Growing Underground: Food For The Future [B2]

Sotto le strade di Londra, è nato un nuovo tipo di agricoltura. Coltivazioni sostenibili e tecnologia all'avanguardia si uniscono per offrire una soluzione innovativa per nutrire le città del futuro.

By 2050, more than three-quarters of the world's population will be living in cities. What will they eat? Where will the food be **grown**? And can it be cultivated sustainably? With agricultural production currently responsible for almost a third of global **greenhouse** gas emissions, how can food be produced without damaging the environment? Some of the answers to these questions may be found deep **beneath** the streets of southwest London.

SCIENCE FICTION

Growing Underground is a pioneering urban farm in Clapham, **run** by two entrepreneurs and friends, Steven Dring and Richard Ballard. Ballard and Dring are developing new ways of growing tasty, healthy food in a sustainable way — below ground. A small **lift** descends thirty-three metres from their offices into a large tunnel system **beneath** busy Clapham High Street. It looks like a scene from a science fiction movie: bathed in **eerie** pink low-energy LED lighting, thousands of tiny plants grow in **rows** of **trays** on tall metal **racks**.

AIR-RAID SHELTERS

Growing Underground was launched in 2012 and uses tunnels near Clapham South tube station that were built during World War Two as **air-raid shelters**. The six thousand square metres down here could **house** eight thousand people, which means plenty of space for **crops**. The farm currently only uses about 25 per cent of the available space, but is gradually expanding into the empty tunnels. The urban location greatly reduces the **food miles** of its products, which are **shipped** less than a mile down the road to New Covent

Garden Market. From here they are distributed across London to hotels, restaurants, and **retailers**. **Produce** can be in a kitchen within four hours of being picked and packed. Now that's truly fresh...

NO SOIL SYSTEM

Growing Underground uses a hydroponic system, meaning there is no **soil** — plants grow on **matting** made from recycled **carpet** and are fed with a nutrient- and mineral-rich solution. This uses 70 per cent less water than conventional, open-field agriculture. Instead of sunshine, LED lighting illuminates microgreens such as **peashoots**, **watercress**, **coriander** and **sunflower shoots**, and **baby leaf** salads such as **rocket**, **red cabbage** and **radish**. The **crops** are **grown year-round** in a **pest- and pesticide-free** environment, using 100 per cent renewable energy.

WHATEVER THE WEATHER

Staff, who all wear protective clothing and **hair nets** to minimise the risk of contamination, control the light, heat, humidity and ventilation to ensure perfect growing conditions whatever the weather outside. Below ground, the sun never shines. But plants don't need white light to grow and be healthy. In fact, a mix of red and blue **wavelengths** is all they need. Light affects flavour: changing the spectrum alters the shape of the plants and their leaves, and the amount of sugar and **starch** they contain. The micro-plants contain up to ninety times more nutrients than their full-sized versions. Perhaps that's why they taste better than many **crops** **grown** outdoors in **soil** and natural light.

OPTIMISM FOR THE FUTURE

Research by the UN suggests that there will be an extra 2.2 billion people on earth in the next thirty years. The challenge is to provide sustainable food, water and **power** for everyone. Farming in controlled urban environments can hugely reduce energy and distribution costs. Choosing fast-growing **crops**, like **peashoots**, also provides up to sixty **harvests** per year, compared to just three or four if **grown** outdoors in **soil**. Looking at Growing

Underground's **maze** of tunnels filled with millions of carbon-neutral, tasty salad plants, it's hard not to feel optimistic about the future... If you want to know more about this topic, read the article Growing Underground: Sustainable Urban Farming.

Glossary

- **greenhouse gas** = gas serra
- **peashoots** = germogli di pisello
- **red cabbage** = cavolo rosso
- **wavelengths** = lunghezze d'onda
- **crops** = colture
- **matting** = stuoia, rete
- **carpet** = moquette
- **rows** = file
- **air-raid shelters** = rifugi antiaerei
- **sunflower shoots** = germogli di girasole
- **shipped** = spedire, trasportare
- **grown** = coltivare
- **eerie** = inquietante, spettrale
- **house** = ospitare
- **baby leaf** = insalate baby leaf (raccolte precocemente)
- **radish** = ravanello
- **soil** = terra
- **watercress** = crescione
- **pest- and pesticide-free** = privo di parassiti e pesticidi
- **beneath** = sotto
- **retailers** = rivenditori
- **Produce** = prodotti agricoli, ortaggi
- **hair nets** = retine per capelli
- **starch** = amido
- **maze** = labirinto
- **run** = dirigere
- **coriander** = coriandolo
- **rocket** = rucola
- **year-round** = tutto l'anno
- **food miles** = distanza percorsa dagli alimenti
- **lift** = ascensore
- **trays** = vassoi
- **racks** = scaffali

- **power** = elettricità
- **harvests** = raccolti