Essential Skills Wales
Essential Communication Skills (ECommS)
Level 2 Controlled Task
Candidate Pack

Using Fertilisers

Sample

Candidate name:
Candidate number:
Date registered for ECommS:
Unique Learner Number: (ULN) *(if applicable)*:
Centre name *or* number:

Instructions

- Make sure the boxes at the top of this page are filled in with your name, candidate number, ULN (if applicable) and centre name or number.
- Make sure you complete **all** parts of the task.

You have up to **5 hours in total** to complete this controlled task, although that time can be split over a number of sessions. Details of when each session started and ended **must** be recorded below:

Date controlled task **started**:							
Date controlled task **completed** *(no more than 8 weeks later)*:							
Session 1	**Session 2**	**Session 3**	**Session 4**	**Session 5**	**Session 6**	**Session 7**	**Session 8**
	Date	*Date*	*Date*	*Date*	*Date*	*Date*	*Date*
Duration	*Duration*	*Duration*	*Duration*	*Duration*	*Duration*	*Duration*	*Duration*
Total time spent (including research time):							

If more than eight sessions are required, any further dates/durations should be recorded on a separate sheet. The qualification handbook provides guidance on applying the 8 week rule.

Produced jointly by the four Essential Skills awarding bodies:
Agored Cymru
City & Guilds
Pearson
WJEC

This task pack contains a scenario, a set of instructions and some source material.

- Make sure you read through the scenario, instructions and source material carefully before you start.
- You will be supervised throughout your time working on this task, although during that time you can use most of the equipment that would normally be available to you in a real-life situation (this may include accessing the internet).
- All work submitted must be **entirely** your own. You are not allowed to be given any help with the skills that are being assessed through this controlled task.
- Make sure you hand in all of your work at the end of **each** session. You are not allowed to take any task materials away with you, or have access to these between sessions.
- Make sure you **sign the declaration** at the back of this pack at the end of your final session working on this task.

Task instructions: Using Fertilisers

What you need to find out

Scenario
This task is about the use of organic and inorganic fertilisers.

What you need to do – Part 1

Reading

You must be able to read, understand and summarise the main points, ideas, arguments and lines of reasoning in the documents. You can look up the meaning of any words you do not understand.

- Read both source documents to help you prepare for and take part in a discussion on the topic: 'Should the use of inorganic fertilisers be promoted worldwide?'
- Use this information to plan the writing of an article about the pros and cons of using inorganic fertilisers.
- Show your preparation for the discussion. You could make notes or lists, use a flow chart or spider diagram, or you could make notes on the source documents to identify the main points, ideas, arguments and lines of reasoning.

Make sure you hand in all of your work, including any notes or drafts, at the end of **each** session.

Resources you should use:

Source 1: Organic Versus Inorganic Fertilisers

Source 2: Help a Farmer - Inorganic fertilisers should be used to promote crop production

Speaking and listening
Discussion (Minimum time 10 minutes for groups of 3-6 people, minimum time for larger groups approximately 20 minutes).

Using the information from both source documents, plan to take part in a discussion on the topic: 'Should the use of inorganic fertilisers be promoted worldwide?'

You must show how you have prepared for the discussion.

Take part in a discussion. Give reasons for your opinions.

During the discussion you should:

- provide information about the subject
- give your opinions about the subject
- find out what others feel about the subject
- ask questions that may improve your understanding
- use appropriate language and non-verbal communication
- help move the discussion forward.

Writing
Write an article for a magazine specialising in farming or horticulture about the pros and cons of using inorganic fertilisers.

Your article should be at least 500 words in length.

Your article must include a summary of the information from both source documents. You should also include information that you have learned from the discussion.

You must:

- produce a plan
- write/word process a first draft
- check your draft makes sense
- correct any mistakes
- produce a final document.

Make sure your final article is fit for purpose and audience and has correct spelling, punctuation and grammar. You should use full sentences and paragraphs.

Make sure you hand in all of your work, including any notes or drafts, at the end of **each** session.

What you need to do – Part 2

Writing

Write a letter to your local newspaper to encourage people to use organic products such as food, cosmetics and clothing. You should explain what organic means and why you consider it important to use organic products.

