

# GRADE 12 AGRICULTURAL SCIENCES

## PAPER 1 2014

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**What is the summary of agricultural science paper 1?** Paper 1 deals with topics: Animal Nutrition, Animal Production, protection and control and Animal Reproduction. Paper 2 deals with Basic Genetics, Production Factors and Agricultural Management and Marketing.

**What is the gross energy value of a feed minus the value of energy that is lost in manure?** Digestible energy (DE) — GE of the feed minus the energy lost in feces. It is a better assessment of energy value because the majority of energy lost from a consumed feed is via feces. The energy retained in the body is then classified as "digested" energy.

**What body part of a cow where the thermometer is inserted to take the body temperature?** We measure the body temperature of animals by placing a thermometer in the anus. Look at your thermometer. Notice the silver line of the mercury inside it and the scale with numbers marked along it. Before you use it you must make sure that the mercury level is below 35°C.

**What is the formula for calculating the nutritive ratio?** It is the sum of the digestible carbohydrate, protein, and  $2.3 \times \text{fat}$ , divided by digestible protein. (Energy yield of fat is 2.3 times that of carbohydrate and protein.)

**What is the summary of Chapter 1 in a research paper?** Chapter 1 introduces the research problem and the evidence supporting the existence of the problem. It outlines an initial review of the literature on the study topic and articulates the purpose of the study. The definitions of any technical terms necessary for the reader to understand are essential.

## **How do you write an agricultural research paper?**

**How to calculate metabolizable energy in feed?** The formula is given as  $\text{Metabolizability} = (\text{GE}_{\text{input}} - \text{GE}_{\text{output}} - \text{GE}_{\text{urine}}) / \text{GE}_{\text{input}}$  where GE is the gross energy of the diet (input) and the feces/excreta (output). This value is then multiplied by the GE of the diet to determine the ME (Kong and Adeola 2014).

**How do you calculate energy value of feed?** The energy value was calculated by the summation of carbohydrates multiplied by 4 kcal, lipids by 9 kcal, proteins by 4 kcal and dietary fibres by 1.9 kcal (Menezes et al.

**How is the gross energy of a feed measured?** Gross energy (GE) is the total amount of chemical energy in the diet consumed. It is also known as the heat of combustion. GE content of feed is measured as heat liberated during complete burning (oxidation) of the feed sample and is determined by an apparatus called a bomb calorimeter.

**What is the pulse rate of a cow?** The adult cow has a heart rate of between 48 and 84 beats per minute. This can be assessed by using a stethoscope and listening over the left hand side of the cow's chest behind the cow's elbow.

**What is the normal temperature of a pig?** What is the normal body temperature range of a pig? A pig's body temperature can have a significant impact on its growth and overall health. The ideal body temperature for a pig is around 38-39 degrees Celsius (100-103 degrees Fahrenheit).

**What is the normal body temperature of a goat?** A goat's normal temperature is 102 F to 103 degrees F. If you have a sick goat, the first thing you should do is take its temperature. If the temperature is above normal, there's probably an infection. Antibiotics might help.

**How do you calculate protein energy ratio?** That ratio is generally expressed as the percentage of protein energy in the diet, that is, the ratio of protein energy to total dietary energy, where 1 g protein provides 4 kcal or 16.7 kJ of metabolizable energy. It is abbreviated P/E ratio or Pcal%.

**How is nutrient density calculated?** How is the nutrient density of foods calculated? The nutrient density of foods is determined by what we call nutrient profiling methods. These methods measure how much of specific nutrients foods contain (per 100g, 100 kcal or per serving) and compare them to the dietary recommendations, assigning them a score.

**How do you calculate nutrient adequacy ratio?** Abbreviation: E%, Percentage of total energy intake; NAR, Nutrient Adequacy Ratio = actual intake/ recommended intake.

**How do you introduce chapter 1 in research?**

**What is the main body of a research paper chapter 1?** This chapter includes the introduction, theoretical framework, statement of the problem, hypothesis, scope and limitation, conceptual framework, significance of the study and the definition of terms used.

