

# Bits and Bites

for learning about Alberta pulse  
nutrition, food and farming

# PULSE *café*



Student activities for  
Alberta health/wellness,  
language arts, science and  
social studies classrooms

**GRADES 1 to 3**



Welcome to the **PULSE café!**  
Enjoyed by many cultures around the world for thousands of years, pulses are an affordable, nutritious and versatile food. We hope that the **PULSE café** will encourage students to explore the nutrition, food and farming of this adaptable crop.

Alberta farmers are proud to grow pulses like dry beans, dry peas, lentils and chickpeas because they are good for the farm, for food and for you!

Did you know that the word “pulse” comes from the Latin word *puls* which means thick soup? Easy to prepare in a variety of dishes like hummus, chili, black bean brownies or split pea soup, pulses are high in protein and fibre and low in fat, making them the perfect fit for a balanced diet and busy lifestyle.

Alberta Pulse Growers represents the 6,500 farmers who grow pulses in Alberta. We are proud to support education and provide the **PULSE café** resources for teachers and students in Grade 1 to Grade 6 Health/Wellness, Language Arts, Social Studies and Science programs.

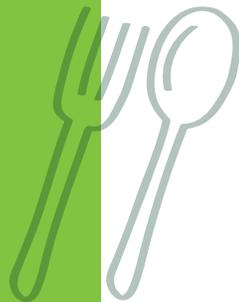
Alberta Pulse Growers thanks the farmers who have shared stories that are used in these resources.

### **FIND Alberta Pulse Growers**

 [www.albertapulse.com/eating-pulses/](http://www.albertapulse.com/eating-pulses/)

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*Pulses have power!*

# healthy pulses

**Do you know what a pulse is?**

A pulse can mean your heart rate, or the number of times your heart beats in one minute.

When you exercise, your heart beats faster.

A faster pulse tells you that you are using energy.

You need food to give your body energy. Read on to find out more.



**Can you feel your heartbeat? What does it feel like?**

*My heartbeat feels like*

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**What are your favourite foods? Name two!**

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*Pulses are dried seeds from plants that can be eaten.*

# food pulses

**Did you know that a pulse is also a food?**

**Pulses** are the dried seeds of legume plants.

A **legume** is a plant that has seeds and pods. There are many different types of legumes.

Pulses are dry legumes. They are not fresh, like the garden peas or yellow and green beans you might get from a home garden.



Sweet potatoes and split peas are on the menu! What types of vegetables do you like to combine?

Some peas are called split peas. They do not grow this way! Green or yellow peas are harvested from the field when they are dry. When the skin – or **hull** – is removed, the pea splits in half.

These yellow peas are dry enough in the field and are ready for harvest.





Faba beans are a type of pulse. Did you know that faba beans can also be called broad beans?



*There are many different pulse choices.*

# pulses on the menu

There are many types of pulses. They come in different shapes and sizes. The pods on a pulse plant may have from one to twelve seeds in each!



Pulses go well with different grains, like barley! Try them together in a salad.



Which pulse would you like to learn more about?

Look at the photos in the **Pulse Menu** on the next page. All of these pulses are grown in Alberta.

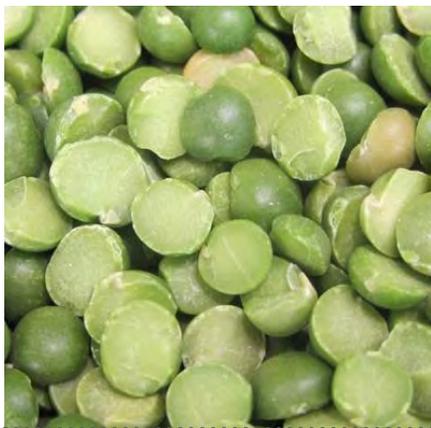
Pick **four** different pulse photos. Use the **Word Menu** or add your own words to write a descriptive sentence for these photos.

