

Lentils – a possible alternative food crop of the future

LENTILS (*LENS CULINARIS*) ARE AN ANNUAL PULSE CROP TRADITIONALLY GROWN IN WEST ASIA, EAST AND NORTH AFRICA, THE INDIAN SUB-CONTINENT AND IN THE RECENT PAST IN NORTH AMERICA AND OCEANIA. IT IS AN IMPORTANT CROP IN FOOD, FEED AND FARMING SYSTEMS IN VARIOUS COUNTRIES.

Lentils, among other food legumes, play a significant role in human and animal nutrition and in soil health improvement. Its cultivation enriches the soil nutrient status by adding nitrogen, carbon and organic matter, which promotes sustainable cereal-based crop production systems in the regions. It has an ability to withstand drought and poor soils. It is the most desired legume because of its high protein content of up to 35,5% and fast cooking characteristics. It is used as a starter, main dish, side dish or in salads.

Additionally, it may be deep-fried and eaten as snack, or combined with cereal flour in the preparation of foods like bread and cake. Lentils are a key source of protein, especially for the poor, who often cannot afford animal products. It is rich in starch, protein, calcium, manganese, crude fibre, fat, trace elements and minerals, which makes the crop an ideal supplement for traditional cereals or tuber-based diets, which are generally protein deficient.

Lentils are among the pulses that can be used to diversify the legume base of South Africa because it has the potential to be grown in various

provinces of South Africa, as it can tolerate extreme environmental conditions. This means provinces like Limpopo, North West, Mpumalanga, KwaZulu-Natal and Free State which are characterised by low rainfall and hot temperatures, as well as droughty conditions can be ideal. Lentils prefer any soil type with good drainage. Some varieties can be grown in cold areas which can ensure a continuous supply of lentils in and out of the season. Additionally, lentils can be grown in rotation with cereals to improve the soil structure and fertility. Hence, the production of this crop can benefit the South African farmers.

Lentils are similar to beans (soybeans/common beans). They grow in pods that contain either one or two lentil seeds that are round, oval or heart-shaped disks. They may be sold whole or split, with the brown and green varieties being the best at retaining their shape after cooking (Table 1). Various lentil varieties are used worldwide including brown, red, green, Lentilles Du Puy, French green lentils and black lentils amongst others. Their major attributes and cooking times are shown in Table 1. ■



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1 Some of the most common lentil varieties.

Lentil type	Major attributes	Cooking time	Images of various types
Brown lentils	<ul style="list-style-type: none"> Roundish type, even-keeled, mild and have an earthy flavour and creamy texture. Good as a stand-alone side dish, tossed in salads, adds heartiness to soups and stews and good for pureeing. 	20 - 30 minutes	
Red lentils	<ul style="list-style-type: none"> Have colours ranging from between yellow/gold to bright orange or red, with a slightly sweeter taste. May lose shape and break down or crush while cooking. 	15 minutes	
Green lentils	<ul style="list-style-type: none"> Pale greenish brown, similar to dried peas, or spotted with brown hues. Stays relatively firm and has a mild flavour. 	10 - 20 minutes	
Lentilles Du Puy	<ul style="list-style-type: none"> Small, round and have an olive-green and black colour with mottling. Vibrant and earthy flavour and firm-tender texture. The rounded shape holds up the best in cooking. 	20 - 40 minutes	
French green lentils	<ul style="list-style-type: none"> Small, dark, greenish black, mottled lentils and have a slight peppery flavour. Hold their shape well and have a nice chew, making them great additions to soups, stews or as a side dish. Very similar to appearance as Lentilles Du Puy. 	20 minutes	
Black lentils	<ul style="list-style-type: none"> Are small and glistening; hold their shape well and take on the look of caviar when cooked. Have a soft texture and deep, robust flavour when cooked and these allow it to be used in any recipe calling for lentils, especially when you want some colour variation. 	25 - 30 minutes	