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Profit Making With Summer Moong

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Moong is the important pulse crop in India also known as Moong bean or Green-gram. Scientifically it is known as *Vigna radiata* L. and belongs to the Fabaceae family. It is one of the important leguminous crops grown for its Nitrogen fixation properties. It fixes the Nitrogen with the help of Rhizobium present in the nodules on the roots. Usually, moong is cultivated in two seasons- summer moong and Kharif moong.Summer moong is becoming more popular now a days. Moong does not require a lot of resources for its production. Its cost of cultivation is very less compared to all other crops. Farmers can make profit by growing summer moong in their traditional rice-wheat sequence.

Why summer moong?

Summer moong is more popular because it produces grain in a short span of time of about 65 days after sowing. Farmers usually have the fallow period of 65 to 75 days after harvesting wheat to plant rice. Least field preparation for moong is required and also requires less or null fertilizer. For good production of summer moong minimal use of insecticides and pesticides is required. In general, less inputs are required for moong production and due to less inputs costs it has the made the popularity among the farmers. Summer moong not only helps farmers financially, but it also fixes atmospheric nitrogen in the soil. Rhizobium, which has a symbiotic connection with the moong plant, lives in the nodules found in the roots of the moong. It feeds on amino acids from the plant, and in exchange, rhizobium fixes nitrogen in the soil. Cultivating summer moong also saves water because after moong cultivation short duration rice varieties are cultivated which saves 20% water than traditional long duration rice varieties. Usually, one or two irrigation is required for moong cultivation. Fertilizer

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requirements are very less for producing moong. Two insecticide sprays might be required for controlling pod and leaf borers in moong.

Nutritional Importance

Green gram is a high-quality protein source (25%) with a good digestibility. It is used in our meals as whole grains as well as "Dal" in a number of ways. Sprouted green grams is used to make curry or a savory dish (South India). It is easily digested;thus, patients prefer it. It is also high in Riboflavin, Thiamine, and Vitamin C. Sprouts of green gram seeds produce a significant amount of ascorbic acid.

Nutritional value per 100 grams of Moong	
Energy	347 kcal
Carbohydrates	62.62 g
Fats	1.15 g
Proteins	28.86 g
Vitamin B1	0.621 mg
Vitamin C	4.8 mg
Calcium	132 mg
Iron	6.74 mg
Magnesium	189 mg
Phosphorus	367 mg
Potassium	1246 mg
Zinc	2.68 mg

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Nitrogen fixing crop

Being a leguminous crop and symbiotic relation with Rhizobium it enables it to fix atmospheric Nitrogen (58–109 kg per ha moong bean). It can provide large amounts of biomass (7.16 t biomass/ha) and nitrogen to the soil ranging from 30 to 251 kg/ha. The nitrogen fixation ability not only enables it to meet its own nitrogen requirement, but also benefit the succeeding crops. It is also used as a cover crop and also a good green manure.

Agronomic activities for summer moong production

1. **Pre-sowing Irrigation: -** Irrigation should be done before 10-12 days before sowing of moong and after the wheat harvest.
2. **Time of sowing: -** Sowing should be done as soon as possible after the wheat harvest for timely rice transplantation.
3. **Land preparation: -** Single ploughing or normal seed drill can be used to sow directly in the wheat harvested field. Broadcasting of seed can also be used and further rotavator should be used.
4. **Seed rate:-**18-20 kg seed is sufficient for 1 hectare. Seeds should be diseased free and seeds inoculation should be done with rhizobium.
5. **Varieties:-** T- 44, K -851, Sweta, Swati and KM-2241, KM-2195, Azad Moong-1 (KM-2342)

Variety KM-2342 developed for both Zaid and Kharif season of entire U.P., yield potential 10-12Q/ha, crop matures in 60-62 days, green shiny grain, synchronous maturity, resistance to YMV, CLS, Anthracnose, Web blight and white fly. The variety was released in 2018 in Kanpur which is a good variety for Uttar Pradesh region.

6. **Weed control:-** Within 2-3 days after sowing *Pendimethalin 30EC* @ 1 Liter/ acre is used.
7. **Irrigation:-** One or two irrigations may be required depending on rainfall. An irrigation at pod formation is must for if no rainfall occurs.
8. **Harvesting:-** Harvest should be done when 75% pods turn brown. It can be done with sickle or mechanically with combine harvester. *Paraquat Dichloride 24SL* @1.5 Litre/ acre can be used to dry up green plants for harvest with combine harvester.

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9. **Insect control:**-Moong is susceptible to semilooper, tobacco caterpillar, hairy caterpillar, pod borer and whitefly. Lepidoptera insects can be controlled by *Chlorantraniliprole 18.5SC* @ 40ml per acre. Whitefly can be controlled by *Thiamethoxam @ 100 g per acre*.

Profits and benefits of Summer Moong

1. Summer moong is less duration crop from April to June. It takes about 60-65 days to mature. It is cultivated between wheat harvest and rice transplantation.
2. Earn more profits by getting 3 crops in a year.
3. Fallow time after wheat harvest is utilized.
4. Nitrogen fixation by rhizobium in root nodules of moong.
5. Improves soil health.
6. Acts as a green manure crop.
7. Increases phosphorus availability in succeeding rice crop.
8. Nitrogen requirement in succeeding rice crop reduces by 20-25%
9. The left-over material of moong harvest has a good potential and it should be incorporated or mixed with the soil which adds organic matter to the soil.

Conclusion

Growing summer moong is very positive in wheat rice cropping sequence. It gives many benefits to farmers. Farmers can get additional income with very less expenses, and also can increase soil health at the same time. Farmers should grow summer moong as there are many indirect benefits of growing moong. The minimum support price (MSP) for moong in 2022-23 is 7755 Rupees / Quintalas declared by the Indian government.