

Eating fruit foraged from a city is generally safe, but there are a few important things to consider when it comes to where, how and what to pick. This factsheet explains all you need to know to harvest food safely in a city, backed up by recent scientific research.

Urban foraging: Is food grown in cities safe to eat?

FORAGING IN THE CITY

Foraging can be a wonderful way to explore an urban neighbourhood from a culinary perspective. Yet many people remain uncertain as to whether whether street or city fruit is contaminated by pollution, and therefore really safe to eat.

To get to the bottom of this question, the Technical University of Berlin sampled fruit and vegetables from 172 locations across Berlin. The results of their research and its implications are explored below.

SOIL POLLUTANTS

Our soil and the plants growing in it are exposed to pollutants such as:

- inorganic heavy metals
- persistent organic substances (POP)
- acidifiers and drug residues

which can all pose a threat to human health. These pollutants are found in the city as well as the countryside.

In rural areas they tend to come from liquid manure, fertilizers, sewage sludge, or from air leaching. In urban soils, they predominantly come from fine dust from industry and heavy road traffic.

Fine dust and abrasion are deposited in the ground over time and get into the humus layer in which plants are rooted.



Fruit and vegetables grown in cities are safe to eat when you know what to pick - and where



Tests in Berlin have shown that some city-grown fruits and veggies actually had lower levels of harmful pollutants than supermarket produce

GOOD NEWS FOR URBAN FORAGERS!

Despite the fact that the soils in Berlin are exposed to many pollutants, results from research conducted by the Technical University of Berlin concluded that the concentration of lead and cadmium in city fruit is mostly comparable or even significantly lower than in fruit from the supermarket!



RESULTS

On average, berries accumulate more heavy metals than stone fruits and pome fruits (like apples and pears), whilst nuts accumulate the least. Vegetables that grow above ground or in the ground are generally more heavily polluted than fruits that grow on trees, regardless of the site conditions. Leafy greens and herbs accumulate large amounts, root vegetables moderate amounts, and legumes lower amounts of heavy metals.













The higher the traffic load in the vicinity of the plant location, the higher the heavy metal load in vegetables and fruit. However, the heavy metal load in vegetables and herbs also depends on the distance from the road.

At a distance of less than ten metres, two-thirds of all vegetable samples were above the EU limit for lead; at a distance of more than ten metres, only a third exceeded this limit. On sites with a protective hedge between the crop and the road, only a third of all vegetable samples exceed this limit. City soils are still better, on average, than non-organic commercial garden soil.

RECOMMENDATIONS

From these findings you can derive the following practical rules for yourself:

- Fruits from trees and nuts can be safely harvested anywhere in the city.
- When foraging berries and herbs, try to do so from a distance of at least 10 metres from the road, if not more.
- For very busy roads, ensure there is a distance of at least 20 metres, if not more.
- If there is a hedge growing between the road and the harvest site, the food is likely to be safer to harvest.
- If you want to plant something yourself, make sure you use organic garden soil, as non-organic soil can often contain heavy metals.

	Higher in city fruit	City fruit = Supermarket fruit	Higher in supermarket fruit
Lead	 5x		 2x 4x 16x
Cadmium	 2x		 2x 3x 39x
	Higher in city veggies	City veggies = Supermarket veg	Higher in supermarket veggies
Lead	 2x 2x 5x 5x		 3x 11x
Cadmium	 4x 4x 11x		 2x 8x

Average lead and cadmium levels in the fruit, vegetables and nuts harvested in Berlin's city centre and compared to supermarket products: apple, plum, mirabelle plum, blackberry, elderflower, sea buckthorn, walnut, hazelnut, potato, tomato, kohlrabi, chard, green beans, white cabbage, thyme, basil, peppermint, nasturtium (based on Säumel 2013 study in German)