

Potatoes, nutrition and diet

Potatoes are very popular worldwide and are prepared and served in many different ways. Freshly harvested potatoes contain about eighty percent water and twenty percent dry matter. About sixty to eighty percent of the dry matter is starch. On a dry weight basis, the protein content of potatoes is similar to that of cereals, and is very high in comparison with other roots and tubers. In addition, potatoes are low in fat.

The nutritive value of a meal containing potatoes depends on other components served with them and also on the method of preparation. On their own, potatoes are not fattening, and the feeling of satiety that comes from eating potato can actually help people to control their weight. However, preparing and serving potatoes together with high-fat ingredients increases the caloric value of the dish.

The starch in raw potatoes cannot be digested by humans, and so potatoes are always cooked before being eaten. Each preparation method affects potato composition in different ways, but all reduce fibre and protein contents.

Boiling is the most common way to cook potatoes, and it causes a significant loss of Vitamin C, especially in peeled potatoes. Frying in hot oil results in high absorption of fat and significantly reduces mineral and ascorbic acid content. In general, baking causes slightly higher losses of Vitamin C than boiling, but losses of other vitamins and minerals are lower.

As part of the potato plant's natural defences against fungi and insects, the leaves, stems and sprouts contain high levels of toxic compounds called glycoalkaloids (usually solanine and chaconine). These are normally found at low levels in the tuber, and the greatest concentrations are just under the skin. Potatoes should be stored in a cool dark place in order to keep glycoalkaloid levels low. Exposure to light makes potatoes turn green, and this can indicate higher levels of solanine and chaconine. Cooking does not destroy glycoalkaloids, and this is why green areas and potato skin should be removed before potatoes are cooked.

Exercise A: Match the underlined words above to the meanings.

- | | | |
|------------------------------|---------------------------|-----------------------|
| 1. in fact | 6. to change | 11. lipids |
| 2. to conserve | 7. alone | 12. a little |
| 3. to eliminate | 8. cooking in hot fat | 13. a polysaccharide |
| 4. with the skin removed | 9. to raise | 14. the surface layer |
| 5. cooking in very hot water | 10. cooking in a hot oven | 15. to collect |

Exercise B: TRUE or FALSE?

- Potatoes have a high calorie content
- They contain more water than dry matter.
- Starch is an important component of potatoes.
- Boiled potatoes lose some vitamins during cooking.
- Leaves and stems are less toxic than tubers.
- Solanine is more toxic than chaconine.
- Fried potatoes absorb fat during cooking.
- Green potatoes are good to eat.
- It is a good idea to protect potatoes from the light.
- Starch is easy to digest.

Exercise C: Answer the questions with complete sentences (i.e. subject + verb + object)

1. What influences the calorie content of a meal with potatoes?
2. How can they help people to diet?
3. Why is it important to cook potatoes?
4. How do all cooking methods affect the content of potatoes?
5. Which do you think is the best cooking method for potatoes?
6. Why do potato plants contain toxic compounds?
7. Where should you store potatoes?
8. What makes potatoes turn green?
9. Is it possible to eat the leaves of the potato plant?
10. Which part of the potato tuber contains the highest levels of glycoalkaloids?

Exercise D: Complete the summary using the words below.

toxic - vegetable - thinly - brown - avoid - potatoes - cold - ideal - small - knife - cook - under

The world's favourite root (1)..... comes in innumerable varieties. Shapes vary from (2)..... ('finger') potatoes to large, round types. Most have pale (3)..... skins and cream or yellow flesh, but some varieties are differently coloured. 'Waxy' potatoes are (4)..... for salads, while 'floury' potatoes are good for mashing and baking.

Choose firm potatoes, and (5)..... those that are cracked, have sprouts, wrinkles or green patches. The thin skin of new (6)..... can rub off, but other potatoes should have no bald patches. Choose your potato according to how you want to (7)..... it.

Older potatoes should be scrubbed well in (8)..... water, and any "eyes" should be dug out with the tip of a peeler or a small, sharp (9)..... Much of the nutritional content is stored in or just (10)..... the skin, so leave it on if possible. Otherwise, peel very (11)..... with a potato peeler, then rinse. New potatoes just need a scrub in cold water. If any area of a potato is green, it is mildly (12)..... and should be scraped or cut off.