**How do I summarize a chapter?**

**Which design is used in agriculture research?** The randomized complete block design is the most commonly used design in agricultural field research.

**What is the concept of research in agriculture?** Agricultural research can be broadly defined as any research activity aimed at improving productivity and quality of crops by their genetic improvement, better plant protection, irrigation, storage methods, farm mechanization, efficient marketing, and a better management of resources.

**What is field research in agriculture?** Conducting field trials allows researchers to assess the success, or limitations, of a new crop variety, fertilizer rate, cover crop usage, irrigation, timing of planting, pest control and much more.

**What is the difference between metabolizable energy and gross energy?** Although the term has been confused with metabolized energy, metabolizable energy, strictly defined, is the amount of energy assimilated from food and is equal to gross energy intake minus fecal energy. Energy in food absorbed from the gastrointestinal tract is digestible energy.

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**What is the difference between metabolizable energy and net energy?**

Metabolizable energy (ME): the amount of energy in the feed minus the energy lost in the feces and urine. Net energy (NE): the amount of energy in the feed minus the energy lost in the feces, urine, and in heat production through digestive and metabolic processes, i.e. heat increment.

**How is metabolizable energy measured?** It is measured using a bomb calorimeter [3, 7]. Digestible energy (DE) is defined as the GE of feed minus the GE of feces [3]. Metabolizable energy (ME) is defined as the DE of feed minus the GE of urine and gaseous products of digestion [3].

**What is the summarization of agriculture?** Agriculture encompasses crop and livestock production, aquaculture, fisheries, and forestry for food and non-food products. Agriculture was the key development in the rise of sedentary human civilization, whereby farming of domesticated species created food surpluses that enabled people to live in cities.

**What is the summary of Chapter 1 of a project?** This is an overall introduction to your topic of interest that provides an in-depth background to the topic. You must be precise and state the purpose of your research. This is the most detailed part of chapter one; here, you would give a historical development of your research topic.

**What is the summary of Animal Farm Chapter 1?** In Chapter 1 of Animal Farm, the animals gather and listen to Old Major, a pig, give a speech about how the humans are oppressing the animals. He tells the other animals that he hopes for freedom, and he teaches them the song "Beasts of England." This inspires the animals on the farm to plan a rebellion.

**How I edited an agricultural paper short summary?** "How I Edited an Agricultural Paper" by Mark Twain is a satirical novel on society and newspapers. Specifically, people who criticize things they know nothing about themselves and absences in society. The story begins when the narrator takes over as newspaper editor after the old newspaper editor has gone on vacation.

**What is agriculture simplified?** Agriculture is another word for farming. It includes both growing and harvesting crops and raising animals, or livestock. Agriculture

provides the food and many raw materials that humans need to survive.

**What are the factors influencing agriculture?** The Factors Influencing Agriculture are climate, soil type, irrigation, technology, and population density. Agriculture has played a critical role in the evolution of human civilization. In fact, India, like many other countries, has an agrarian economy that is largely dependent on the agricultural sector.

**What is the summary of the farmer?** Summaries. THE FARMER is the story of one man's resistance against the seemingly unstoppable megatrends of our time, spearheaded by a Bhutanese farmers' leader, Sangay, and told from the perspective of a German film director, Irja.

**What is introduction in chapter 1?** INTRODUCTION. This chapter provides general explanations of what the researcher will discuss in this research. The introductory part contains several subheadings such as background of study, research problem, objective of study, significance of study, scope and limitation of study, and definition of key terms.

**How to write chapter 1 of a research paper pdf?** CHAPTER 1 In this section, you will introduce your readers to the issue you are exploring. Be sure to make your first sentence a compelling “hook.” State the major thesis that guides your study. In this section you will provide a concise statement of the problem in just a few paragraphs.

