# Grade 11 Agriculture

## Term 3 - 60 complete lesson plans

Ready to teach, in the KICD lesson-plan format | 40-minute lessons | PDF and editable Word

### ABOUT THIS PACK

60 complete, ready-to-teach Grade 11 Agriculture lesson plans for Term 3, covering livestock products, rearing selected animals, powered tools and equipment, management of agro-byproducts and agribusiness accounts.

### TOPICS IN THIS PACK

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| **2.5** | Livestock products | 9 |
| **2.6** | Rearing selected animals | 16 |
| **3.1** | Powered tools and equipment | 14 |
| **3.2** | Management of agro-byproducts | 11 |
| **3.3** | Agribusiness accounts | 10 |

### INSIDE EVERY LESSON PLAN

- The specific learning outcomes, key inquiry question, core competencies, values and PCIs, and the resources needed.
- A timed lesson flow: what the teacher does and what the learners do, from introduction to summary.
- The key content (a worked example, notes or a practical with its expected results), then four practice questions with the answers for the teacher.
- The common mistake to watch for, and ideas for learners who need support and for those ready for more.
- A four-level CBC assessment rubric (EE, ME, AE, BE), homework, and a blank reflection space to fill in after teaching.

### A TASTE OF LESSON 1

**Livestock products and the meaning of clean milk**

By the end of the lesson, the learner should be able to: a) name products obtained from livestock; b) explain what clean milk is and why it matters

> **Livestock products and clean milk**
> Livestock give milk, meat, eggs, wool and hair, hides and skins, honey (bees), manure and draught power. This sub-strand looks at obtaining clean milk and clean wool.

You also receive this pack as an editable Word file, so you can change any lesson to suit your class before you print it. Lessons follow the order of the KICD curriculum design.

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**ELIMU254**

# Livestock products and the meaning of clean milk

Strand 2.0 Animal Production > Sub-strand 2.5 Livestock products | Lesson 1 of 9 | 40 minutes

| SCHOOL | TEACHER | DATE |
|---|---|---|
| | | |
| **CLASS / STREAM** | **TIME** | **ROLL (B / G)** |
| | | |

## SPECIFIC LEARNING OUTCOME(S)

By the end of the lesson, the learner should be able to: a) name products obtained from livestock; b) explain what clean milk is and why it matters

## KEY INQUIRY QUESTION(S)

- How do we obtain clean products from animals?

## CORE COMPETENCIES, VALUES AND PCIS IN THIS LESSON

| | | |
|---|---|---|
| COMPETENCY | **Self-efficacy** | Learners attempt each task with confidence and see that effort improves results. |
| COMPETENCY | **Communication and collaboration** | Learners explain their thinking to a partner and report their findings to the group. |
| VALUE | **Responsibility** | Learners look after shared materials and finish every task. |
| VALUE | **Respect** | Learners listen while others explain and accept correction politely. |
| PCI | **Consumer protection** | Developed through the activities in this lesson. |
| PCI | **Health and hygiene** | Examples link to healthy habits at home and at school. |

## LEARNING RESOURCES

Charts and video clips on clean milk production and shearing | Pictures of milking equipment | Sample milk record sheets | Manila paper and marker pens | Notebooks and calculators

## ORGANISATION OF LEARNING

Whole class for demonstrations; groups of three to four rotating at the milking station (one milks, one records, others observe), each milker supervised; individual record keeping.

## KEY WORDS

clean milk | colostrum | let-down | oxytocin | full-hand milking | stripping | strip cup | mastitis | teat dip | milk record | lactometer | shearing | fleece | skirting | zoonosis

## THE LESSON AT A GLANCE

| Introduction | Teacher models | Guided practice | On their own | Wrap-up |
|---|---|---|---|---|
| 6 min | 9 min | 10 min | 9 min | 6 min |

## LESSON FLOW

| Stage | Minutes | The teacher | The learners |
|---|---|---|---|
| **Introduction** | 6 | Greet the class and ask: "Milk from a dairy was rejected because it went sour within hours. What could have made it go bad so fast?" Take two or three answers, link them to earlier work, then state today's outcome. | Answer the starter question, recall what they already know and read the outcome aloud. |
| **Step 1: Teacher models** | 9 | Take learners through "Livestock products and clean milk" (key ideas on the next page), explaining as you go. Use charts and video clips on clean milk production and shearing, pictures of milking equipment, sample milk record sheets. Ask learners to predict what comes next before you show it. | Watch, predict the next step, ask questions and note the key steps in their exercise books. |
| **Step 2: Guided practice** | 10 | Give questions 1 and 2. Move round the groups, ask "How do you know?" and correct errors kindly on the spot. | Work in pairs or small groups, explain each step to a partner and check one another's answers. |
| **Step 3: Independent practice** | 9 | Set questions 3 and 4 for individual work. Mark as you walk round and note who needs help in the next lesson. | Work on their own, then swap books with a partner to check. |
| **Summary and conclusion** | 6 | Ask two or three learners to state the key idea in their own words. Give this exit question and check the answers: "Why is colostrum not sold?" | Say the key idea in their own words and answer the exit question in the exercise book. |

## KEY IDEAS

**Livestock products and clean milk**

Livestock give milk, meat, eggs, wool and hair, hides and skins, honey (bees), manure and draught power. This sub-strand looks at obtaining clean milk and clean wool.

