



POTATOES FEEDING THE WORLD

Kate Truffitt : Potatoes NZ chief executive



Potatoes have a huge role to play, not only in feeding New Zealanders, but also feeding the world's population and looking after the planet.

With New Zealand being a nation of potato lovers and with the favourable growing conditions we have, New Zealand growers can efficiently produce enough potatoes both for ourselves as well as for the export market. Undernourished people within a population is not only a developing world problem, it is also a first world issue, and potatoes play a key role in addressing this.

Potatoes grow in all sorts of conditions and produce more nutritious food, more quickly, on less land and in harsher climates, using less water than any other major crop. With a world challenge to ensure food security for present and future generations, while protecting natural resources that we all depend upon, potatoes are seen as part of the solution for world food security.

Potatoes NZ joined more than 900 delegates from over 40 countries in Adelaide, Australia for the 2024 World Potato Congress. Figures from "World Potato Markets" (www.worldpotatomarkets.com) show where the gaps and opportunities are for the potato industry worldwide. Asia is home to 59.1 percent of the world's population and 54.2 percent of the world's potato production by volume. Europe contains 9.3 percent of the world's population and grows 26.2 percent of the world's potato production. The interesting fact is that Asia consumes most of their potatoes whereas Europe exports a considerable amount, accounting for 70 percent of the world's potato trade.

On the world stage, potatoes compete with wheat, rice, corn and more recently cassava and soya. Worldwide we produce 380 million tonnes of potatoes, around 800 million tonnes of wheat and rice as well as a huge volume of 1.18 billion tonnes of corn. Potato yields in New Zealand are the highest in the world, giving us an advantage to produce more for export markets. New Zealand averages around 50 tonnes per hectare of potatoes, versus the worldwide average of 21 tonnes per hectare.



NEW ZEALAND AVERAGES 50 TONNES PER HA OF POTATOES, (WORLDWIDE AVERAGE IS 21 T/HA)

Percentage of world population, potato production and trade by region

| | Asia | Africa | N. America | Europe | S. America | Central America/Caribbean | Oceania |
|------------------------------|------|--------|------------|--------|------------|---------------------------|---------|
| % of world population | 59.1 | 18.0 | 4.7 | 9.3 | 5.5 | 2.8 | 0.6 |
| % of world potato production | 54.2 | 7.2 | 6.4 | 26.2 | 4.7 | 0.7 | 0.5 |
| % of world potato trade | 6.0 | 3.1 | 17.1 | 69.2 | 1.3 | 0.3 | 0.5 |

Source: UN, UN FAOSTAT, WPM & Trade Data Monitor LLC

There is an expectation according to Dr Guy Hareau, chief economist at the International Potato Center, that the global harvested area of potatoes will increase from 17.8 million hectares to 19 million hectares by 2050, with production more than 480 million tonnes. Potatoes have a lot going for them in comparison to their competitors, such as high yield potential, a short growing cycle, a small carbon footprint. Potatoes can be produced locally for food security, they have added value potential, and are a highly nutritious and energy rich source of vitamin C, potassium and dietary fibre.

According to Blair Richardson from Potatoes USA, marketing to the younger generation is one of our main opportunities. They are the snacking generation and use social media for reference, looking to their peers rather than industry for information regarding food. They want an authentic experience, for example comfort food with a twist. They are learning to cook and research videos online and on TikTok, rather than more traditional sources like cookbooks and websites. They also eat out a lot, with 40 percent disposable income (in the United States). They love potatoes because they can eat and flavour them in many ways, they are a real food and potatoes fill them up. Barriers to eating potatoes are the carbohydrates as they may already eat enough, as well as choosing to eat other vegetables. Potatoes USA is twisting this in with the 'Potatoes Fuel Performance' marketing campaign and sharing real facts about potatoes.

Potatoes have come a long way and spread throughout the world since their first discovery in the Peruvian-Bolivian Andes mountains around 8000 and 5000 BC. They have grown to be a successful global food and a dependable crop. Potatoes today are not only changing the world, they are feeding the world, and will continue to do so for many generations to come. ●

! Fall armyworm alert

Fall armyworm (*Spodoptera frugiperda*) is now present in New Zealand. The pest is a threat to a number of different crops, including potatoes, although potato plants are not its preferred food source.

