

Lees bij de volgende tekst eerst de vraag voordat je de tekst zelf raadpleegt.

## Tekst 11

All You Need to Know About...

# drones and farming

adapted from an article by Lauran Elsdon

### 41-1

Drones — or unmanned aerial vehicles (UAVs) can range in size from just a few centimetres up to 14 metres, but in most cases are just over half a metre long. The term 'drone' was coined in reference to the small aircraft used for the target practice of battleship guns in the 1920s. Although most people will have first heard of drones in connection with military use overseas, they are now being utilised more frequently for routine tasks much closer to home. Agriculture is one area where they have proved to be incredibly valuable, undertaking myriad tasks such as soil analysis, targeted application of pesticides and fertilisers, storm tracking, safety reporting, pollution control and air monitoring. First used by farmers in Japan in the 1980s, specifically designed 'agricultural drones' are now available with a huge variety of functions and capabilities — basic models cost just £50, while more state-of-the-art devices can exceed tens of thousands of pounds.



### 41-2

In today's world, where it can be increasingly challenging for small-scale farms to remain financially viable, being able to monitor livestock remotely or apply the correct amount of fertiliser, down to the last millimetre, can make a much-needed difference. Drones can also be used in the popular farming management concept known as 'Precision Agriculture', which would otherwise be inaccessible to smaller farms. The list of what drones are capable of seems almost endless — having an aerial view of farmland, for example, can help to identify problems, such as irrigation issues, much quicker than if it was checked from ground-level. Some drones are also capable of spraying crops with pesticides more accurately than a traditional tractor. This not only reduces costs, but lessens the exposure of workers and the surrounding countryside to potentially harmful chemicals. Drones can give farmers a bird's-eye view of their crops and livestock, making it easier to spot potential problems, and apply fertiliser accurately.

### 41-3

Concerns surrounding agricultural drone use relate predominantly to privacy, trespassing and the damage to property and livestock. These worries are compounded by the fact that this form of technology is so new that laws and regulations are still in their preliminary stages. Guy Smith, vice president of the National Farmers Union (NFU), commented that while exciting developments could keep British farming at the cutting edge and internationally competitive, the government also needs to take into consideration issues such as antisocial misuse and introduce measures to protect farmers and landowners. Ross Murray, president of the Country Land & Business Association (CLA) – which represents landowners, farmers and rural businesses – also voiced concerns as to whether drones being flown over private property or land are being operated legally, professionally and safely. There are also worries that increased use may have a negative impact on the number of jobs available to agricultural workers.

### 41-4

With sales predicted to exceed \$1 billion worldwide by 2024, the popularity of agricultural drones shows no signs of slowing down. As technology becomes more advanced and far-reaching, UAVs will have the capacity to help farmers in a variety of new and valuable ways. Researchers at Imperial College London's Department of Life Sciences, for example, are developing drones that could detect plant disease before any visible signs – such as leaf discolouration – show, allowing farmers to stop infections before they cause too much damage to crops. The hope is that government legislation will soon catch up, ensuring drones are operated safely and responsibly. However, for now, there are a number of privately run courses available to farmers who would like to learn about the safe operation of agri-drones (as they are sometimes known), such as the one run by independent auditing organisation BASIS – visit [basis-reg.co.uk](http://basis-reg.co.uk) to learn more. The Civil Aviation Authority (CAA) also provides information and authorisation for non-commercial drone use ([caa.co.uk](http://caa.co.uk)).

*Country Living, 2018*

Lees bij de volgende opgave eerst de vraag voordat je de bijbehorende tekst raadpleegt.

## Tekst 11 ... drones and farming

---

Vier van de onderstaande zes tussenkopjes (a tot en met f) zijn weggelaten uit de tekst (zie **41-1**, **41-2**, **41-3** en **41-4**).

- 2p 41 Geef bij elke plaats aan welk tussenkopje daar hoort.  
Noteer de letter van het tussenkopje achter elk nummer op het antwoordblad.  
*Let op: er blijven twee tussenkopjes over.*
- a How can they help farmers?
  - b What are the drawbacks?
  - c What are they?
  - d What is in store for the future?
  - e What will replace them eventually?
  - f Why are they subject to strict regulation?

---

### Bronvermelding

Een opsomming van de in dit examen gebruikte bronnen, zoals teksten en afbeeldingen, is te vinden in het bij dit examen behorende correctievoorschrift, dat na afloop van het examen wordt gepubliceerd.