

The background is a solid blue color with decorative wavy lines in a lighter shade of blue at the top.

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PULSES(LEGUMES).

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- Introduction
- Different pulses grown in India.
- Botanical names & Family, and some Photographs Plant and its product to be used.
- Full description of any one of the Pulse plant.

Introduction

1

- Pulses belong to the family **Leguminosae\Fabaceae**, which is characterised by having fruit as Legume or Pod. Nearly 11000 species of legumes are known. They have been cultivated and used for food for centuries **all over the world**.
- Pulses are **second important sources of human food** next to cereals. They contain more protein materials than any other food products. Pulses are important source of **proteins** for vegetarians. Carbohydrates ,fats ,minerals and vitamin B are also present in Legumes. They have high energy content also. Grain legumes are cultivated for their **seeds**. Roots of legumes forms root nodules which contain nitrogen fixing bacteria, enhancing soil fertility also, greatly increase the nitrogenous content of the soil.

Introduction contd.

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- Canada, Myanmar, China, Brazil, Australia, USA, Russia, Nigeria are also the other larger producers.
- About **one- seventh** of cultivated area in India is under pulses.
- **India was the largest producer of pulses** with 25% of the **world** total production and also largest importer 27 % of pulses in the world. Madhya Pradesh (23%), Uttar Pradesh (18%), Maharashtra, (14%), Rajsthan (11%) and Karnataka and Andhra Pradesh (9-10% each) are the top pulses producing states.
- Pulses cultivated both as Rabi and Kharif crop in India.

Different pulses grown in India 3

- All pulses belong to the family- **Leguminosae or Fabaceae** and Sub-family- Papilionaceae.
- Gram(Chana) Cicer arietinum. So many synonyms
- Pigeon pea(Arahar) Cajanus cajan.
- Lentil(Masur) Lens esculantus.
- Pea(Matar) Pisum sativum.
- Green Gram(Mung) Vigna radiata .
- Black Gram(Urad) Vigna mungo .
- Chickpea(Kabuli chana) Cicer arietinum.
- Kidney beans(Rajma) Phaseolus vulgaris .
- Cowpea(Black eyed pea) Vigna unguiculata

Gram plant & seeds

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Gram and Chickpea (Cicer arietinum) 5

Family- fabaceae

- It is indigenous to south-east Europe. Six countries- India, Australia, Turkey, Myanmar, Pakistan and Ethiopia account for about 90% of world chana and kabuli chana production. The major gram producing states in India are Madhya Pradesh, Maharashtra, Rajasthan, Uttar Pradesh, Punjab, Bihar, Andhra Pradesh and Karnataka. Gram is the most dominant pulse having a share of around 40% of total pulses production followed by Arhar at 15-20% and Urad and Mung 8-10 per cent each in India. In 2018 India produced 66% of the world total gram production.
- It is a **rabi** crop. Sowing takes place between September and November, and harvesting between February and April.
- Plant is an annual herb, grows to 20-50 cm in high and has small, feathery pinnately compound leaves on either side of the stem with one seed legume pods. It has white flowers with blue, violet or pink veins. **Seeds** are green when picked early and became dark brown after drying.

Gram contd.....

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- Gram contains 22% or more protein, i.e. the **richest source of protein** 21% dietary fibers and carbohydrate, Fat 5%, Vitamins A,C, D & B-12, and so many minerals as Sodium, Potassium, Calcium, iron, phosphorus, manganese and 100gms will provide 364 calories. Having **no cholesterol**.
- Uses:- **1.** Gram is a nutritive **pulse** and is used as cheapest source of **protein adjunct** to starchy diets. **2.** Dal is prepared by splitting the whole grain into two and removing the husk (seed coat). **3.**The flour of dal is known as besan, which is used in preparation of so many types of sweets and snacks. **4.** The whole grain is eaten raw, as sprout, roasted or boiled. **5.**Sprouted (germinated) gram is used as prophylactic against deficiency diseases, scurvy in particular. **6.** Used also in textile sizing and adhesives. **7.** The leaves and twigs are used for fodder.

Cajanus cajan (Arhar)

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Lense esculentus (Lentil/ Masur) 8



Raw lentil



Whole shape peeled lentil



Splitted shape peeled lentil

Pisum sativum (Pea/ Matar) 9



Vigna radiata (Mung)

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THANKS

EVERYONE