# pulse menu



## Word Menu

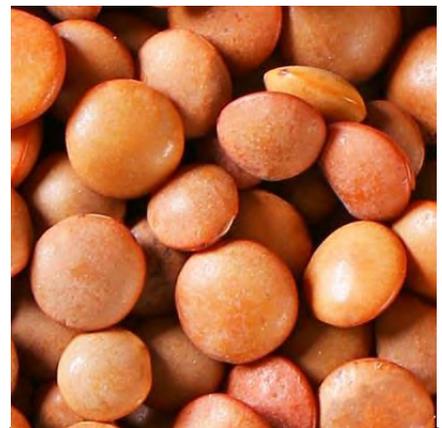
white	orange	green	black	yellow
round	oval	small	large	flat
patterned	dots	smooth	bumpy	curved



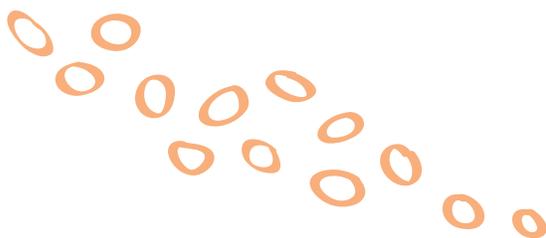
Green Split Peas



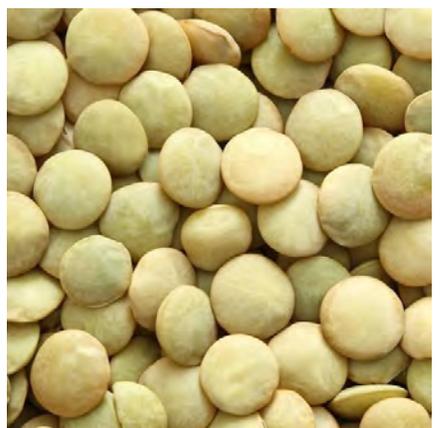
Yellow Split Peas



Whole Red Lentils



Red Split Lentils

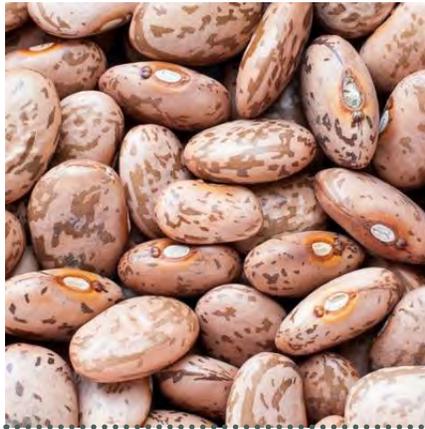


Green Lentils

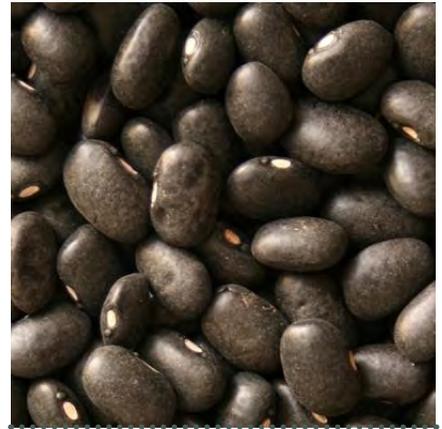




Great Northern Beans



Pinto Beans



Black Beans



Kabuli Chickpeas



Faba Beans



## Word Menu

white

orange

green

black

yellow

round

oval

small

large

flat

patterned

dots

smooth

bumpy

curved

Did you know that chickpeas can also be called Garbanzo Beans?

*Pulses offer variety.*

# grab a bite



The word “**pulse**” comes from another language. The Latin word “puls” means a thick soup.

Pulses can be used to make a lot of soups! They can also be used in many other recipes.

Cooked pulses can be used in stews, chilis, salads, burgers, snack foods and even pancakes!



