



Published by
Faculty of
Biotechnology and
Food Sciences

LEGUMES UTILISED IN TRADITIONAL FOODS IN IRAQ

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ARTICLE INFO

Received 4. 10. 2013
Revised 17. 10. 2013
Accepted 8. 1. 2014
Published 1. 2. 2014

Review



ABSTRACT

Iraq is famous in the traditional food from legumes, especially chickpea, lentil, and beans are fresh and dry seeds and as well as for peas, beans and the seeds of faba, cowpea and chickpeas boiled with salt eaten in the form of Lablabe, or make soup from fresh cowpea, fresh faba bean, fresh fasoulia, as well as lentil soup (shorbat adas) and different kinds of salad. Turshi, pickled vegetables and fresh pea, fresh fasoulia in the cuisine of many Balkan and Middle East countries. It is a traditional appetizer, meze. Chickpea is eaten on form falafel. The cuisine of Iraq reflects this rich inheritance as well as strong influence from the culinary traditions of neighbouring Persia, Turkey and the Syria region area. Meals begin with appetizers and salads known as Mezza. Some popular dishes include kebab (often marinated with garlic, lemon and spices, then grilled). It can be challenging to help people adjust their diet to meet their nutrient needs and promote weight loss, while at the same time still keeping them satiated. Nutrient rich legumes can be a valuable part of such a diet. They contain soluble fibre and protein and are low glycemic index, all of which may help promote satiety. Legumes are one of the most sustainable sources of protein in the world. Legumes are also significant sources of resistant starch, which is fermented by colonic bacteria to short chain fatty acids.

Keywords: traditional foods, legumes, Iraqi regional foods

INTRODUCTION

Cereals, together with oil seeds and legumes, supply a major part of the dietary needs to a vast majority of the populations in low-income countries. Cereals may account for as much as 77% of the total energy consumption in African countries and also substantially contribute to the daily protein needs. Of the micronutrients, cereals provide significant amounts of minerals such as iron and zinc, and some B-vitamins. However, only minor amounts of provitamin A are present. Irrespective of the favourable content of many nutrients, cereals need proper preparation techniques in order to make these nutrients available for absorption. Minerals and proteins may be largely unavailable for absorption due to presence of certain antinutritional factors. However, these factors can be substantially reduced with the help of traditional food processing technologies such as, soaking, germination and fermentation, and with input of new knowledge in enzyme technology and molecular biology.

Legumes a class of vegetables that includes beans, peas and lentils are among the most versatile and nutritious foods available. Legumes are typically low in fat, contain no cholesterol, and are high in folate, potassium, iron and magnesium. They also contain beneficial fats and soluble and insoluble fiber. A good source of protein, legumes can be a healthy substitute for meat, which has more fat and cholesterol. In many developing regions, women provide an essential a central role focused to sustain the family's food security. This vital link cannot be underestimated and has been more formally recognized through Women-in-Development (WID) programs. These programs, established in many universities, promote teaching, research, and action on international development and global transformation as they affect women and gender relations. They serve as catalysts for the scholarly discussion of gender, development, and global change on a wide range of issues. Specifically WID has served to facilitate agricultural development and the utilization of beans in indigenous diets (Ferguson, 1994). Legumes may be consumed as immature green grains, or the whole or dehulled grains may be boiled, parched, roasted, germinated, fermented, or cooked in different ways to suit specific tastes. Many of the processes were developed long before we knew about their scientific merits. Even today, we do not completely understand all the changes that occur in a grain during the course of processing, or how this may affect its nutritive value. But many of these traditional/mechanical methods of processing and cooking have largely been

confined to specific regions, and there has been little attempt to try new methods where established methods exist for utilizing a crop.

Fababeans are can be eaten while still young, enabling harvesting to begin as early as the middle of spring for plants started under glass or over wintered in a protected location. The young leaves of the plant can also be eaten either raw or cooked like spinach. Broad beans are eaten in a stew combined with artichokes, while they are still fresh in their pods. In Nepal, fava beans are called bakulla. They are eaten as a green vegetable when the pods are young, generally stir fried with garlic, in Iraq faba bean and tomatoes uses for preparing soup, or a popular snack eaten on boiled and roasted in oil with egg or onion.