**How to write chapter 1?**

**Is Animal Farm a summary?** Animal Farm depicts a group of animals who rebel against humans and become their own masters. Things work smoothly at first, and the animals revel in their freedom and have equality. However, the pigs become power-hungry and become the new oppressors of the animals and become indistinguishable from humans.

**What is the name of the farm in Chapter 1?** After Mr. Jones, the owner of Manor Farm, falls asleep in a drunken stupor, all of his animals meet in the big barn at the request of old Major, a 12-year-old pig.

**What does the Animal Farm symbolize in Chapter 1?** Well, Animal Farm, or Manor Farm at the beginning of the book, symbolizes a society. Specifically, it

represents the Soviet Union during Communist rule. Animal Farm begins after a revolution, like the Russian Revolution, and it quickly develops its own form of government and structure.

**How do you write a review paper for agriculture?** By defining the topic, conducting a comprehensive literature review, developing a clear structure, using clear and concise language, providing critical analysis, providing relevant examples, using proper citation, following the journal's guidelines, revising and editing, being ethical, using a systematic approach, ...

**What is O-Level equivalent to in Zimbabwe?** IGCSE /O level/GCE are the 10th and 11th year of schooling and is equated by SAQA as the equivalent of Grade 11 (NQF3) . It is Form 3 and 4 according to ZIMSEC (Zimbabwe Schools Examination Council).

**What are the subjects for O-Level in Zimbabwe?** Secondary Education After 4 years, a pass is required in a minimum of 5 subjects to obtain O-Level. These core subjects include English, history, maths, science and a technical / vocational subject.

**What is the pass rate for O levels in Zimbabwe?** ZIMSEC Ordinary level results have been released. The 2023 candidates achieved an overall pass rate of 29.41%. The results portal will be open at 1500hrs through [zimsec.co.zw](http://zimsec.co.zw). To access the correct results database click on the province where your school is located.

**Can you go to university with O-Level in Zimbabwe?** Degree and Entrance Requirements All applicants MUST have passed at least five subjects, including English language at 'O' level and at least two 'A' Level passes.

**What is O Level equivalent to in America?** The GCE “O” Level is typically regarded as equivalent to the US high school diploma, although the GCE "O" Level is often considered to be more rigorous than the standard high school diploma.

**What is grade 12 equivalent to in Zimbabwe?** South Africa recognises the last grade of high school as Grade 12 or matriculation while Zimbabwe uses Upper Six as the last exit qualification for high school that ushers students into tertiary institutions.

**What is the hardest subject in O-Level?** The hardest subjects for the O-Level exams are typically Mathematics, Physics, Chemistry, and Biology. Tips for doing well on these subjects include: Start early: Start studying for the O-Levels early and give yourself enough time to cover all the topics.

**How much is the O-Level exam in Zimbabwe?** O' Level examination fees are US\$24 a subject. But there is a US\$13 a subject subsidy from Government for public schools, local authority and not-for-profit mission schools, so parents just have to find the US\$11.

**What is the easiest subject in O levels?** Q. What are the easiest O Level subjects in Pakistan? Some of the easiest O Level subjects in Pakistan, based on student preferences and relevance, include Business Studies, Environmental Management, Sociology, Food and Nutrition, Design and Technology, Global Perspectives, and Travel & Tourism.

**What is the pass rate for maths in Zimbabwe?** In 2019; 19,23 percent of public candidates passed O-level Mathematics and the figure went down to 18,21 in 2021 and slightly up to 18,71 percent in 2021. In 2022; 18,03 candidates passed Mathematics,” she said.

**Which grade is best in O-Level?** Candidates can now achieve an A\* at O Level, which can be evidenced by looking at the Cambridge O Level results statistics page of our public website. Grade A\* is awarded for the highest level of achievement, and grade E indicates minimum satisfactory performance.

**How to check O-Level results in Zimbabwe?** ZIMSEC JUNE 2024 ORDINARY AND ADVANCED LEVEL RESULTS ARE OUT. Candidates can access the online results portal using [www.zimsec.co.zw](http://www.zimsec.co.zw). Heads of Centres will be able to collect the results from Wednesday 7 August 2024.

