**ANIMAL PRODUCTION NOTES MODULE THREE: BY, DR. ONSOMU RICHARD.**

1. **SHEEP AND GOAT PRODUCTION**
* Introduction.

Divided into both exotic and indigenous sheep.

* Production systems.

 1. Pastoralism.

* It is practiced by nomadic people with large, migratory herds and flocks grazing over communal lands.
* It is practiced in drier areas.
* They limit inputs to regulating animal movement over large areas following natural feed supply with occasional vaccination against the most serious diseases if there is government enforced.
* Pastoralists are survivals rather than market oriented hence their animals are sold at poor prices.
* Leads to overgrazing.
1. Small scale mixed farming.
* This is the keeping of sheep and growing of crops on the same piece of land.
* It is done on a small piece of land.
* There is parasite and disease control.
1. Large scale mixed farming.
* This is the keeping of sheep and growing of crops on the same piece of land.
* Majorly done for commercial purposes.
* Controlled breeding/ mating.
* Parasite and disease control.
1. Ranching.
* This involves large herds of cattle reared in a ranch.
* The ranches are usually fenced and provided with adequate water.
* The main feeds are natural grasses and shrubs which are maintained through good grazing management and proper stocking rates. Though can be provided with hay, silage and grains.
* Many ranches combine breeding and fattening of stock to required market weights. Human labor input is minimal but.
* There is disease control and treatment and predator control.
* Types and breeds.
1. Wool breeds.
* Merino is the high quality producing wool.
* Originated from Spain.
* They are small in body and angular in form.
* They have a drooping rump.
* Narrow chest.
* Wool, hooves and horns are white.
* Slow maturing breed.
* Hardy breed.
* Good flocking instinct hence easy to keep them.
* Produce fleece that is highly valued, long stapled with a length of 8-10cm and is low in shrinkage.
* Ram weighs 63-80kg and ewes 49-57kg.
* Carcass is of low quality.
* Found in cooler areas in Kenya e.g. Molo
1. Meat breeds.

Produce high quality meat or mutton.

1. Dorper.
* Produces high quality carcass.
* Developed through crossing of Dorset Horn and black headed Persian hence regarded as indigenous sheep.
* White in colour with a black head.
* Hardy.
* Good growth rate.
1. Blackheaded Persian.
* Has hair covering its body.
* Indigenous sheep.
* Originated from Arabia.
* It is hardy.
* Found in N.E Kenya.
1. Red Maasai sheep.
* Indigenous sheep.
* Popular all over the country due to its ability to utilize poor pastures.
* Colour varies from white to red with hair covering its body.
* It has been bred with Merino.
1. Dual purpose breeds.

Produce both meat and wool.

1. Romney marsh.
* Suitable in high altitude areas that have wet pastures.
* Resistant to foot and rot and worm infestations.
* Wide head and polled.
* Well covered with wool.
* Wide chest with a straight back and short legs.
* Produces wool of medium length that weighs 3.6-4.1kgs.
* Rams weigh 102-113kgs.
* Black hooves.
1. Corriedale.
* High quality wool and meat.
* It is polled.
* Covered with coarse wool.
* Long legs that are covered with wool to the hooves.
* Produces wool of good length and low shrinkage.
* The fleece weighs 5-5.5kg.
* Ram weighs 84.2kg-90.6kg
* Resulted from crossbreeding merino and Lincoln hence regarded as exotic.
1. Hampshire down.
* It is hardy.
* Large breed.
* Hardy that thrives on poor pastures.
* Early maturing.
* Face and ears are dark brown or nearly black.
* Polled.
* Rams weigh 125kg and ewes 81-102kg.
* Fleece weigh 3.6kg but sometimes it is downgraded because of black fibres.
* Coarse wool of about 7.5cm long.
* Genetic improvement.
1. Crossbreeding.
2. Selection. (contemporary comparison, progeny testing, individual or mass selection)
* Reproduction.

Selection and culling should be carried out before mating. Dirty wool around the vulva of the ewe and the penis sheath of the ram should be clipped to prevent infection at mating. Overgrown hooves should be trimmed to reduce the incidences of lameness. 2-3 weeks before mating, the ewe’s body condition should be stepped up by feeding her good quality feed. Gestation period lasts for 5 months; ewes should be vaccinated and drenched to control external and internal parasites. Steaming up should be done 2 months before birth to build up the body in readiness for birth and milk production for the lamb. Supervision should be there during birth and weak lambs should be fed on cow’s milk from a bottle.

