



WAGENINGEN UR

*For quality of life*

wetenschapswinkel



## Met yacón de boer op

Vaststellen van de grenzen aan bruikbaarheid,  
verwerkbaarheid en geschiktheid van yacón

Arnold Braaksma  
Conny van der Heijden

Rapport 233

## English Summary

Yacòn is a multi purpose plant which can be eaten raw (tuber) as well as processed (tuber, leaf). Furthermore, it is used as source for inulin (tuber) or as animal feed (tuber, leaf). This project is aimed mainly at the yacòn tuber.

Yacòn can be compared with celeriac, a product comparable due to its structure and to its tendency towards strong discoloration. It has potential as an ingredient in mixed salads, however, discoloration should be prevented for instance by dipping in citric acid or a dressing rich in acid. When it is finely cut or grated, comparable with celeriac salad, citric acid is a necessity. Discoloration can also be prevented by blanching. The role in salads etc is then more a decorative one, since the characteristic fruity aroma is lost upon blanching or cooking.

The texture is maintained, also by prolonged cooking, but the taste becomes more neutral, which might be an advantage dependent upon the application.

Frying is not to be recommended; it takes up a clear oily taste. This in combination with the destruction of inulin into fructose and glucose, gives the product a distinct taste of a fruity sweet flavour combined with an oily taste.

Yacòn can be considered as a low-calorie product. In terms of glycemic index the inulin can be regarded as fibre fraction and a fibre fraction has been considered as good in prevention of certain forms of cancer. Due to its low calorie content, yacòn might be used to make puree, comparable to puree from celeriac or cauliflower for reasons to lose weight. Certainly compared with mashed potatoes the calorie intake is much lower. The fruity flavour, unwanted in this application, will disappear during cooking.

In contrast to chicory, the current source for industrial inulin, the inulin chain length for yacòn remains the same during storage. The estimate chain length of 3 however, is too low to comprise an interesting alternative. The chain length of chicory is about 8 or 9. Furthermore the percentage of inulin in yacòn is 5 to 7 percent, whereas chicory contains 1.65 percent.

Nevertheless, the product is unique and has market potential. The following characteristics of yacòn have been identified:

- Special sweet taste for root-like products.
- Available during winter time, when alternatives (pear, melon) are not.
- Special 'bite' when cooked. As addition to for example soup.
- Yacòn provides fructose syrup and therefore a different sweet sensation than sucrose syrup from sugar beets.
- Because of its low-calorie nature, yacòn can be used as sweetener for diabetic (not part of this research) or in the battle against obesity.