**Can I study in USA with O level?** Leading universities in the US require Cambridge International AS & A Levels for admissions, but some colleges and universities will accept students with five Cambridge IGCSEs or Cambridge O Levels at grade C or above.

**What is the best degree to study in Zimbabwe?**

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**Which course can I do without an O level in Zimbabwe?**

**What is O level equivalence to?** Let's start with the GCSE/IGCSE/GCE O' Levels, which are considered equivalent to Pakistan's Secondary School Certificate (SSC).

**Is O level equivalent to high school in Canada?** O-levels (or their modern equivalents) are usually taken after the fifth form or 11th year, so they are equivalent to the end of grade 11. High school in Canada lasts through grade 12.

**What is the GCSE equivalent in the USA?** 5 GCSE passes at grade C or higher are considered the rough equivalent of a US High School Diploma (without Honors or 'Advanced Placement' (AP) classes). This will be sufficient for a student to gain entry to less selective US colleges and universities.

**What is advanced level in Zimbabwe?** ZIMSEC General Certificate of Education Advanced Level (commonly referred to as "A-Levels"), this is the school leaving qualification conferred by the Council to pupils completing secondary or pre-university education.

**What is grade 13 in Zimbabwe?** Secondary school is divided into two cycles: lower secondary consists of grades 8 - 11 and upper secondary consists of grades 12 - 13. Lower secondary education is referred to as the Ordinary Level (O-Level) cycle. Upper secondary is called the Advanced Level (A- Level) cycle.

**What is the GCSE equivalent in Zimbabwe?** GCSE equivalencies: GCSE grade B / grade 5 equivalent: Grade B from Zimbabwe General Certificate of Education at Ordinary Level. GCSE grade C / grade 4 equivalent: Grade C from Zimbabwe General Certificate of Education at Ordinary Level.

**What is the best subject to choose in O Level?** The sciences – chemistry, biology/computer science, physics + add maths/humanities/environmental science, are considered a good combination for further STEM programs in AS/A Level and universities.

**What is the hardest subject on the earth?** The hardest degree subjects are Aerospace Engineering, Law, Chartered Accountancy, Architecture, Chemistry, Medicine, Pharmacy, Psychology, Statistics, Nursing, Physics, Astrophysics,



Biomedical Engineering, Astronomy, and Dentistry.

**Is IGCSE maths easy?** The hardest subjects in IGCSE often vary among students, but many find IGCSE Additional Mathematics and IGCSE Physics particularly challenging due to their complex concepts and problem-solving requirements. The perceived difficulty can depend on individual strengths and interests.

**What is the passing score for O-Level?** Other respective grade points are A2 band = 2 grade points, B3 = 3, B4 = 4, C5 = 5, C6 = 6, D7 = 7, E8 = 8, F9 = 9. A grade of C6 band (6 grade points) or better is considered an O-Level pass. Obtaining a pass in one or more subjects will lead to a Singapore-Cambridge General Certificate of Education (Ordinary Level).

**How do I get a lost O-Level certificate in Zimbabwe?** Candidates who have lost their Certificates can apply for a Certifying Statement of results. The Certifying statement of results is issued upon payment of the following fees; US 85 for Ordinary Level per session. US 95 for Advanced Level per session.

**How much is PTE test in Zimbabwe?** Frequently asked questions about PTE Academic in Zimbabwe The PTE Academic test in Zimbabwe is priced at USD 260. Please keep in mind that additional expenses such as transportation and accommodation may apply if you need to travel to a test center.

**Which school is best for O levels?**

**What are the best grades in O-level?** GCE O Level grades A\*(a\*), A(a), B(b), C(c), D(d) or E(e) indicate the standard reached, grade A\*(a\*) being the highest and grade E(e) the lowest. Performances below the standard of grade E(e) are not reported on certificates. UNGRADED indicates a standard below that required for grade.