A harvested potato crop is unlikely to be infested with fall armyworm, however it is important for the potato industry to take care not to transfer the pest on to industry export partners. The most likely place fall armyworm may be found in potatoes is in a harvested crop at grading, specifically the pupa which may be in the soil attached to tubers.



Larva



Pupa



Pupa



Moth

SAVE THE DATES

| POTATOES NEW ZEALAND ANNUAL GENERAL MEETING | |
|---|----------------------------|
| DATE | Thursday 12 September 2024 |
| TIME | 5pm |
| VENUE | Hotel Ashburton |

Potato growers are encouraged to attend to network, learn and share as well as have your say.

| 2025 NEW ZEALAND POTATO CONFERENCE | |
|------------------------------------|---------------------------|
| THEME | Innovating for the Future |
| DATE | 12-13 August 2025 |
| VENUE | Christchurch Town Hall |

This will be a not to be missed event with industry leading speakers and engaging topics, in a stunning venue. Book it into your diary now. More details and booking information will be available closer to the time.

FASCINATING POTATO FACTS



85% OF THE POTATO PLANT CAN BE EATEN - WE DON'T EAT THE LEAVES



RICE, WHEAT AND MAIZE ONLY 50% CAN BE EATEN



CHINA IS NOW THE BIGGEST POTATO PRODUCER, AND ALMOST A THIRD OF ALL POTATOES IS HARVESTED IN CHINA AND INDIA ALONE



THE POTATO BELONGS TO THE SOLANACEAE OR 'NIGHTSHADE' FAMILY OF FLOWERING PLANTS, AND SHARES THE GENUS SOLANUM WITH AT LEAST 1000 OTHER SPECIES, INCLUDING TOMATO AND EGGPLANT



WATER NEEDED TO GROW 1KG OF



**RICE
3000 L**



**POTATOES
75 L**



**WHEAT
500 L**



POTATOES GENERATE 57 TIMES LESS GREENHOUSE GASES THAN BEEF AND 13 TIMES LESS THAN CHICKEN

Scientific American (February 2009)



THE POTATO IS A VERY EFFICIENT HIGH YIELDING PLANT, USING LESS WATER THAN COMPARABLE CROPS AND IS ABLE TO ADAPT TO ALL SORTS OF GROWING CONDITIONS

REMINDER: DEADLINE FOR PROCESS HEAT USERS

A reminder that due to law changes, from 26 January 2025, local councils will require any process heat users who are emitting more than 500 tonnes of CO₂ to apply for an air emissions consent. This will require an emission reduction plan for your growing site which looks at how you will reduce the emissions from your site with actionable targets. The thinking is that the local councils will be monitoring the targets to make sure that businesses are doing what they have laid out.

| Fuel Type | Typical Units |
|----------------------------|----------------|
| Natural Gas | 9400 GJ |
| LPG (liquid petroleum gas) | 170,000 kg |
| Coal - sub-bituminous | 250 Tonnes |
| Diesel | 187,000 Litres |
| Waste Oil | 170,000 Litres |

Table 1: Quantity of fossil fuel used to reach the 500T threshold for needing a new consent

For more information, please look at the Vegetables NZ website:

www.freshvegetables.co.nz/news-and-events/news/new-industrial-process-heat-consent-requirements-affecting-covered-crop-growers

Exercise

1. *Why are potatoes important for feeding both New Zealanders and people around the world?*
2. *How do potatoes help with food security for both present and future generations?*
3. *What makes potatoes a better crop for feeding people in different climates and conditions?*
4. *How does New Zealand's potato production compare to the rest of the world, and why is this important?*
5. *How much of the world's potato production is in Asia, and how does that compare to Europe?*
6. *What percentage of the world's potato trade comes from Europe, and why is that significant?*
7. *How do potatoes compare to other crops like wheat, rice, and corn in terms of production and consumption?*
8. *What is expected to happen to the global harvested area of potatoes by 2050, and how does this affect food security?*
9. *What are the nutritional benefits of potatoes, and why are they considered an important food source?*
10. *How is the younger generation in the United States helping to shape the future of potato consumption?*
11. *What marketing strategies are being used to encourage younger people to eat more potatoes?*
12. *What challenges or barriers might prevent people from eating more potatoes, and how are these being addressed?*
13. *How have potatoes spread around the world, and why have they become such an important global crop?*
14. *How do potatoes help with both food security and sustainability, especially in comparison to other major crops?*

Answers

1. *Why are potatoes important for feeding both New Zealanders and people around the world?*

Potatoes are important because they provide a highly nutritious, energy-rich food that is easy to grow in various conditions. New Zealand grows enough potatoes for its own population and for export to other countries, contributing to global food security.

