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# Food Additives

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*A recent study showed that some children may become more hyperactive after consuming certain food colourings. This has led to calls from some groups for all food additives to be banned. What do you think?*

## What are food additives?

Food additives are not new. For centuries people have been putting colourings, flavourings and preservatives into their food. Since 1986 additives have to be identified with an E-number. E stands for European and shows that a particular additive has been licensed for use in the EU. If a food contains additives, this must be declared on the packaging.

Food additives fall into 6 categories:

- Colours
- Sweeteners
- Antioxidants
- Preservatives
- Texture modification – emulsifier, stabilizer, thickener, gelling agent
- Flavourings.

Some additives can have different functions in different foods. For example, vitamins and minerals which are added to foods are considered to be 'fortifying' the food and are not counted as

additives. Confusingly, sometimes ascorbic acid (vitamin C) is used as an antioxidant and then it is given an E-number, E300.

Many other additives are also familiar. E260 is acetic acid (also known as ethanoic acid). This is the main constituent of vinegar. E150 is caramel which can be made by burning sugar. E500 includes sodium carbonate which includes the main ingredient of baking powder. If you are feeling rich, E175 is gold (sometimes used in Indian celebratory meals).

Some additives are natural, some are manufactured by the chemical industry. Some, like vitamin C, can come from either natural or artificial sources. As with every other component of food, however, all additives are chemicals. Even organic food can contain a certain number of additives.

The most important food additives are arguably the preservatives. These keep food fresh and keep the numbers of microbes down so that we do not get food poisoning. People have been preserving food for thousands of years using chemicals. This has included using acetic acid in vinegar to pickle food, nitrates and nitrites to cure meats and gelling agents such as pectin to make jam.

In addition to the 'E numbers' there are a large number of compounds which can be added to improve the flavour of a product. These do not have an E number. There are nearly 3000 flavourings which can be legally added to foods.

## Key words

double blind  
placebo

## Are additives harmful?

The answer to this question is probably that some additives are harmful at certain levels to some people. All additives are subjected to continuing safety checks and sometimes some have their licence withdrawn and can no longer be used if they are found to be unsafe.

Most food intolerances are caused by naturally occurring molecules in food. For example, some people cannot tolerate gluten which is a component of wheat. Others have a reaction to lactic acid which is found in milk and dairy products. The solution to these intolerances is to avoid the foods which cause the problems and the same is probably also true of additives.

## Do colourings cause hyperactivity?

The Food Standards Agency (FSA) recently commissioned a study to see if there was a link between certain food colourings and hyperactivity or attention deficit disorder (ADD) in children. They selected a group of 130 children aged 3 and 8 who had a range of hyperactivity from none or very mild to severe cases. They were studied for 6 weeks in a **double blind** trial. The children were given a drink every day of each week – but in some weeks it contained colourings and preservatives and in other weeks it did not – it was a **placebo**.

Neither the parents nor the researchers knew at any given time which children were consuming the colourings.

Assessment was carried out in the child's pre-school or school and included a daily observation by a research assistant. In addition, ratings of the children's behaviour were made by parents and by teachers throughout the six-week study period. The parents and all members of the study team were 'blind' (they did not know whether the child was having the colourings or the placebo), apart from the study administrator.

When all the results were in, they were analysed. The researchers found that children responded in different ways to the colourings. Some showed markedly worse behaviour when they had eaten the colourings; others showed very little difference. For the group as a whole, though, there was an increase in the level of hyperactivity when the colourings were consumed.

There have been various studies by other teams of researchers and the results of them altogether are so far inconclusive. None of the food colourings which were monitored have been banned.

## For debate

The following views have been expressed in various newspapers and websites about the food colourings debate. What do you think?

Until there is research showing that these are bad for all children, the government should not ban any of them.

Children don't get to choose their own food – it is given to them. These colourings should be banned as 3-year-olds can't choose not to eat them.

Children might be doing worse at school than they otherwise would because they can't pay attention in class after eating the colourings.

It's parents' responsibility to make sure that their children have a healthy diet. The government should stay out of it.

## Look here!

For further information about the trial, how it was carried out and the results see the report on the Food Standard's Agency website <http://tinyurl.com/yv3p5d>

For a list of the E-numbers and what they are see <http://tinyurl.com/yvlh29>