You should use your prior knowledge and/or independent research. You can use the internet (if available) or other resources to carry out any additional research.

Any research must be supervised and carried out within the eight consecutive weeks maximum working period, but can be in addition to the five hours allocated for this controlled task.

You must:

- produce a plan
- write/word process a first draft
- check your draft makes sense
- correct any mistakes
- produce a final document.

Make sure your final letter is fit for purpose and audience and has correct spelling, punctuation and grammar. You should use full sentences and paragraphs.

Make sure you hand in all of your work, including any notes or drafts, at the end of **each** session.

What you need to do – Part 3

Speaking and listening

Talk/Presentation (Minimum time 4 minutes per candidate, minimum audience of 3 people)

Prepare for and deliver a talk/presentation to others. Your talk/presentation should include an image or other support materials to enhance or aid understanding.

You may choose your own topic for the talk/presentation but some suggestions include:

- a topic of personal interest
- farming should be subsidised
- are pesticides and herbicides necessary?
- caged versus free range farming of hens
- is intensive dairy farming the way forward in Wales?

You may use notes to prompt you when delivering your talk/presentation, but you must **not** read from them directly.

Your talk/presentation should be well structured and suitable for the purpose and audience.

You must keep to the point and illustrate the main points clearly, using a variety of strategies to deliver your message.

Make sure you hand in all of your work, including any notes or drafts, at the end of **each** session.

Source 1

Organic Versus Inorganic Fertilisers

What is a fertiliser?

A fertiliser is a substance which is added to soil or to the surface of the leaf to help plant growth. Most fertilisers contain nitrates for general growth, phosphorous for healthy roots and shoots, and potassium for flowers, fruit and overall health.

Some fertilisers also supply nutrients important for plant growth such as calcium, sulphur, magnesium and trace elements such as iron, zinc and copper.

Why do we need fertilisers?

Soils do not always contain enough of the nutrients required for plant growth. Growers often need to add fertilisers so they can grow enough plants to meet the demands of buyers and make a profit.

Organic fertilisers

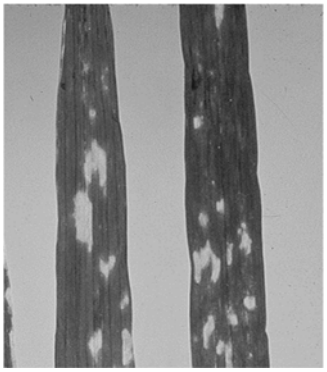
Organic fertilisers are made using animal and plant material such as compost, manure, or fish, blood and bone. They contain fewer nutrients than a similar amount of inorganic fertilisers and are often slower acting. This is because they contain large organic compounds that need to be broken down before nutrients can be released and absorbed by plants.

Organic fertilisers have the advantage of supplying other materials to the soil. These contribute to feeding soil organisms, such as worms, bacteria and insects, and improve the soil.

There can be some issues when using organic fertilisers since these fertilisers are a natural product. The amount of nutrients will vary considerably between batches and so it is difficult to know exactly which nutrients are present in each batch.

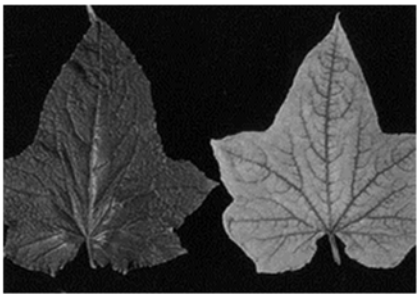
Applying organic fertilisers can be labour intensive as they often need to be mixed in with the soil. The weather can affect the time taken to break down the large organic compounds; this could lead to plants not getting the correct amount of nutrients. In addition, organic fertilisers are not always available in the amounts required to meet demand.

Examples of Nutrient Deficiency



Lack of manganese - yellow spots on leaves

http://aggie-horticulture.tamu.edu/vegetable/problem-solvers/cucurbit-problem-solver/leaf-disorders/iron-deficiency/



Lack of iron - young leaves are yellow with green veins

http://wheat.pw.usda.gov/dbs_images/grainganes/fjz134c.gif

Inorganic fertilisers

Inorganic fertilisers are obtained from chemical processes. They generally contain a higher concentration of nutrients than organic fertilisers therefore plants absorb them more easily.