**Check out these pulse recipes. Try them at home with a trusted adult!**



## Protein Power Pancakes

### Ingredients

- 2 cups (500 mL) milk (dairy or non-dairy)
- 1 cup (250 mL) cooked or canned white beans, drained and rinsed\*
- 1 egg
- 2 tsp (10 mL) vanilla
- 3 Tbsp (45 mL) canola oil
- 2 cups (500 mL) whole wheat flour
- 1/4 tsp (1 mL) salt
- 1 Tbsp (15 mL) baking powder
- 2 tsp (10 mL) cinnamon

\* White beans include great northern, navy, cannellini or white kidney beans

### Directions

1. Blend milk and beans in food processor or blender until smooth. Transfer to a large bowl. Add egg, vanilla and oil and mix together.
2. In a separate bowl, mix together the dry ingredients.
3. Add the dry ingredients to the wet ingredients. Stir well.
4. Cook on medium high griddle. Serve with maple syrup and fresh fruit.



Some pulses need to be soaked in water before they are cooked. Some can be cooked without soaking.



# Pizzalicious Poppers

## Ingredients

- 1 can (19 oz/540 mL) no salt added chickpeas, drained and rinsed
- 1 Tbsp (15 mL) canola oil
- 1/2 tsp (2 mL) garlic powder
- 1 Tbsp (15 mL) Italian seasoning
- Salt and pepper to taste



## Directions

1. Preheat oven to 375°F (190°C).
2. Dry chickpeas with paper towel and put in a medium bowl. Gently toss chickpeas with oil and seasonings.
3. Spread seasoned chickpeas evenly on parchment-lined baking sheet and place in the oven.
4. Roast chickpeas for 30 minutes. Bake for another 15–20 minutes, stirring every 5 minutes until golden and crispy. Remove from the oven and let cool for 10 minutes.
5. Store in an airtight container for up to one week.



Which one of these recipes would you pick if you could order it from a menu? Why would you pick it?

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If you were the chef, what recipe could you invent that includes pulses?

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*Protein foods are good for you.*

# pulses in Canada's Food Guide

Canada's Food Guide tells us that we should eat a variety of healthy foods. These food choices should include:

- Vegetables and fruits
- Whole grain foods
- Healthy fats
- Protein foods

Protein foods are an important part of balanced eating. These foods should include plant-based protein.

Canada's Food Guide Plate



What examples of pulses can you find on the Food Guide Plate?

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*You can make fun food choices.*