2. *How do potatoes help with food security for both present and future generations?*

Potatoes are efficient to grow, requiring less land, water, and time compared to other major crops. This makes them a reliable food source for ensuring that people have enough to eat now and in the future, especially in a world facing challenges like climate change and population growth.

3. *What makes potatoes a better crop for feeding people in different climates and conditions?*

Potatoes grow well in a wide range of climates, from cool to temperate areas. They are also hardy and can thrive in harsh conditions, producing more food on less land and with less water than many other crops.

4. *How does New Zealand's potato production compare to the rest of the world, and why is this important?*

New Zealand's potato yields are the highest in the world, averaging 50 tonnes per hectare compared to the global average of 21 tonnes per hectare. This high yield allows New Zealand to produce more potatoes for both local consumption and export.

5. *How much of the world's potato production is in Asia, and how does that compare to Europe?*

Asia produces 54.2% of the world's potatoes, and Europe produces 26.2%. Asia consumes most of its potatoes, while Europe exports a large portion, accounting for 70% of the world's potato trade.

6. *What percentage of the world's potato trade comes from Europe, and why is that significant?*

Europe exports 70% of the world's potato trade. This is significant because Europe's production is more focused on export, while other regions consume most of their own potatoes, contributing to global trade and food security.

7. *How do potatoes compare to other crops like wheat, rice, and corn in terms of production and consumption?*

Potatoes are one of the top global crops, with 380 million tonnes produced annually, compared to 800 million tonnes of wheat and rice, and 1.18 billion tonnes of corn. Potatoes are unique in their ability to grow quickly and in many conditions.

8. *What is expected to happen to the global harvested area of potatoes by 2050, and how does this affect food security?*

By 2050, the global harvested area of potatoes is expected to increase from 17.8 million hectares to 19 million hectares, with production reaching 480 million tonnes. This will help meet the growing demand for food as the global population increases.

9. *What are the nutritional benefits of potatoes, and why are they considered an important food source?*

Potatoes are rich in vitamin C, potassium, and dietary fibre, making them nutritious and energy-packed food. They provide essential nutrients and are a good source of calories for people in both developed and developing countries.

10. *How is the younger generation in the United States helping to shape the future of potato consumption?*

The younger generation is interested in snacking and looking for new, creative ways to eat potatoes. They use social media platforms like TikTok and Instagram for cooking ideas, which is helping to promote potatoes as a versatile and fun food option.

11. *What marketing strategies are being used to encourage younger people to eat more potatoes?*

Marketing campaigns like "Potatoes Fuel Performance" focus on educating young people about the nutritional value of potatoes. These campaigns use real facts about potatoes and appeal to the younger generation's desire for authenticity and convenience.

12. *What challenges or barriers might prevent people from eating more potatoes, and how are these being addressed?*

Some people may avoid potatoes due to concerns about carbohydrates or because they prefer other vegetables. However, marketing campaigns are addressing these concerns by highlighting potatoes' nutritional value and versatility in recipes.

13. *How have potatoes spread around the world, and why have they become such an important global crop?*

Potatoes were first discovered in the Peruvian Bolivian Andes around 8000-5000 BC and have spread worldwide due to their versatility and ability to grow in a wide range of conditions. Potatoes are now a staple crop in many countries, providing food security and nutrition.

14. *How do potatoes help with both food security and sustainability, especially in comparison to other major crops?*

Potatoes have a small carbon footprint and a short growing cycle, meaning they can be produced quickly with less environmental impact compared to other crops like wheat, rice, and corn. They are efficient to grow and a key part of addressing global food security and sustainability.