

# Life Without Bees: The Effects on Food

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Due to climate change, the increased use of pesticides and a range of other causal factors, bee populations have decreased steadily over the past years. This could result in a huge impact on our food supply and indeed, our health.

As a matter of fact, one in every three bites of food consumed around the world depends on pollinators, bees in particular, for a successful crop, and without these hard-working insects most of our favorite foods would sadly not exist.

Furthermore, bees are responsible for the reproduction of alfalfa and clover, which feed cattle and other grazing animals, so without them we would lose a significant portion of our milk, cheese, butter, yogurt and ice creams.

There is no doubt that without these delicious foods, our lives would become duller. Yet, there is an even more frightening reality. With the decline of bees, not only would the foods we love disappear, but also the food we need. Some of the most vitamin and mineral-rich foods are dependent on insect pollination. Deficiencies in these nutrients can have devastating effects on human health, with an increased risk of diabetes, cancer and heart disease, as well as malnutrition and mortality in less-developed regions.

Below we have taken a look at foods that are under direct threat if we do not save the bees, and it is not just honey.

## Breakfast



# How your Breakfast is affected

## Almonds (granola)

Almond blossoms rely entirely on pollination by bees, and it is not just the almonds that need the bees for survival; the bees need almonds. The blossoms provide the first good pollen in California (where 80% of the world's almonds are harvested), and this source is hugely important for the bees as it gives them valuable strength at the start of the season.

#### Blueberries

90 percent of all blueberry crops are pollinated by bumble bees and blueberry bees, which means that scarcity would drive skyrocketing prices for these antioxidant-packed super berries.

#### Coffee

The coffee plant is self-pollinating but still needs cross-pollination from bees to develop healthy yields. The flower of the coffee tree is only open for pollination for three or four days, and if it does not get pollinated in that short window, the crop will become weaker and more prone to disease. Although coffee would be likely to exist without bees, it would become very expensive and rare.

# Orange juice

90 percent of orange trees depend on pollination by bees. There are, however, some varieties that are self-pollinating types, such as the Navel Orange.

## Pumpkin seeds (granola)

Pumpkin seeds contain high levels of magnesium, which is beneficial for your blood pressure and can help prevent sudden cardiac arrest, heart attack and stroke. These nutritional power seeds are heavily dependent on squash bees and it is estimated that 90 percent of crops would disappear without them.

## Rapeseed (oil) spread

Both rapeseed (including canola) oil and spread are at risk from the decline of bees. The furry pollinators benefit vastly from the nutrition of these bright yellow flowers, but sadly the crops are often heavily treated with pesticides.

## Raspberries

Raspberries require insects to insure pollination as the crops otherwise would be misshapen, smaller and fewer. These powerful berries can help reduce the risk of cardiovascular disease, cancer and diabetes.

#### Strawberries

Bee pollination is not essential, but many farmers use bees to complement wind pollination as insect pollination can help produce berries of higher quantity and quality.

## Sunflower spread (oil) and seeds

The heavy and sticky character of sunflower pollen requires it to be carried by bees and other pollinators rather than wind. If you are using sunflower spread on your sandwich or eat granola with sunflower seeds, you might need to switch to an alternative if bees die out.

# Lunch / Dinner



How your Lunch / Dinner is affected

## Cucumbers

Without bees, the majority of cucumber crops would not exist (so no more pickles on your burger). It has been reported that cucumber farmers have already seen a significant decrease in their crop yields.

#### Mustard

One third of all mustard plants require bee pollination, meaning a significantly smaller dash of mustard to go with your meal. Mustard is not solely used as a condiment; the seeds can help treat inflammatory conditions such as arthritis.

### Onions

Onions are harvested before blooming and only require pollination when grown to produce seeds. Fewer bees would make it difficult and expensive for farmers to acquire seeds, which would result in a diminished supply and increased prices.

## **Peppers**

Bees are not entirely necessary to pollinate peppers as wind tends to circulate the pollen, but the quality and quantity is significantly improved when pollinated by insects. Today, bees are often used to pollinate peppers growing in sheltered locations or greenhouses, which means we are able enjoy locally-sourced peppers, even out of season. That would change without bees.

#### **Potatoes**

Although the potato plant does not require bee pollination to produce, it needs to be pollinated in order to breed, which means supply would most likely decrease significantly.

# Sesame seeds

More than 80% of all pollination is performed by insects, and bees comprise nearly 80% of the total insect population. Due to their rich nutritional value, sesame seeds play an important role in many people's diets. A decline in bees would not only result in seed-free bread for your burger, it could, more importantly, lead to increased malnutrition in some of the world's poorest countries.

#### **Tomatoes**

While most tomato types are self-pollinating, bees can help increase fruit production and quality significantly. Hence, without bees, the supply of one of our best-loved vegetables would sadly diminish.

## Dessert



How your Dessert is affected

# **Apples**

Apples are heavily reliant on cross-pollination and are one of the foods that would suffer most if bees disappeared. An absence of bees would result in a drastic price increase as well as a lower quality of crop, taste and nutrient profile.

## Blackberries

These delicious summer berries are dependent upon bees for pollination. If bees died out, the effectiveness of pollination would drop and plants would produce significantly fewer seeds.

#### Kiwi

Bumblebees are especially effective pollinators of kiwifruits as their large and furry bodies carry a great amount of pollen. Without bees, these vitamin C rich fruits are at risk.

# **Pumpkins**

Massively dependent on pollinators, it is estimated that 90% of pumpkin, squash and gourd crops would disappear with the bees. That means no pumpkin carving or pumpkin pies.

#### Conclusion

In a world without bees, our food would not be as tasty, nutritious or plentiful. Some of our favorite foods would disappear completely whilst others would be scarce and expensive. Here we have highlighted the vegetables, fruits, nuts and seeds that are dependent on bees, but even meat and dairy products would be at risk as many cows' diets consist mainly of pollinator-dependent alfalfa and clover.

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