

# Hello Trees Resource Sheet



## What to think about anytime Insect pollination: its vital importance

Let me convince you of the importance of insect pollination.  
What about: **No insect pollination, no strawberries!**  
And no strawberries and cream or strawberries and ice cream.



Also no peas, beans, or lots of other vegetables.

No onions to make stews and cottage pie and beef burgers tasty.



No apples, plums, peaches, nectarines, blue berries, raspberries ...

What other foods can you think of?

Meat, eggs, fish, bread, pasta, tomatoes, herbs, onions, carrots, sugar, honey, jam, butter, margarine, salad cream, cheese, milk, sweetcorn ... I am sure you can think of many more.



I don't think fish are dependent on insect pollination, but I can make a case for a lot of the rest being dependent in some way on insect pollination.

Our breakfast cereals, bread, pasta and tortilla chips come from corn, wheat or oats which are wind pollinated - but all need to be grown in nutritious soil.



A vital soil nutrient is nitrogen. Farmers get nitrogen into their soil by growing nitrogen-fixing crops in their fields in some years and then cereals and root crops in other years.



This is called crop rotation.

Clover, peas, and beans are nitrogen-fixing plants.

They grow best in loose soil so farmers grow root crops to break up the soil the year before.



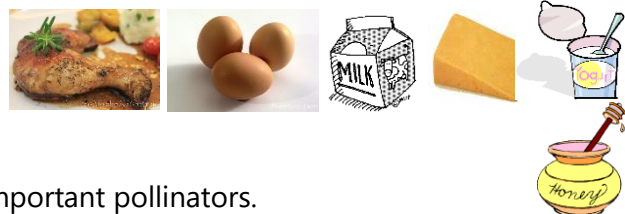
Farmers choose crops that they can sell to supermarkets or for animal feed. Some of them depend on insect pollination.

See the white flowers in the photograph of a field of pea plants?

Each pea flower must to be pollinated if it is to develop into a pea pod.

We buy the peas and that helps the farmer stay farming.

We get meat, eggs, milk, cheese and yogurt from creatures that get fed in winter from animal feeds, some of which are insect-pollinated.



Honey is made by honey bees, themselves important pollinators.

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Much of our sugar comes from sugar beet which I thought would be insect-pollinated, but it turns out that the beet is harvested before it flowers.



So what is insect pollination? It is the transfer by insects of pollen from one part of a flower to another so that seeds can develop.

**No pollination, no seeds.**



What do we mean by 'seeds'?

From seeds, new plants grow. That is why plants – including trees – produce seeds. The plant can only make seeds if its flowers have been pollinated.



Sometimes the pollen falls from the anthers on to the stigma of the same flower.

This is called **self pollination**.



Sometimes the pollen comes from other flowers of the same kind of plant.

This is called **cross pollination** and it has important advantages.

Pollen is carried by wind or insects or, sometimes, by birds or animals.



What have seeds to do with fruit and vegetables?



Let's make a list of all the fruits and vegetables we can think of.



Now think whether they have a seed or seeds in them, or on them – or whether they are not a seed at all.

We know pips are seeds, but even so, some of the answers are not obvious.



Obviously peaches, pears, plums and apples have pips inside them. The tree forms the fruit as a whole would not develop if the tree was not making that seed.

Strawberries don't have pips inside but they do have tiny seeds on the outside.



What about potatoes and carrots?

Potatoes and carrots are not seeds. They are swollen roots full of goodness.



Not all oranges, easy-peelers and grapefruits have pips in them.

This is because they have been cultivated in a special way to satisfy



fussy people who don't like pips in their fruit.

Trees grown naturally produce fruit with pips.



Don't we need this year's seeds to grow next year's crops?

That can be true for gardening at home or school or in an allotment.

However, the food we buy in shops often comes from big farms where things are done differently to be sure of large quantities of top quality, uniform produce.

To find out more about pollinators, and insect pollinators in particular, see the Hello Trees Resource Sheet [Insect pollinators: the role of trees](#).