

## Extra Tips

- \* Fructose & sorbitol may be found in some medications.
- \* Inulin and Fructo-oligo-saccharides (FOS), both sources of fructans, are sometimes added to foods such as yoghurt.
- \* Unless contra-indicated, adding a small amount of glucose powder when cooking high fructose fruits, can assist fructose absorption.

## Finding Tolerance Level

- Fructose tolerance is dose-dependent, and small quantities may not cause symptoms.
- After an initial low fructose diet for 4-6 weeks, high fructose foods may be slowly re-introduced to find tolerance level.
- As fructose can take up to 3 days to pass through the digestive tract, start by trying a small amount of a “problem food” every four days. If this is OK, try having it more frequently, then build up the quantity. Cut back again if symptoms start to recur.

## Hereditary Fructose Intolerance (HFI)

HFI is a rare genetic condition which causes severe toxic symptoms. It requires strict avoidance of fructose, and ongoing medical treatment. The advice in this pamphlet is not suitable for this condition.

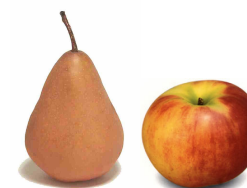
### Acknowledgements:

“Irresistibles for the Irritable”, by Sue Shepherd  
Dept of Food and Nutrition services, University of Iowa  
Allergy Advisor Digest



# Fructose in Foods

## - Information on Fructose Malabsorption



- **Fructose** is a type of sugar found in almost all fruits, honey, and in many vegetables.
- Some people have a problem called **Fructose Malabsorption**. This occurs if they aren't able to absorb fructose from their small intestine properly .
- **Common symptoms** include bloating, wind, pain, nausea and diarrhoea or watery stools.
- This condition can occur in healthy infants, children and adults, as well as those with functional bowel disease such as Irritable Bowel syndrome.

**Fructose** is found in most fruits, honey and some vegetables, but not all foods that contain fructose need to be avoided. How well fructose is absorbed depends on the concentration of other kinds of sugars in the food, such as **glucose, sucrose** and **sorbitol**.

\* **Glucose** and **Dextrose** can improve absorption, especially if there is more glucose than fructose (a high glucose to fructose ratio).

\* **Sucrose (cane sugar)** is broken down during digestion into equal amounts of glucose and fructose, and may be tolerated in small amounts. However, large amounts of sucrose will release too high a total load of fructose.

\* **Sorbitol** is a sugar alcohol found in some fruits, and is often used as a sweetener. Sorbitol will usually decrease fructose absorption, and worsen symptoms.

\* Some people will also have a problem with **fructans**, which are fructose units linked in long chains. Wheat, in particular, has significant levels of fructans.

### Dietary Treatment

- In some cases, simply cutting out **fruit juice** may be enough to alleviate symptoms. For infants, whole or mashed/pureed fruit is recommended instead of juice, Fruit juice intake should be no more than about half a cup per day.
- Some people will need to limit or avoid common problem foods to control symptoms (see list next page).
- Very sensitive people may require even greater restriction of fruit and vegetables, if symptoms persist.

### Common Problem Foods

The following foods are either high in total fructose content, contain a higher ratio of fructose compared to glucose, or contain significant amounts of sorbitol or fructans.

- **Fruits**

*Apple	*Cherry	*Grape	*Guava
*Honeydew	*Lychee	*Mango	*Paw Paw
*Persimmon	*Pear	*Quince*	*Watermelon

\*Large amounts of dried fruit or fruit juice

\*Foods containing **apple or pear concentrate**

\*Large amounts of stone fruit (sorbitol)

\*Plum sauce, sweet and sour sauce

- **Vegetables (fructans)**

*Artichoke	*Aparagus	*Chickory	*Leek
*Onion	*Radicchi	*Spring onion	

Tomato paste, chutney, barbeque sauce

- **Coconut milk and cream**

- **Honey**

- Foods with a lot of **High Fructose Corn Syrup**, or **corn syrup solids**

- Large amounts of high sugar foods, such as soft drinks, cordials and confectionary

- Large amounts of **wheat** (fructans)

