



SORGHUM IN HUMAN FOOD

*PASTA NUTRACENTIS: Monia CARAMMA
(Agricoltura Biologica Company)*

FOOD INNOVATION



Since 2015, **Agricoltura Biologica** srl produces functional pasta with the **Nutracentis** brand

The choice to use sorghum was the result of a search for cereals that have a positive impact on **consumer wellbeing** and that respect the world **sustainability**



Traditional methods: bronze drawing,
minimum drying 19 hours

Innovation: minimum use of water in the
mixture to maintain the naturally compact
dough.

We do not use thickeners, emulsifiers, mono
and diglycerides of fatty acids



SCIENTIFIC PUBLICATIONS

The **scientific** studies available on PUBMED demonstrate the positive impact of a **sorghum-based diet** in combating even serious diseases such as **colon, breast and diabetes**.

Sorghum is rich in **anthocyanins** and has a **low glycemic** index. The **iron** content helps to minimize the effects of chemotherapies

			%VNR*
VALORE ENERGETICO	329 Kcal/1377 Kjoule		16,4 %
PROTEINE	11 g		22 %
CARBOIDRATI	75 g		28,8 %
DI CUI ZUCCHERI	0 g		0 %
GRASSI TOTALI	3,3 g		4,7 %
DI CUI SATURI	0,5 g		2,5 %
FIBRE	6,3 g		
SALE	0,006 g		0,1 %
FERRO	4,4 mg		55 %
FOSFORO	287 mg		41 %
VIT. B1 (TIAMINA)	0,2 mg		19 %
VIT. B3 (NIACINA O PP)	2,9 mg		18 %

*VNR Valori Nutritivi di Riferimento - Riferiti ad un adulto sano con consumo medio giornaliero di circa 2000 Kcal



Short Communication

A SCITECHNOL JOURNAL

Effects of Sorghum Pasta Production Techniques on Health and on Protection of Nutritional Values

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Abstract

Sorghum is a cereal of strategic importance both for human and animal nutrition due to special nutritional characteristics and the adaptability to warm climates, such as the African one. Many studies focus primarily on the effects on diabetes and on prevention, or on oncological disease. If established; more rarely it is analysed the techniques of cultivation and transformation, with attention to the production of pasta. Sorghum is an essential food component of the Mediterranean diet and in gluten free formulations it is often composed of flours, emulsifying additives and water. What are the effects of certain additives is yet to be determined especially on individuals affected by nutritional and intestinal disorders.

Keyword: Sorghum; Sorghumpasta; Nutraceutical; Functional Food; Glutenfree Pasta

Introduction

In 1998 I started suffering from irritable bowel syndrome (IBS), Crohn's disease and gastroesophageal reflux. Doctors, years ago, had no literature on these diseases and limited to treating the symptom with painkillers and drugs to inhibit the gastric pump. It was after endless research that I understood the possible correlations between disease and nutrition [1]. I started to investigate agronomic techniques, cultivation, genetic improvements of cereals, conservation techniques and transformation of raw materials up to the pasta production. The attention went immediately to the sorghum; cereal that does not need constant artificial irrigation because of the ancient seed is genetically predisposed to climate adaptation. It does not even need nitrogenous soils or conventional fertilizers [2]. The grains obtained from organic farming are milled and transformed into flour with blond granulometry, which results in less water absorption. The result is a solid dough which, drawn in bronze, keeps the shape of the dough without breaking. The prolonged drying after 19 hours at low temperature

guarantees the evaporation of excess water and the maintenance of the structure, as well as the lower dispersion of nutrients [3]. Drying at high temperatures in a short time (HTSt High Temperature-Short time, VHTs Very High Temperature-Short time) creates a measurable thermal damage from the amount of furosine present in the paste. Pasta with values of furosine lower than 200, is considered a product with a good index of nutritional quality, because the quantity of essential aminoacids such as lysine remains high. When a value of 5/600 is found (in durum wheat pasta), it means that the drying temperature is very high and in these cases the bioavailability of the lysine undergoes a strong downsizing [4]. The pasta production technique described above does not require emulsifiers or aggregates such as mono and diglycerides, contrary to what is indicated in some studies of standardization of production techniques [5]. A pure food that is rehydrated in cooking water in a very short time about 4min, with minimal dispersion of nutrients. The nutritional analyzes show that the sorghum maintains the nutritional values and has high digestibility thanks to the amount of starches and fibers [6].

Conclusion

The amount of iron and phosphorus suggests a relevance in countering the side effects of chemotherapy; the study started on 7 April 2017 is still open and will soon give us results both with objective data (blood values) and subjective data (perception of quality of life). We analyze the effects of a diet with daily intake of sorghum pasta in chemotherapy patients with colon and breast cancer.

References

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