**How do I study for O levels?**

**What is GCSE equivalent to in Zimbabwe?** GCSE equivalencies: GCSE grade B / grade 5 equivalent: Grade B from Zimbabwe General Certificate of Education at Ordinary Level. GCSE grade C / grade 4 equivalent: Grade C from Zimbabwe General Certificate of Education at Ordinary Level.

**What is the equivalent of an O Level?** As previously mentioned, O Level qualifications are the equivalent of GCSE and IGCSE qualifications. This is not only with their qualification level but primarily due to them being done at the same stage of education. O Levels are taken at the end of secondary education, just like GCSEs.

**How much is the O Level exam in Zimbabwe?** O' Level examination fees are US\$24 a subject. But there is a US\$13 a subject subsidy from Government for public schools, local authority and not-for-profit mission schools, so parents just have to find the US\$11.

**What are the grades for ZIMSEC O Level?** At the back of the Ordinary Level Certificate, grades A, B and C (1-6) are given as passes with C, the lowest, being a credit pass. These passes enable candidates to be recognised for further education or training for work. These grades are the GCE Ordinary Level pass grades.

**Is Zimsec recognised in the USA?** Its syllabuses were evaluated by the National Academic Recognition and Information Centre (NARIC) in the UK and found to be equivalent to the General Certificate of Education Standard offered in the United Kingdom, Australia, New Zealand, United States of America and the other English-speaking countries, hence the ...

**What is the USA equivalent of GCSE?** For example, IGCSEs and GCSEs are considered equivalent to a United States high school diploma according to UCAS — even though IGCSEs are completed at age 16, two years before students would ordinarily finish the US high school diploma.

**Is Waec a GCSE equivalent?** GCSE Equivalencies: GCSE grade B / grade 5 equivalent: WAEC West African Senior School Certificate/NECO Senior School Certificate grade B3. GCSE grade C / grade 4 equivalent: WAEC West African Senior School Certificate/NECO Senior School Certificate grade C6.

**What is O level equivalence to?** Let's start with the GCSE/IGCSE/GCE O' Levels, which are considered equivalent to Pakistan's Secondary School Certificate (SSC).

**What grade classification is O level?** O Level is Ordinary Level, a Cambridge Assessment International Education (CIE) qualification. The O Level grading system assigns letter grades from A\* (the highest) to U (ungraded). These grades are

awarded based on the marks obtained in individual components.

**Is IGCSE accepted in the USA?** Yes, IGCSE is recognized by many universities in the USA as part of the application process. However, students might need to supplement it with additional qualifications such as A-Levels, IB, or SAT/ACT scores to meet admission requirements.

**What is O-Level in Zimbabwe?** Primary school has an official entry age of six and a duration of seven grades. Secondary school is divided into two cycles: lower secondary consists of grades 8 - 11 and upper secondary consists of grades 12 - 13. Lower secondary education is referred to as the Ordinary Level (O-Level) cycle.

**How to check O-Level results in Zimbabwe?** ZIMSEC JUNE 2024 ORDINARY AND ADVANCED LEVEL RESULTS ARE OUT. Candidates can access the online results portal using [www.zimsec.co.zw](http://www.zimsec.co.zw). Heads of Centres will be able to collect the results from Wednesday 7 August 2024.

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**How many semesters are there in a year in Zimbabwe?** There are two semesters per academic year (Fall, Spring) each about 16 weeks and a shorter summer semester of about 12 weeks.

**What is the highest grade in O levels?** Candidates can now achieve an A\* at O Level, which can be evidenced by looking at the Cambridge O Level results statistics page of our public website. Grade A\* is awarded for the highest level of achievement, and grade E indicates minimum satisfactory performance.

**What is the general certificate of education in Zimbabwe?** Secondary education is made up of two cycles, the General Certificate of Education, or Ordinary Level, for four years and the General Certificate of Education Advanced Level, or Advanced Level, for two years. This structure was adopted from the British system of education.