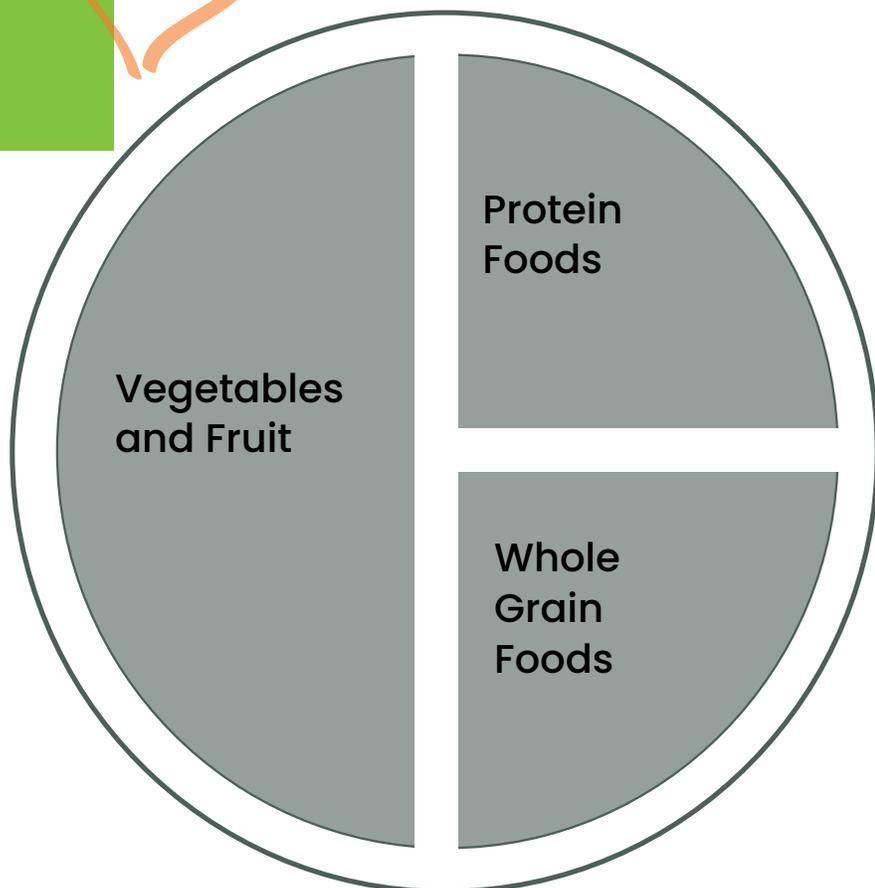
# filling a plate, bowl or lunch box

Protein foods make up about a quarter of the food choices on the **Food Guide Plate**. Not all your meals need to look exactly the same!

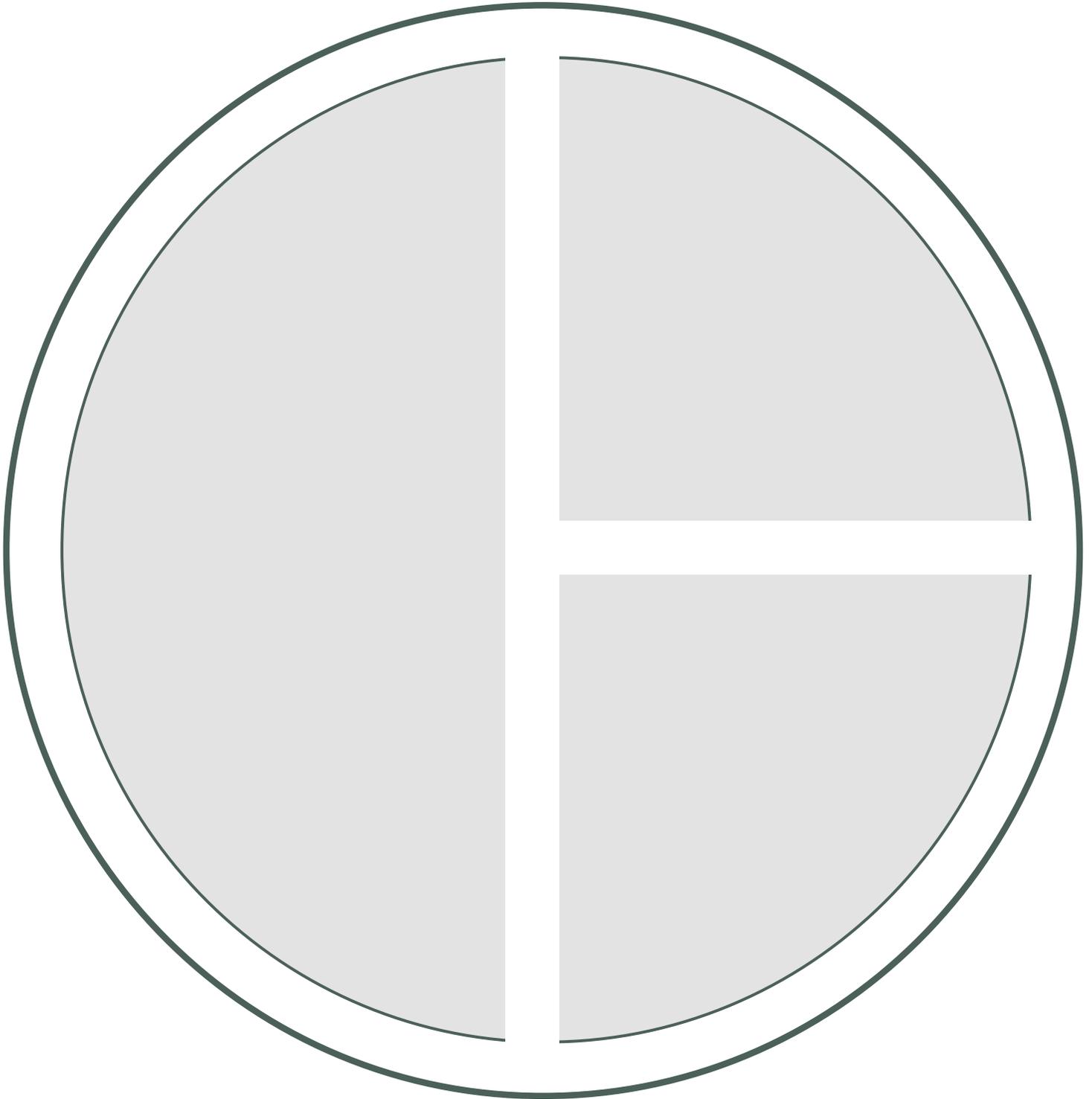
You can fill your plate, bowl and lunch box with fun food choices!