HISTORY OF CULTIVATION AND USE OF LEGUMES IN IRAQ

Legumes have been an important crop ever since man started domesticating plants and have been part of our cultural heritage. Chinese literature records the cultivation of soybean between 3,000 and 2,000 B.C. Legumes also featured in the cropping systems of early Egyptian dynasties. The occurrences of pea and lentils have been reported by (Helbaek, 1966) at various archaeological sites such as Hacilar, Beidha and Jarmo, dating as far back as 7,500 to 6,500 B.C. The cultivation of crop is one of the oldest occupations of mankind and there might be secondary centers of diversity due to long history of continuous cultivation and records the cultivation of soybean between 3,000 and 2,000 B.C.

Legumes also known as "fertile crescent" of Mesopotamia (includes parts of Iran, Iraq. Legume production, processing and utilization are expected to expand in the future as further economic development takes hold in the region and as changing lifestyles compel more and more people to consume healthier foods. Among the ancient texts discovered in Iraq is a Sumerian Akkadian bilingual dictionary, recorded in cuneiform script on 24 stone tablets about 1900 BC. It lists terms in the two ancient Iraqi languages for over 800 different items of food and drink. Included are 20 different kinds of cheese, over 100 varieties of soup and 300 types of bread each with different ingredients, filling, shape or size (John, 2012). One of three excavated cuneiform clay tablets written in 1700 BC in Babylon, 50 miles south of present-day Baghdad, deals with 24 recipes for stew cooked with meat and vegetables, enhanced and seasoned with leeks, onion, garlic, and spices and herbs like cassia, cumin, coriander, mint, and dill. Stew has remained a mainstay in the cuisine. Extant medieval Iraqi recipes and modern Iraqi cuisine attest to this (Albala, 2011). Al-Iraq (Iraq proper, the ancient Babylonia) grows

rice and barley, citrus fruits, and is responsible for Iraq's position as the world's largest producer of dates (Davidson and Jaine, 2006).

IMPORTANCE OF LEGUMES IN HUMAN NUTRITION

Grain legumes occupy an important place in human nutrition, especially in the dietary pattern of low income groups of people in developing countries. They are normally consumed after processing, which not only improves palatability of foods but also increases the bioavailability of nutrients (Tharanathan and Mahadevamma, 2003). Legumes contain two to three folds more proteins than cereals, besides being good sources of dietary carbohydrates. Plant proteins are now identified biologically as active and functionally versatile dietary components and are cheaper substitutes than animal proteins (Machaiah and Pednekar, 2002). However, they frequently lose a part of their functional properties due to several circumstances such as pest infestation and pathogens during harvest and storage or when subjected to the conventional cooking processes including heat treatment. Moreover, the presence of the antinutritional factors can affect their nutritional functions, therefore, several methods are extensively used to minimize or to inactivate these antinutritional factors, among them gamma radiation is the one (Abu-Tarboush, 1998; EL-Niely, 2007). The interest in natural antioxidants has increased considerably in recent years because of their beneficial effects of prevention and risk reduction in several diseases. Phenolic compounds are biologically active substances, which are considered to be natural antioxidants (Rybarczyk and Amarowicz, 2007; Dueñas et al., 2009).

Phaseolus vulgaris seeds have a notable place in the folklore throughout the world and in the traditions of many cultures such as pharmacotherapeutic effects (Hangen and Bennink, 2002; Mishra et al., 2010). Legumes have been shown to help manage both cholesterol and blood glucose (Sievenpiper et al., 2009; Bazzano et al., 2011). Increased intakes are linked to the prevention of heart disease, diabetes and some cancers (Bazzano et al., 2001; Hwang et al., 2009). It is found that phytochemicals from legumes may be responsible effects (Campos-Vega et al., 2010). The second meal effect is the ability of legumes to lower both postprandial glycemia after the meal at which they are consumed and also at a subsequent meal later in the day or even on the following day (Higgins, 2012).