Factors affecting reproduction.

* Association between ram/ewes.
* Age.
* Nutrition.
* Fertility of rams.
* Environment.
* Management of age groups.
* Building of a breeding flock.

The hybrid sheep that is desired is chosen. They are well fed and raised under a conducive environment. Sufficient and clean water is provided and parasite and diseases are controlled.

* Mating.

Selection is done and then the best desired flock is chosen. Dirty wool around the vulva of the ewe and the penis sheath of the ram should be clipped to prevent infection at mating. It should be timed to ensure that lambing takes place when there is plenty of good grass and weather is neither too wet nor too cold. The best time for lambing is towards the end of the rainy season.

* Pregnant and preparation for lambing.

The gestation period in ewes lasts for five months. Maintenance at this time should be aimed at maintaining healthy ewes. During this period the ewes should be vaccinated and drenched periodically to control disease and parasites. During the last month of pregnancy, ewes should be put on better feed. (Steaming up) This helps to produce the foetus to grow rapidly and ensures the build up of body reserves of fat needed for milk production.

* Lambing and weaning.

When lambing is due, the ewes should be moved into a lambing paddock which has adequate shelter. The correct way in which the lamb is born is the head and forelegs first. This is a natural process. However, when the lamb is not well presented, the farmer can assist the ewe. As soon as the lamb is born, the mother will lick the afterbirth and allow her offspring to suckle. Orphaned and weal lambs should be fed on cow’s milk from a bottle.

During the first 4-6 months, lambs are nourished by their mother’s milk. Growth rate of the lambs depends with the quality of the milk produced by the ewes and after this period, they are weaned, that is, introduction of solid foods in their diet.

* Records and records keeping.
* Health records.
* Production records.
* Breeding records.
* Mortality records.
* Sales records.
* Disease and parasitic prevention and control

Parasites:

* Tsetseflies.
* Ticks.
* Worms.

Diseases:

* Red water.
* Nairobi sheep disease.
* Foot rot.
* Rift valley fever.
* Housing, structures and equipment.

Sheep pen- a structure used to shelter the sheep.

Equipment.

* Burdizzo.
* Elastrator- used for expanding the rubber ring while castrating, docking and dehorning.
* Drenching gun – used for administrating liquid drugs through the mouth of an animal.
* Bolus gun- used for shooting solid drugs through the mouth of an animal.
* Dehorning iron – this is a metal which is heated and placed at the horn bud to burn and scoop it off.
* Hoof cutter- cutting overgrown hooves.
* Ear-notcher- used to cut special shapes at the edges of ears in animals to indicate numbers.

Products and marketing.

Products:

* Skin.
* Mutton.
* Bone.
* Wool (sheep)
* Mohair (goat)
* Bone meal.

Marketing:

Small scale marketing is through sales of mutton/meat in butcheries and commercially through the KMC.The chief marketing agent for wool in Kenya is the Kenya Grain Growers Co-operative Union (KGGCU) since it has a special department dealing with wool. It organizes the shearing, grading and marketing of the wool.

Dry skins are sold to the local tanneries that produce leather and sell it to the shoe makers and other makers of leather goods.

**GOAT BREEDS.**

Billy/ buck – mature male goat.

Nanny/ doe - mature female goat.

Kid- young one.

1. Dairy goats.

Kept for milk production.

1. Temperate/ exotic breeds.
2. Saanen.
* Large white coloured goat.
* Originated from Switzerland.
* Upright ears that point forward.
* Milk yield of 3-3.5litres per day.
* Butterfat content of 3.5-4%
1. Toggenburg.
* Brown coloured goat with two white stripes running from eyes to the nose.
* Originated from Switzerland.
* Milk yield of 2.5-3litres per day.
* Butterfat content of 3.3%
* It is popular in Kenya because of its ability to forage on local grass and shrubs.
1. British Alpine
* Black coloured goat with two white patches on the head.
* Originated from Britain.
* Milk yield of 4.3-8litres per day.
* Butterfat content of 3%

2.The tropical dairy goats.

a) Anglo-Nubian.