Clean milk is milk from healthy animals, drawn and handled hygienically, with no dirt, germs, drugs or added water, and with its normal smell, colour and taste. Milk is about 87% water with fat, protein, lactose (milk sugar), minerals and vitamins; it is an excellent food for people and also for germs, so it spoils quickly if it is dirty or warm.

Clean milk keeps longer, is safe to drink (no diseases such as brucellosis or tuberculosis passed on), earns a better price at the dairy, and makes good products such as yoghurt and cheese. Colostrum, the first milk after calving, is for the calf and is not sold.

## PRACTICE QUESTIONS - WITH ANSWERS FOR THE TEACHER

| No. | Question | Answer |
|---|---|---|
| 1 | Name five products obtained from livestock. | **Any five of: milk, meat, eggs, wool, hair, hides, skins, honey, manure, draught power.** |
| 2 | What is clean milk? | **Milk from healthy animals, drawn and handled hygienically, with no dirt, germs, drugs or added water, and normal smell, colour and taste.** |

| | | |
|---|---|---|
| 3 | Why does dirty milk go sour quickly? | **Germs from the dirt grow fast in the milk, especially when it is warm.** |
| 4 | Why is colostrum not sold? | **It is needed by the newborn calf for antibodies and nutrients.** |

## WATCH OUT FOR

Learners think milk that looks white is clean. Germs are invisible; cleanliness is about how it was produced and handled.

## ASSESSMENT RUBRIC - THE FOUR CBC LEVELS

| Level | What the learner can do |
|---|---|
| **Exceeds expectations (EE)** | Can name products obtained from livestock confidently and accurately, explain the method used, and apply the idea to new or unfamiliar problems. |
| **Meets expectations (ME)** | Can name products obtained from livestock accurately in familiar situations; notices and corrects slips without help. |
| **Approaches expectations (AE)** | Can partly name products obtained from livestock, or does so with prompts from the teacher or a partner; makes some errors. |
| **Below expectations (BE)** | Cannot yet name products obtained from livestock without direct help; needs the idea taught again with concrete objects. |

## SUPPORT AND EXTENSION

| | |
|---|---|
| **Learners who need support** | Show two glasses of milk, one with a little dust in it, and discuss what we cannot see. |
| **Learners ready for more** | Why do milk processors pay farmers more for milk with a low germ count? (Answer: It keeps longer, makes better products and is safer, so the processor loses less) |
| **Inclusion** | Seat learners with low vision near the board and read aloud whatever you write; use large, clear, tactile materials; allow extra time; pair with a patient partner; use gestures or Kenyan Sign Language for the key words. |

## HOMEWORK AND FOLLOW-UP

Redo questions 3 and 4 neatly in the exercise book. Then tell someone at home what you learned about "livestock products and the meaning of clean milk" and bring one question of your own to ask next lesson.

## TEACHER SELF-CHECK

- Did every learner get a turn to handle materials or explain their thinking?
- Did most learners meet the outcome? Write down the names of those who did not.
- Was the pace right — did any step take too long or too short a time?
- Which competency and value did I see learners showing?
- What will I change the next time I teach this lesson?

## REFLECTION ON THE LESSON / SELF-REMARKS

Write this after teaching - what worked, what to change, which learners need follow-up.

**ELIMU254**

# Hygiene considerations in clean milk production

Strand 2.0 Animal Production > Sub-strand 2.5 Livestock products | Lesson 2 of 9 | 40 minutes

| SCHOOL | TEACHER | DATE |
|---|---|---|
| CLASS / STREAM | TIME | ROLL (B / G) |

## SPECIFIC LEARNING OUTCOME(S)

By the end of the lesson, the learner should be able to: a) describe the hygiene of the animal, milker, equipment and milking area; b) explain how mastitis is prevented

## KEY INQUIRY QUESTION(S)

- How do we obtain clean products from animals?

## CORE COMPETENCIES, VALUES AND PCIS IN THIS LESSON

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## THE LESSON AT A GLANCE

| Introduction | Teacher models | Guided practice | On their own | Wrap-up |
|---|---|---|---|---|
| 6 min | 9 min | 10 min | 9 min | 6 min |