Agricultural Science Project

Introduction

The introduction should include:

1. Introduction should be a page to two pages long.
2. State what you intend to include in project. Name the sections.
3. Be neat, tidy and consistent with style, font, spacing etc.
4. Take as many photos as possible (include yourself in some).

Practical Experience

Crops:

Barley/wheat/oats/potato

Write up on one of the above under the following headings (include photos):

1. Rotation.
2. Soil suitability.
3. Preparation of seed bed.
5. Choice of variety.
6. Seed dressing.
7. Time, rate and method of seed sowing.
8. Establishment.
9. Diseases, pests, weed control, health.
10. Harvesting,
11. Yield,
12. Storage,
13. Food value and final use.

Grassland

1. Varieties
   a. Perennial Ryegrass,
   b. Cocksfoot, Timothy,
   c. Meadow Fescue,
   d. Crested Dogstail,
   e. Bent Grass,
   f. a Meadow Grass,
   g. Red Clover,
   h. White Clover.

2. Study of pastures (permanent and temporary leys) under the following headings:
   a. Establishment –
   b. soil,
   c. seed bed,
   d. manuring,
   e. seeds mixtures.

3. Management.
   a. Measurement of output of grassland in terms of total weight, dry matter, meat and milk.
   b. Conservation of grassland products.
   c. Factors influencing the feeding value of pasture, hay and silage.
   d. Maintaining fertility.
Livestock

- Write up on the main characteristics of each and also any other breeds we cover within the course.
- Take pictures or download from internet.
- How do you take care of your animals?

Health

- Diseases?
- How are they treated?
- Symptoms?
- Prevention?
- How often are animals dosed and for what?
- Write notes on diseases form your coursework.

The Cow

1. Common breeds,
   a. general characteristics.

2. Breeding principles.

3. The cow in production –
   a. feeding standards for maintenance,
   b. milk production
   c. reproduction with special reference to winter feeding and grassland utilisation.

4. The common diseases – cause, symptoms, prevention and control – for oral examination.

5. Milk production –
   a. the udder;
   b. measurement of yield;
   c. composition of milk,
   d. factors influencing yield and composition;
   e. bacteriology in relation to clean milk production.
   f. Milk products.

6. The calf – rearing for beef and herd replacement. General study of nutrition, growth, health and housing from birth to at least 12 months.
The Sheep

1. Common breeds, general characteristics.
2. Breeding principles.
3. Nutrition,
4. Growth, care, health of lambs from birth to sixteen months.

Pig

1. Nutrition, management, environmental conditions, health
2. Sow – during pregnancy and lactation.
4. Pig – weaning to slaughter.
5. Selection for breeding – based on genetical and visual assessment.
6. Factors affecting production costs.
Farm Layout

1. Location of farm (e.g. 3 kms from nearest town)
   a. owned or neighbour?
2. Statement of main enterprise e.g. dairy/tillage and other enterprises e.g beef/potato.
3. Acreage – total (owned/rented).
   a. If dairying state number of cows divided into beef and dairy.
   b. Tillage – state how much ground for each crop.
4. Describe breeds of cattle/types of crop etc.
5. Ownership of farm
   a. Family owned?
   b. Bought?
   c. Who works on the farm?
   d. Are you involved in work on the farm?
6. Infrastructure (roads) on and around the farm.
7. Brief statement on farm buildings.
   a. Cubicle units/slatted/barn/grain storage.
   b. Old? New?
   c. General/purpose built?
   d. Space? Space per animal.
8. Machinery.
   a. Brief statement.
   b. Owned/rented?
9. Questions to ask the farmer:
   a. Ask these questions. Take notes on everything he/she says. Write up in paragraph form and put into relevant sections.
10. Is the farm dairy, beef, both or tillage?
11. What breeds of animal are on the farm?
12. What breeds are there? How many of each?
13. How do you take care of your animals?
14. Breeding – Do you have a stock bull or use AI? When are cows/heifers put in calf?...
15. Feeding – What do you feed your animals? Why? When do you feed them?...What do you feed calves from the time they are born?

Housing

1. What kind?
2. Function of each house?
3. Space?

Farmyard Layout

Ask for copy of OS map and hand draw sketch of farm layout (v. important). Indicate where buildings are. What direction is the farm facing? Fields and what they are used for – show roadways, fencing, shelter, hedgerows...

Silage making/Grazing

What is the land used for? How much is used for silage/hay? How much is used for silage/hay? How much is used for grazing (strip/paddock).

Use notes to describe silage/hay making – when/how many times a year, what type of grass is suitable, yield. Photos of pit and machinery.
Machinery

1. Machinery used on farm (make and model).
2. Function.
3. Photos.

Extras

Anything else of interest – REPS, Nitrates directive etc

Plants/Animals

Sketch/photograph any plants we identify over the year and include in project with common name and family name with importance in agriculture. Photos or internet images of the small animals we come across during the year (e.g. earthworm, wireworm etc.) with importance in agriculture.

Keep a record of websites and books used. Include at the end as references.

It is all about showing as much personal experience as possible. Keep to your own words and make sure you understand everything you include.

It is obvious when you copy – DON’T DO IT!!

Acknowledgements – thank anyone who helped you.

Experiments

At least one write up on each of the following:

1. Ecology
2. Soil Science
3. Animal physiology – heart dissection
4. Plant physiology – transpiration
5. Genetics – PTC paper
6. Microbiology

Write up in normal way

- Title/Aim
- Apparatus
- Diagram
- Method
- Results
- Conclusion

Include photos if you have taken any