* The breed is mainly roan(mixture of white and greyish) and white in colour.
* Long legs
* Flopping ears.
* Polled.
* Female weigh 60-75kg
* Produces 1-2litres of milk per day.

b) Jamnapari.

* This is a crossbreed between Indian Jamnapari and the Egyptian Nubian.
* Originated from India.
* Colour ranges from frawn (light yellowish to golden), white to black.
* Large ears that flop.
* Horned.
* Milk yield of 1-1.5litres per day.
* Female adult weigh 45-60kgs.
1. Meat goats.

Have high quality carcasses hence popular for meat production.

1. Galla.
* Popular in Northern Kenya and coastal regions due to its ability to adapt to hot conditions.
* White coloured body.
1. Boer
* Developed in South Africa and later imported in EA.
* Has ability to twin and triplet coupled.
* Rapid growth and weight gain.
* White in colour.
* Long ears.
1. Hair goats.
2. Angora goat.
* Produces good quality mohair.
* Originated from Angora in Asia.
* It is not popular to its vulnerability to internal parasites.
* White in colour.

***The end by: Dr. ONSOMU RICHARD.***

**Styles of recording dimensions**

Maßeintragung exist for the different methodologies used in this online script for technical drawing described.
The following list contains the various Maßeintragungsarten, below you can create a description for each Bemaßungsart read.

* Parallel dimensioning
* Rising dimensioning
* Coordinates dimensioning

**Parallel dimensioning**

The dimension line in the Parallelbemaßung each as a separate dimension line parallel to each other or, if it's angle is, concentric to each other.

**Rising dimensioning**

When the dimension is rising for every dimension direction basically only one dimension line drawn. For each component dimensions to edge a Maßhilfslinie withdrawn. The first Maßhilfslinie represents the origin, which by a circle symbol will be. The measures will include the origin of continuously high.

**Coordinates dimensioning**

The term Koordinatenbemaßung is the dimension polar coordinates using the dimensioning and using Cartesian coordinates.
In the polar coordinate measurement by a source from using a radius and an angle dimensioned. The polar coordinates are in a table.
In the dimension with Cartesian coordinates are over two coordinates (eg x and y coordinate) score indicated. The coordinates may be sent directly to the place the item will be included.

Ads

# Formats & paper folding

## A) Paper Sizes

For the Technical Drawing as basic characters often transparent paper, cardboard characters and transparent character foil is used. Practical way, there are special papers for technical drawing, in which the frame and the writing field are already preprinted.
Typical formats for the Technical Drawing in the European region are drawing formats A4 to A0:

DIN A4: 210mm × 297mm
DIN A3: 297mm × 420mm
DIN A2: 420mm × 594mm
DIN A1: 594mm × 841mm
DIN A0: 841mm × 1189mm

## B) Paper folding

Technical drawings in booklet folders, binders and the like to archive, the drawings (so far is the drawing is not an A4 format) be folded to make it to the size of an A4 paper to get.
The folding of technical drawings is DIN 824 standardized. In the picture below you can see how the different sizes of paper folded.

# Spatial View types for the Technical Draw

There is the technical drawing for a number of different types of spatial view. They are drawing objects (components, assemblies, etc.) in a three-dimensional representation drawn. The spatial representation of objects should facilitate the technical drawing to understand, since the true form of components from the perspective easier and quicker to recognize.

The spatial views are drawing the technical effects drawn without perspective. This means that the body edges, the parallel and always parallel drawn - as opposed to artistic drawings, which often escape with points are used to perspectival effects. For all those dei more about perspective drawing want to learn, this manual on art course-online.de interesting: [**Perspective Drawing**](http://www.art-class.net/art-site/learn-to-draw/drawing-perspective.php)
What you should note, however, is that in certain views the body edges, which lost to the rear, on a scale of 1:2 shortened drawn. You learn more in the following descriptions.

## View types

When technical drawing unterscheided the isometric Axonometric, the Front Axonometric, the Planometrische projection and the Cabinet projection. The views differ in the angle in which to rear ongoing component edges and on a scale in which they are drawn.
As the different views and how they are defined, you can see in the images below.

### Isometric view