How would you fill your own Food Guide plate with your favourite food choices? Draw, sketch or cut and paste food examples on the plate you'll find on the next page.



# food guide plate



*Pulses can be part of any meal or snack.*

# pulse choice challenge

If you plan meals and snacks ahead of time with your family, it can be easier to make sure you include a variety of choices.

 Here's the challenge! Fill each meal and snack box on the next page with your food choices. Include at least one pulse! Start with these ideas:

- Muffins or granola bars can be made with pulses.
- Hummus is made with chickpeas.
- Fruit smoothies can be made with beans or lentils.
- Veggie burgers can be made with pulses.
- Pulses can be added to soups, salads or rice bowls.

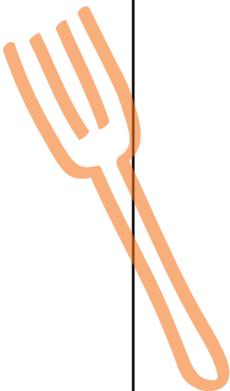
You can check out many different recipe ideas on the Alberta Pulse Growers website at <https://albertapulse.com/recipe/>!



# pulse choice challenge



<b>Breakfast</b>	<b>Lunch</b>
<b>Dinner</b>	<b>Snacks</b>



*Foods have benefits.*

# a variety of food choices

How do you know if you have enough variety in your food choices? A variety of foods can help you make sure you get the nutrients your body needs.

**Nutrients** are the substances that your body needs to grow and stay healthy. The nutrients in food include protein, fats and carbohydrates, vitamins, minerals and water.

Pulses have protein, a small amount of fat, carbohydrates, vitamins and minerals – all nutrients your body needs to grow.



 How many different types of food do you see in the photos? Name at least four!

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*Pulses are good for the earth.*

# pulse farmers in Alberta communities

Farms are part of Alberta communities. Many farmers in Alberta grow pulse crops.

These crops are planted in April or May. They are harvested in August or September.

Pulse crops are easy for farmers to grow. Pulses can be grown in communities that are wet or dry and in many types of weather.



## The Hilgartner Family Farm

D'Arcy Hilgartner farms near Camrose. His family grows many different types of crops. These crops include peas, wheat, canola, barley and flax. D'Arcy **rotates**, or switches, his pulse crops with his grain crops.

The photo shows D'Arcy planting yellow peas on his farm in the spring.



Pulses leave nutrients in the soil that help make it better for other plants to grow too. This means they improve the soil for other types of crops grown on the same land.



The growing season for pulse crops can be different than other types of crops. They can be planted and harvested earlier than most crops.



### **The Konstapel Family Farm**

Peter Konstapel lives and farms near Spirit River with his brother and parents. They started growing yellow peas about nine years ago. They like growing peas because they are good for the soil and they can be harvested early. The Konstapel family grows peas, canola, wheat, barley and oats. They have also grown lentils.

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What are the pulse crops that the Hilgartner and Konstapel families grow?

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Why do the Hilgartner and Konstapel families mix pulse crops with other types of crops like grains?

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*Pulses have been grown for many years.*

# around the world

Pulses are a very old crop. These plants were grown in the Middle East many thousands of years ago. Today, almost 200 countries grow pulses.

India grows the most pulse crops. Canada is the second largest.

India **imports** the most pulses. This means they bring pulses into India by buying them from other countries.

Canada **exports** the most pulses to other countries. This means they sell more pulses to other countries than any other country in the world.