CHARACTERIZATION OF THE MOST IMPORTANT LEGUMES TYPES USED IN TRADITIONAL FOODS IN IRAQ

The legumes used by humans are commonly called food legumes or grain legumes. The food legumes can be divided into two groups, the pulses and the oilseeds. Pulses group consists of dried seeds of cultivated legumes, which have been eaten for a long time. The oilseeds group consists of those legumes used primarily for their oil content that may be extracted by pressing or by solvent extraction. Fava bean is a good source of protein, oil, crude fiber, dietary fiber, starch, sugars, vitamins and minerals. Dry beans are widely known for their fiber, mineral and protein contents; however, its nutraceutical value is yet to gain as much attention in the prevention of chronic diseases (Dinelli et al., 2006). Peas and broad beans are excellent all-round vegetables. They contain a wide range of micronutrients and are one of the best vegetable sources of protein. Chickpea, similar to other legume seeds, must be soaked and/or cooked before consumption, a procedure that improves the flavor and palatability of the food product and increases its nutritional bioavailability by inactivating antinutritional factors (Chau et al., 1997). However, it also decreases the levels of bioactive compounds and antioxidant activity of these foods, as has been shown for several seed legumes, including kabuli-type chickpea lines (Han and Baik 2008; Xu and Chang, 2008). Lentil hull imparts superior antioxidant benefits compared to whole seed and may retain/carry that benefit when incorporated into processed foods. The antioxidant advantage of lentil hull provides significant differentiation and may be better than the pea hull or fibers that reduce insulin resistance and fasting insulin levels in clinical trials (Hughes, 2010). Recently, *Phaseolus vulgaris* is gaining increasing attention as a functional or nutraceutical food, due to its rich variety of phytochemicals with potential health benefits such as proteins, amino acids, complex carbohydrates, dietary fibers, oligosaccharides, phenols, saponins, flavonoids, alkaloids, tannins, among others (Geil and Anderson, 1994; Mishra et al., 2010). Important biological activities have been described for fibers, phenolic compounds, lectins, trypsin inhibitors, and phytic acid from common beans like enhancement of the bifidogenic effect (Queiroz-Monici et al., 2005); antioxidant (Heimler et al., 2005); anticarcinogenic (Hangen and Bennink, 2002) effects. The potential influence of soy isoflavones on breast cancer prognosis as well as their interaction with the hormonal therapy tamoxifen have led to concern about soy food consumption among breast cancer patients.

POPULAR TRADITIONAL IRAQIAN MEALS OF LEGUMES

Some popular dishes include pulses and legumes such as lentils, chickpeas, green beans, and green grams. Local consumption is said to have stemmed a tradition among Iraqi Jews, who ate it. Iraqi cuisine utilizes more spices than most Arab cuisines. Soups and stews are often prepared and served with rice and vegetables.

Mansaf is a popular dish. Biryani, although influenced by Indian cuisine, is milder with a different mixture of spices, and a wider variety of vegetables including potatoes, peas, carrots, and onions are also used. Traditionally, breakfast used to be a much heavier meal, especially for the working class, and included dishes such as lentil soup (shorbat 'adas), or heavy sweets such as knafa. Ful, which is fava beans cooked with chickpeas (garbanzo beans), garlic, lemon, and olive oil is a popular working class breakfast. Lablabi is another heavy garbanzo-based stew popular for breakfast in Iraq and Tunisia. Lablabiy, Iraqis eating 'lablabiy' (boiled chickpeas) at a market in Baghdad a winter street food favourite. Hummus (Arabic: حُمُّص) is a Middle Eastern and Arabic food dip or spread made from cooked, mashed chickpeas blended with tahini, olive oil, lemon juice, salt and garlic (Zubaida and Tapper, 2000). Some popular dishes include Falafel is made from fava beans or chickpeas, or a combination of the two. Falafel is a traditionally Arab food that has been adopted by Israeli Jews. The word falafel may descend from the Arabic word *falāfil*, a plural of the word *filfil*, meaning pepper. These fried vegetarian fritters are served in most Israeli restaurants along with hummus and tahini sauce (known as a "falafel plate"). Falafel (fried chickpea patties served with amba and salad in pita). When chickpeas are used, they are not cooked prior to use (cooking the chickpeas will cause the falafel to fall apart, requiring adding some flour to use as a binder). Instead they are soaked (sometimes with baking soda) overnight. Then ground together with various ingredients such as parsley, scallions, and garlic (Rodén, 2000). Spices such as cumin and coriander are often added to the beans for added flavor. Fava beans must be cooked. The mixture is shaped into balls or patties. Mujaddara: a dish consists of cooked lentils together with wheat or rice, garnished with onions that have been sauteed in vegetable oil.

