

## FARM-GROWN OR WILD: BC IS TOPS FOR BLUEBERRIES

There are two different types of blueberries: cultivated and wild. Cultivated blueberries are also known as highbush blueberries. Planted by farmers, highbush blueberries are deciduous bushes that produce new berries every season. In BC, the Fraser Valley and Vancouver Island have rich soil, a moderate climate, and plenty of fresh water – the ideal conditions for growing blueberries. With over 600 blueberry growers, BC is one of the top blueberry-producing regions in the world.

Wild blueberries grow naturally across BC, especially in the coastal region. Because they grow close to the ground, they're also known as lowbush blueberries. Wild blueberries are smaller than cultivated ones, and they have a more intense colour and flavour.

Blueberries are one of the few edible berries native to Canada. First Peoples have been harvesting wild blueberries from Canada's forests and boggy areas for thousands of years, eating them fresh, preserving them for winter by smoking or sun-drying them, and making them into cough syrup and other medicines.

## WHY ARE BLUEBERRIES BLUE?

Not many fruits are blue. Blueberries contain a group of natural compounds called anthocyanins, which are pigments that give red, purple, and blue fruits and vegetables their vibrant colours. It also makes them a healthy snack.



Photo credit - Spring Advertising



Photo credit - Canadian Topicality



## BRING IN THE HONEYBEES!

Wild bees, such as bumblebees, carpenter bees, and many smaller specialist bees, are great pollinators. But, there aren't enough wild bees to do the job of pollinating all of the blueberry plants, so farmers bring in seasonal help. Every spring, when each blueberry plant produces thousands of blossoms, berry farmers bring hives full of domesticated honeybees into their fields. These busy worker bees pollinate more than 90% of BC's blueberry flowers.

### *Here's how the honeybees do their job ...*



Inside each flower is a yellow, dust-like pollen. For a flower to turn into a blueberry, it first needs to be pollinated, which is when pollen is moved from where it is made in the flower (the stamen, or male part of the flower) to where it will be used to form a seed (the stigma, or female part).



Flowers produce both pollen and a sugary liquid called nectar – perfect foods for bees. As a bee crawls into a flower in search of food, her body brushes pollen all around the flower. Some sticks to the tiny hairs on her back, and she loads other pollen onto special hairs on her legs. When she flies to the next flower in search of more food, some of the pollen from the first flower brushes off inside the second flower. Just like that, pollination!



Amazingly, a worker honeybee can carry half her own bodyweight in pollen. She'll bring it back to her hive to feed the queen, the larvae, and the rest of the hive's bees.

## FINE ARTS ACTIVITY: MAKE A BEE MURAL

Curriculum Connection: Fine Arts - grades 4 to 7: Creative expression as a means to explore, share, and expand one's sense of identity and community.

Create a bulletin board mural of a blueberry farm with bees pollinating the field.

Have students paint or draw a blueberry bush with white flowers (they can use their pinky fingers to create the flowers). Now, ask students to dip their thumbs in yellow paint to create the bees. Once their yellow thumbprints are dry, they can use a black marker to add details like the bee's wings, stripes, and legs.

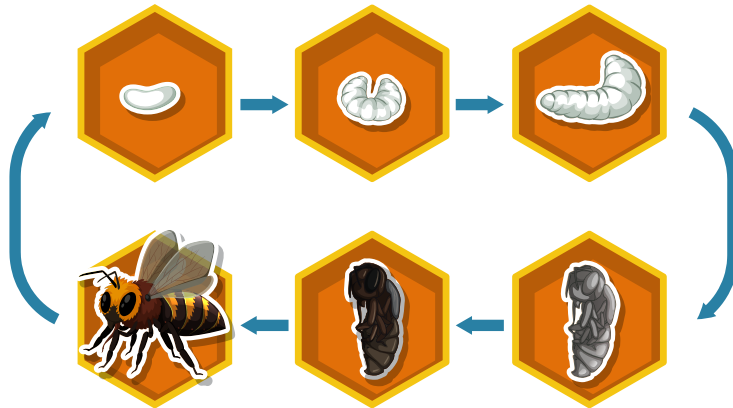
**Classroom discussion:** Wild bees, such as bumblebees, carpenter bees, and many smaller specialist bees, are super pollinators. Because blueberry pollen is heavy and held high inside the fruit's bell-shaped flowers, wild bees' special way of revving their wings "buzz pollinates" or shakes the pollen loose from the flowers better than any of the other pollinators, like honeybees, birds, insects, or the wind. And, unlike domesticated honeybees, wild bees can fly in cool, cloudy, or even rainy weather. Have a classroom discussion about how wild bees and honeybees (see "Bring in the Honeybees!" on the student side of the sheet) move pollen from one flower to another.

## SCIENCE ACTIVITY: LIFE CYCLE OF A HONEYBEE

Curriculum Connection: Science - grades 4 to 6: All living things sense and respond to their environment.

Beekeepers deliver domesticated honeybee hives to blueberry fields in mid to late April, just in time for the blueberries to flower.

Using the graphic below as an example, have students draw the life cycle of a honeybee.



## PHYSICAL AND HEALTH EDUCATION ACTIVITY: MINDFUL EATING OF A BLUEBERRY

Curriculum Connection: Physical and Health Education - grades 4 to 5: Understanding ourselves and the various aspects of health helps us develop a balanced lifestyle. Grades 6 to 7: Healthy choices influence our physical, emotional, and mental well-being.

Ask students to make these observations about their blueberries:

**SEE IT.** Take the blueberry and hold it in your fingers. Look at the colour and the shape. Can you see where it grew from the flower?

**TOUCH IT.** Turn the blueberry around in your fingers and feel the texture. Is it smooth or rough?

**SMELL IT.** Hold the blueberry under your nose and breathe in. Notice the smell. Does your mouth water?

**TASTE IT.** Gently place the blueberry in your mouth. Don't chew it yet. Roll the blueberry around on your tongue. Take a small bite and notice what happens. Can you taste the juice and feel the texture as you chew? What does it make you think of? Take another blueberry, think about the BC farm it came from. You are eating locally grown food, produced by farmers and their families right here in our province. Farm-grown or wild, blueberries are a tasty, healthy snack. One handful of blueberries is packed full of antioxidants, vitamin C, and fibre to help protect your bodies from diseases and keep you healthy.

## MATH QUESTIONS:

Curriculum Connection: Mathematics - grades 4 to 6: Visualize to explore mathematical concepts. Develop and use multiple strategies to engage in problem solving.

Farmers grow blueberry bushes in rows. If a farmer has 24 bushes, what would his field look like? How many different fields could he create? How about if he has 36 bushes?

**Answer:** Students could draw arrays for  $1 \times 24$ ,  $2 \times 12$ ,  $3 \times 8$ , and so on. When using 36, students could draw arrays for  $1 \times 36$ ,  $2 \times 18$ ,  $3 \times 12$ , and so on.

Challenge question: If a farmer has 240 bushes, what would his field look like?

**Answer:** One array could look like  $20 \times 12$ . Answers will vary depending on the array.