Canada grows the most field peas of any country in the world. Many of Canada's yellow peas are sent to China. Canada also grows and trades a lot of lentils, dry beans and chickpeas.

Pulses are measured in metric tonnes. A metric tonne is 1000 kilograms.

A metric tonne is a measurement of items that are very heavy. A small car weighs about 2 tonnes.

Imports and exports are often measured in metric tonnes.



 Use the graphs on the next page to look at the countries that import and export pulses. Can you find India and Canada in these graphs?

 Why do you think Canada is not one of the top ten countries that import pulses?

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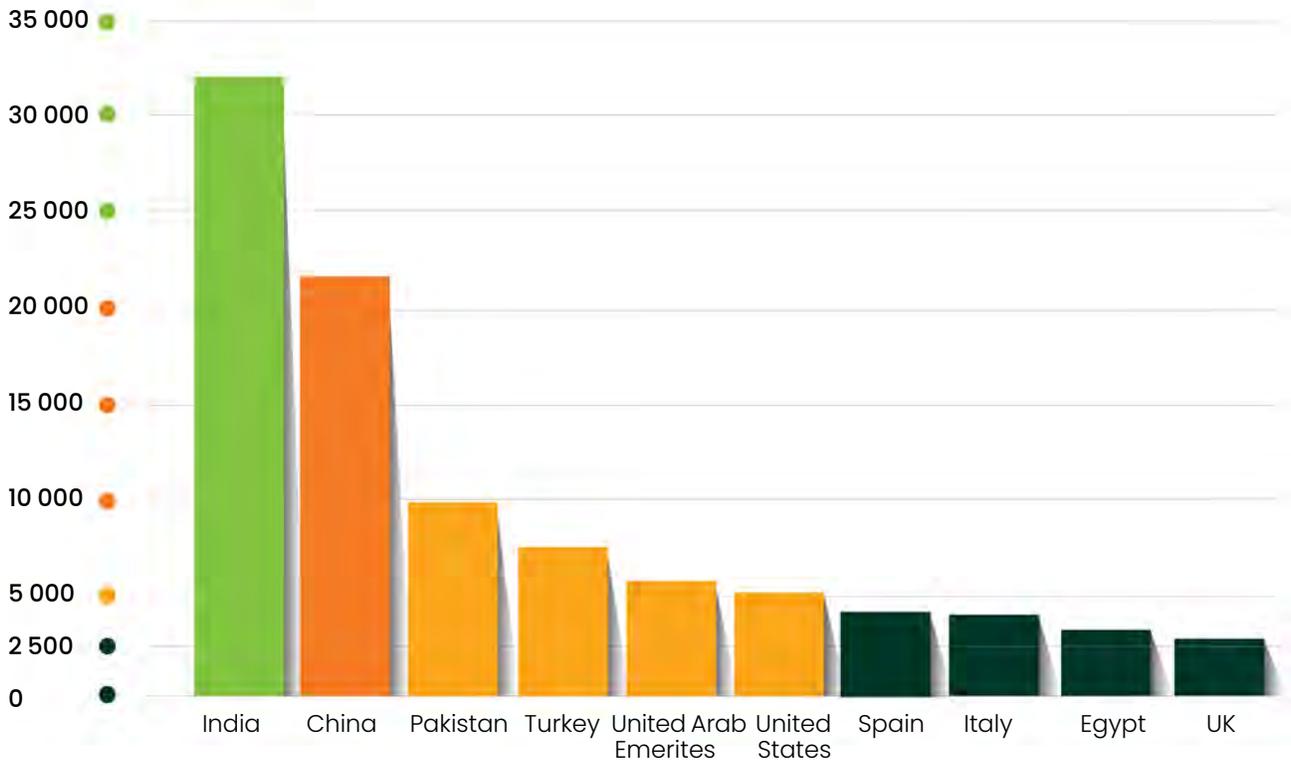
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# trading pulses

Metric Tonnes

## Top Ten Importing Countries of Pulses 2019



Metric Tonnes

## Top Ten Exporting Countries of Pulses 2019

