMENT FACTORS

Following is a short indication of the most critical management factors within a poultry enterprise to ensure flock health and optimum production. You will study these aspects in more depth throughout the course.

- **Temperature** - your system should respond to temperature changes 24 hours a day and should be set at the optimum level irrelevant of the age of your birds or the season
- **Ventilation** - good ventilation is imperative as it removes ammonia and moisture from the air within the sheds whilst at the same time replacing the oxygen used by the flock
- **Feed and water** - must be clean and be accessed easily as well as plentiful
- **Health** - daily inspections will alert you to problems; ailing birds can be either medicated or culled before problems spread to the rest of the flock
- **Culling** - a necessary part of the operation and should be done to enterprise guidelines
- **Disposal of dead birds** - to enterprise guidelines as well as government regulations

FURTHER CONSIDERATIONS

To ensure that you maintain a productive poultry enterprise you will also need to consider the following:

- **Specialised equipment;** you may need equipment such as front end loader, tractor, manure spreader, trailer and so on and be prepared for breakdowns to minimise down time.
- **Drainage systems;** houses should remain dry, this will also be covered by local government regulations, runoff from houses cannot be diverted to dams or waterways.
- **Maintenance;** access roads and driveways should be maintained, weeds controlled to minimise rodent problems

Chemicals and pesticides; be knowledgeable on the type of chemicals used in the poultry business and any restrictions placed on you by either your contract company or government regulations; be prepared to develop a health and safety policy.

SMALL SCALE PRODUCTION

In comparison to the contract poultry farm, the investment cost and space required for a small operation is low, making this an attractive starting point for many small producers with limited access to the capital required for large operations. However, it is important for the small scale farmer to research potential market opportunities so that they can ensure profitability as in some markets they will still be competing with larger producers.

Small or beginning farmers should consider producing poultry or poultry products for niche markets such as:

- Special breeds for exhibition,
- Organic meat,
- Free range eggs
- Raising poultry for the backyarder

To be successful in a niche market the small enterprise will need to:

- Focus heavily on customer service
- Find a market with limited competition
- Research market trends
- Maintain profitability (particularly with products that have competition from large suppliers)
- Gain long term customer loyalty

The advantage for the small producer is that they will most likely have the opportunity, whilst the business is still run on a part-time basis, to earn income from an outside source (or complimentary enterprise) in the initial setting up period.

POULTRY BREEDS

What constitutes poultry?

Poultry refers to birds within the scientific order “Galliforme.” This order is broken up into a number of families.

- The family Phasianidae includes the common domestic fowl, as well as pheasants, partridge, quail and pea fowl.
- The family Numididae includes the guinea fowl
- The family Meleagridae includes turkeys.
- Waterfowl, including ducks and geese belong to the family Anatidae

SAMPLE

Assignment 1

Question 1

Distinguish between cross bred and pure bred poultry. You only need to write a few sentences, showing how these different poultry differ from each other; and giving some examples of breeds/types which fall into each category. Submit approximately 100 - 150 words

Question 2

Prepare a table or list that categorises breeds of poultry (chicken, ducks, geese, turkeys) into different groups including:

- Egg laying birds
- Meat/Table birds
- dual purpose breeds

Question 3

Explain the advantages of cross breeding poultry. Submit 100 words.

Question 4

Select any ten chicken breeds. Evaluate the breeds in terms of:

- commercial eggs
- commercial meat
- large fowl or bantam

You may wish to use a table to present your findings.

Question 5

Label the parts of a chicken on the unlabelled poultry diagram, including:

nostril	cape	toe	feathers
beak	back	toenail	sickle feathers
wattle	saddle	breast	tail coverts
comb	thigh	shoulder	wing coverts
ear	hock	hackle	wing primaries
ear lobe	spur	tail	wing secondaries