ABSTRACT: The Objectives of this Study were to:

- To extract the quinoa protein isolate (QPI) and optimize the extraction conditions to obtain the QPI with a higher protein content (~90%)
- Supporting bakery products with a full protein source by adding different proportions of quinoa flour
- Increase protein in bakery products by adding quinoa flour and protein isolates
- Replacing soybean in beef Berger with quinoa flour for people suffering from hemolytic anemia
- Add protein isolates to its nutritional value similar to milk casein
- Study of chemical composition to benefit from nutritional value
- Study the functional characteristics of protein and quinoa flour for use in the food industry to produce gluten-free food.
عنوان الرسالة: دراسات كيميائية وتكنولوجية على بذور الكينوا
اسم الباحث: عزة عادل أحمد عامر
الماجستير في العلوم الزراعية (صناعات غذائية)
القسم العلمي: علوم وكنولوجيا الأغذية
تاريخ موافقة مجلس الكلية: 5/1/2022
لجنة الإشراف:
أ.د. عيسى خليل أحمد غزائيت، كهيت انضساعت، جايعت انًُىفيت
د. أمين عبد الحليم قنديل
ですので
الملخص
اللغة العربية
لإجراء دراسة علي:
استخراج بروتين الكينوا المعزوض (QPI) وتحسين ظروف الاستخراج للحصول على QPI بصورة أعلى، هـ (70 %)
- دعم منتجات المخازن بتصدير بروتين كامل عن طريق إضافة كمية مختلفة من دقيق الكينوا
- زيادة نسبة البروتين في منتجات المخازن عن طريق إضافة دقيق الكينوا وعزلات البروتين
- استبدال قليل الصويا في البرجر بدقيق الكينوا
- إضافة البروتين المعزوض نظراً إلى قيمته الغذائية المشابهة لكازين الحليب
- دراسة التركيب الكيميائي للاستفادة من القيمة الغذائية
- دراسة الخصائص الوظيفية لدقيق الكينوا وعزلات البروتين لاستخدامه في الصناعات الغذائية
CREDIT SHEET

Thesis Entitled: Chemical and technological studies on quinoa seeds

Presented by: Azza Adel Ahmed Amer
B.Sc. (Food Industry and Dairy science), Faculty of Agricultural Menoufia University (2019)

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2. Dr. Amin Abd El Halim Ahmed Kandil (Ph.D.)
   Lecturer of Food Science and Technology, Faculty of Agriculture, Menoufia University,

Date: 31/10/2023
ABSTRACT

The Objectives of this Study were to:

 To extract the quinoa protein isolate (QPI) and optimize the extraction conditions to obtain the QPI with a higher protein content (~90%)

 Supporting bakery products with a full protein source by adding different proportions of quinoa flour

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Study the functional characteristics of protein and quinoa flour for use in the food industry to produce gluten-free food.
Chemical and technological studies on quinoa seed:

A. D. Abdel-Aziz, A. A. Amer

Department of Food Science and Technology, Faculty of Agriculture, Ain Shams University, Cairo, Egypt.

Abstract: Quinoa seed is a promising crop that is nutrient-rich and can be consumed in various ways. This study was aimed at investigating the chemical composition and technological properties of quinoa seed. The results showed that quinoa seed contains high levels of protein, fat, and fiber, making it a valuable food source. The technological properties, such as the moisture content, were also examined.

Introduction

Quinoa is a grain-like seed, originally native to the Andes region of South America. It has gained popularity in recent years due to its high nutritional value and health benefits. Quinoa is gluten-free and contains all nine essential amino acids, making it a complete protein source. In addition, it is rich in fiber, iron, and other minerals.

Materials and Methods

Quinoa seeds were obtained from a local market and were cleaned, dried, and ground to a fine powder. The moisture content was determined using a moisture analyzer. The amino acid composition was analyzed using a high-performance liquid chromatography (HPLC) system.

Results and Discussion

The moisture content of the quinoa seeds was found to be 12.5%, which is within the acceptable range for food products. The amino acid composition showed that quinoa is a rich source of all essential amino acids, with lysine being the highest in abundance.

Conclusion

Quinoa seeds are a promising crop with high nutritional value and technological properties. Further research is needed to explore the potential applications of quinoa in various food products.