**What is microbiology for health sciences?** This course introduces the basic principles of microbial structure, genetics, and physiology, virology, parasitology, disease, pathogenicity, epidemiology and immunology. Only some emphasis is given to basic biological principles.

**Is health microbiology hard?** Microbiology can be considered both easy and tough, depending on several factors: Interest and Background: If you have a strong interest in biology, especially at the microscopic level, you may find microbiology more engaging and easier to grasp.

**Is microbiology hard in medical school?** Key Takeaways: Microbiology is challenging but foundational, as it impacts various medical disciplines.

**What is the theory and practice of mechanical vibrations?** Mechanical Vibrations is an unequaled combination of conventional vibration techniques along with analysis, design, computation and testing. Emphasis is given on solving vibration related issues and failures in industry.

**What are the applications of mechanical vibrations?** Predictive Maintenance: Mechanical vibrations are used to monitor the condition of machinery and equipment. By analysing the vibration patterns, engineers can detect potential faults or defects in the system, allowing for timely maintenance and preventing costly breakdowns.

**What is the theory of vibrations in structural dynamics?** Vibrations, which are oscillatory motions, can occur due to external forces, mechanical function, human activity, or structural instabilities. Free vibrations occur when a structure oscillates without external forces, while forced vibrations occur when a structure is exposed to external forces.

**What is the basic concept of mechanical vibration?** Mechanical vibration refers to the transmission of oscillations through an elastic medium, causing changes in particle amplitude and velocity. It can lead to various effects such as stirring, loosening, friction, and thermal actions in materials.

**What is the Law of vibration theory?** The Law of Vibration states that everything in the universe is in a constant state of movement. We refer to these movements as

vibration, and the speed or rate at which something vibrates is called its frequency.

**What are the disadvantages of mechanical vibration?** Unchecked machine vibration can accelerate rates of wear (i.e. reduce bearing life) and damage equipment. Vibrating machinery can create noise, cause safety problems and lead to degradation in plant working conditions. Vibration can cause machinery to consume excessive power and may damage product quality.

**What are real life examples of vibration?** A periodic motion is characterized by repeatedly occurring motion at regular time intervals. Examples of vibrations include the vibration of a tuning fork, the swinging of a pendulum, and the oscillation of a radio's loudspeaker. Sound is produced from a series of vibrations.

**How do you control mechanical vibrations?** Some common strategies for controlling mechanical vibrations are passive control, active control, and hybrid control. Passive control involves using materials, structures, or elements that can absorb, dissipate, or reflect the vibrations.

**How do vibrational frequencies affect the body?** Vibrations can have both positive and negative effects on the human body. They have a variety of therapeutic uses, but excessive or intrusive vibrations can cause discomfort or even chronic pain. Vibrations are almost always detrimental to buildings, however.

**What is the fundamental theory of vibration?** The vibration of a system involves the transfer of its potential energy to kinetic energy and of kinetic energy to potential energy, alternately. If the system is damped, some energy is dissipated in each cycle of vibration and must be replaced by an external source if a state of steady vibration is to be maintained.

**What is the theory that everything vibrates?**

**What is the theory of mechanical waves?** Definition of Mechanical Waves A mechanical wave is a wave that is a vibration in matter, transferring energy through a material. Not all waves are like this. For example, electromagnetic waves such as visible light are not mechanical because they can travel through the vacuum of space to reach us from the sun.

**What is the theory of mechanical energy?** Law of Conservation of Mechanical Energy: The total amount of mechanical energy, in a closed system in the absence of dissipative forces (e.g. friction, air resistance), remains constant. This means that potential energy can become kinetic energy, or vice versa, but energy cannot “disappear”.

**What is the mechanical theory of?** The mechanical theory of adhesion relates the interlocking (on a macroscale as well as on a microscale) of the solidified adhesive material with the roughness and irregularities of the surface.

**What is the theory that everything vibrates?**

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