Salads and mezze (an appetizer) are dishes to the main meal, lentils, bread and a portion of cooked vegetables, in addition to the fresh ones with the mezze and salad. The vegetables and meat are usually cooked together in a sauce (often tomato, although others are also popular). Salads: Fresh seeds and fresh pods for example of garden peas (*Pisum sativum*) and French beans (*Phaseolus vulgaris*) were used for human consumption instead of dry pulses. The rapid increase of meat consumption in the world produced a high demand for protein-rich feedstuff. In developed countries soybean meal and other oil seed meals supplied this demand. Soybean is the most important legume in the world, other legumes such as pea, bean, lentil, cowpea and lupins playing a more important role in food and feed market. Kidney beans, and cannellini beans combine with corn, bell pepper, and red onion in this easy and colorful salad. To make maraq (soup) which is served on rice. Most households add bread, whether other grains were available or not.

Fasolia soup: Fasolia meaning beans. Greek words sometimes written fassolada or fassoulada, is a soup of dry white bean, olive oil, tomatoes juice, or sometimes made fresh fasolia soup with tomatoes and vegetables as peppers. Made by simmering beans with tomatoes and other vegetables such as carrots, onion, parsley, celery, and bay leaf. Lima beans are sometimes used instead of white beans. Recipes vary considerably. Dry bean Soup: Iraqis eating Dry bean Soup with tomato juice and meat and a small amount of flavor (baharat) they named (Habisa) and eat with rice, Iraqis called Toman and Habisa.

Lentil soup (Shorbat adas) this healthy soup is enjoyed throughout the middle east, and although simple in preparation and ingredients, is a very flavorful soup. Adas is considered a main dish mainly because it is so filling, and is usually eaten with pita bread and lemon on the side Lentil soup refers to a variety of vegetarian and meat soups made with lentils. The soup may consist of green, brown, red, yellow or black lentils, with or without the husk. Dehulled yellow and red lentils disintegrate in cooking, making a thick soup. Pomegranate soup: Called Shorbat Rumman in Iraq. It is made from pomegranate juice and seeds, yellow split peas, ground beef mint leaves, spices, and other ingredients (Jacob, 2007). Kyaminon ethnops, a pulse soup made of broad beans, was a common ancient dish. Fava from peas was a favorite food during the years of ottoman occupation. However the fava from *Lathyrus* is the most delicious pulse of all.

CONCLUSION

Legumes have some bioactive components related with health benefits, such as polyphenols, lectins, and carbohydrates; however, there is still more to learn about the mechanism of those bioactive compounds on chronic diseases. Research holds considerable potential on nutraceutical foods. Legumes have been important source of protein, starch, oil, minerals, vitamins and health protecting compounds from the beginning of human history. Their seeds play an important role in the traditional diet of many peoples of the world and are a valuable basic material for the food and animal feed industries. The cultivation of soybean and other legumes such as pea, bean, lentil, cowpea and lupine is playing a more important role in food and feed market. (Akibode and Maredia, 2011) suggest that long-term (multi-decade) global per capita consumption of grain legumes (and also for cereals) will probably decline as wealth and urbanization enable people to consume costlier livestock-based protein and convenience foods. However, as indicated in the materials of some international organizations is the poor of the developing world, rather than the global population as a whole. Those developing-world poor who are unable to afford livestock products will remain dependent on grain legumes for a significant portion of their dietary protein and

other nutrients (Akibode and Maredia, 2011) conclude that grain legumes will remain crucially important as poor person's meat. Crops addressed are chickpea, pigeonpea, mung bean, urd bean and lentil among the pulses.

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