These fertilisers can be tailor-made to meet the needs of a particular plant. They are usually available in large quantities and the exact nutrient composition can be guaranteed. Since inorganic fertilisers can provide exactly what is needed, they tend to be the more cost-effective option for growers.

One of the negative effects of inorganic fertilisers is that the plant can absorb too much. For example, too much zinc can lead to discoloured leaves and prevents the plant from absorbing other nutrients.

Another potential problem is that any unused nutrients, particularly nitrates, can easily leach out of the soil during watering or heavy rainfall. Nitrates may build up in groundwater and other water systems. This has the effect of increasing algae growth which starves other organisms of oxygen. Should this happen, growers can face heavy fines for polluting the waterways.

Whichever fertiliser is chosen - organic or inorganic - it is important for the grower to consider the needs of the plants, their budget and how it could affect the surrounding environment.

Source 2

Help a Farmer - Inorganic fertilisers should be used to promote crop production

According to the Food and Agriculture Organisation of the United Nations (FAO), chemical fertilisers are the single most important contributor to the increase in world agricultural productivity. Fertilisers containing nitrogen, phosphorous and potassium are viewed as the drivers of modern agriculture. However, not every nation can afford or uses enough chemical fertilisers.

This has led to a worrying trend in some parts of the world where, since soil quality has become so poor, many farmers have to deal with failing crops. This is devastating local communities who can neither feed their families or earn a living by selling their crops.

This poor soil quality is the result of years of farming without nutrients being replaced between seasons. This contrasts with other parts of the world which have seen an increase in crop yields due to improved farming methods.

So why don't these farmers use improved farming practices to increase crop yields?

Many of these countries have to rely on naturally available fertilisers, such as manure, to replenish nutrients in the soil. Unfortunately, these cannot be produced in large enough quantities to meet demands and farmers can often find manure difficult to collect. These naturally available fertilisers do not contain all of the nutrients required in a high enough concentration for plant growth.

Traditionally, these farmers use the leaves of local plants to create their own organic fertiliser. However, some agricultural programmes promote alternative methods such as encouraging farmers to grow legumes, e.g. beans and clover, as these plants can help replace lost nitrates.

Farmers in other countries often use a combination of organic and inorganic fertilisers to improve crop yields. However, farmers in some developing countries do not use inorganic fertilisers because they are expensive. The increased cost of inorganic fertilisers is due to the need to import them from other countries as they are not being produced locally.

So what can be done to support these farmers?

Some help through providing inorganic fertilisers and the means to produce their own could allow these farmers to boost crop yields.

It is important that inorganic fertilisers are used with caution. Before they can be provided, there needs to be an appropriate education programme in place to teach farmers how to use them safely and correctly. Supplying inorganic fertilisers without this support could be more dangerous than not providing any fertilisers at all. E.g, the most suitable fertiliser needs to be chosen for the crop being grown. Each plant looks for different nutrients, e.g. maize requires large quantities of nitrates, but at different times during its growing cycle.

By providing appropriate support and education, these farmers can start to become self-sufficient, enabling them to not only feed themselves and their families but also to sell their crops. In Africa, for example, Farmer Field Schools have been set up to bring farmers together to learn how to use modern methods of agriculture.

For more information on how you can help, visit our website: helpafarmer.biz

1 Declarations

2 The candidate and assessor declarations **must** be completed.

Candidate name: _____

Candidate declaration: I confirm that this is entirely my own work and it was completed during the supervised sessions stated on the front cover. Candidate signature _____ Date _____

For centre staff and awarding body use only

Assessor declaration: I confirm that this candidate has met the standard required for the controlled task. The controlled task was conducted under the specified conditions and completed within the working period and working time requirements. Assessor signature_____ Date _____
Internal quality assurer (IQA) declaration: *(if sampled)* I have internally quality assured this work and confirm that the standards have been met. IQA signature _____ Date _____
External quality assurer (EQA) declaration: *(if sampled)* I have externally quality assured this work and confirm that the standards have been met. EQA signature _____ Date _____