

CHAPTER 1

INTRODUCTION

Carbohydrates are the single most important source of food energy in the world. They make up 40 to 80 percent of total food energy intake, depending on locale, cultural considerations and economic status. Those persons with high carbohydrate diets are often in the lower economic strata as foods high in carbohydrate, such as cereal grains, are most often the least expensive (FAO, 1997a).

For many years, starch was considered little more than fattening bulk (Johnson & Gee, 1996). For over thirty years there has been a misconception in North America that starch is fattening and should be excluded from the diet (Stephen, 1994). Some people also avoid eating starchy foods, because they believe it is an indicator of non-affluence (Stephen, Sieber, Gerster & Morgan, 1995). Throughout the 1980s, however, there was a major re-evaluation of the importance of starchy foods in Western diets. This was partly because they came to be seen as a major source of dietary fibre and partly because it was recognized that, despite their bulk, cereals and starchy vegetables were low in fat and therefore also relatively low in energy (Johnson & Gee, 1996).

In South Africa remarkable changes are taking place in the diet of African Blacks during their transition from a traditional rural to an urbanised lifestyle. With their traditional lifestyle in past generations, degenerative Western diseases like diabetes were nearly absent in the Black population. Now the prevalence of some of these diseases are higher than in the White population (Cannan & Walker, 1997). It is predicted that in South Africa, diabetes will become an increasing public health burden; especially among the local Black urban dwellers rising in socioeconomic state (Walker & Walker, 1991). Since Blacks constitute 76% of the total population in South Africa (Directorate: Agricultural Statistics and Management Information, 1998), this problem can have far-reaching consequences.

It is suspected that traditionally prepared and cooked maize porridge (the staple food of many rural Blacks in South Africa) could have some beneficial health effects that could be useful in the management of diabetes (Venter, Vorster, Van Rooyen, Kruger-Locke & Silvis, 1990). Traditional stiff maize porridge is shown in Figure 1 together with an example of the maize meal used in this study



Figure 1: Traditional stiff maize porridge (left) and laboratory milled maize meal (right)

With urbanisation maize porridge is often replaced by bread (Mmakola, Kirsten & Groenewald, 1997). This change in carbohydrate staple is one of the factors that could have played a role in increasing the incidence of diabetes among South African Black people.