

Production and Efficiency of Mung Bean cultivation as a Third main Crop. A Case Study of Kamber-Shahdakot Sindh Pakistan

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Abstract:

This research investigates the Production and Efficiency of Mung Bean cultivation as a Third main Crop: A Case Study of Kamber-Shahdakot Sindh Pakistan. Data were collected from 10 growers Kamber/Shahdadkot district. Data were analyzed by using SPSS-22 version. A structural questionnaire was developed for the validity and reliability of data. The sowing dates for Mung bean April, 24-30 and harvesting in early July. It was revealed that 12 to 15 mounds per acre yield from different farms. It was further revealed that market after early variety of wheat this Mung Bean is the crop between Wheat and rice. According the results of different sowing dates from 20th April, 2018 to 29th April, 2018, it was revealed that production response is differernt as well as acreage yield. Results indicates that production and acreage response of the different dates shows that if sowing dates in the last week of April, than production response is quiet low compare to early April, sowing dates. Farmers can earn more income by sowing Moungebean as a third crop.

Key Words: Production, Efficiency, Mung Beans

Introduction

Mung bean is one among the necessary kharif beats of Pakistan. It is also grown during spring season predominantly in southern Punjab and Sindh region. Punjab is the major mung bean growing province that alone represented 88% region and 85% of the total mung bean production. Mung bean is one of the essential kharif beats of Pakistan. It is additionally developed amid spring season for the most part in southern Punjab and Sindh area. Punjab is the real mung bean developing region that by itself represented 88% zone and 85% of the absolute mung bean creation. Development is moved in the areas of Layyah, Bhakkar, Mianwali and Rawalpindi. It is for the most part developed in Kharif season (July-October). In spite of the fact that it is developed in various harvest pivots, about 75% development pursues mung bean - wheat trim turn. With the improvement of brief length and uniform developing assortments, mung bean can be fitted in different trimming frameworks. Research exercises on mung bean have been predominantly centered around the advancement of high yielding assortments with more extensive versatility, impervious to infections like Mungebean Yellow Mosaic Infection (MYMV) and Cercospora Leaf Spot (CLS), early development and cold-heartedness to photoperiod. Development Habbits^[7] Mungebean has aace with Vegetable group of plants and are firmly identified with cowpea (in similar variety yet unique species). They are warm season annuals, profoundly extended and having trifoliolate leaves like alternate vegetables. Both upstanding and vine kinds of development propensity happen in mungebean, with plants differing from one to five feet long. The light yellow blooms are borne in groups of 12-15 close to the highest point of the plant. Develop cases are variable in shading (yellowish-darker to dark); around five inches in length and contain 10 to 15 seeds. Self-fertilization happens in mungebean plant. Develop seed hues can be yellow, dark colored, mottled dark or green, contingent on assortment. These rounds to elongated seeds change in size from 6,000 to more than 12,000 for every pound, contingent on assortment. Germination is epigeal with the cotyledons and stem rising up out of the seedbed.

The nutritional value of pulses: The nutritional importance of pulses are numerous, they can be a valuable source of energy. The energy content of most pulses have been found to be between 300 and 540 Kcal / 100g. Energy is required for all metabolic processes. The energy of Pulses come from the nutrient supply of protein, fat and carbohydrate.

Climate

Mung bean is a warm season trim requiring 90-120 days of ice free conditions from planting to advancement (depends upon grouping). Adequate precipitation is required from sprouting to late unit deal with the true objective to ensure extraordinary yield. Late plantings achieve sprouting in the midst of the high temperature and low clamminess period in July and August which will reduce yield. High stickiness and excess precipitation in the season can result in infirmity issues and assembling mishaps in view of put off advancement.

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Soil

Mungbeans do best on ready sandy, topsoil soils with extraordinary internal drainage. This yield does best at whatever point created on productive soils even without compost application. Higher common issue will incite age of red hot seed. They do insufficiently on considerable mud soils with poor waste. Execution is best on soils with a pH between 6.2 - 7.2 and plants can demonstrate extraordinary iron chlorosis symptoms and certain micronutrient deficiencies on increasingly dissolvable soils. Mungbean has phosphorus, potassium, calcium, magnesium and sulfur necessities like diverse vegetables which must be met by fertilizer growthes if the earth is insufficient in these segments.

Time for Sowing

For seed reason there are two developing periods of Mung edit.

1. February to Spring
2. June to July

Past the point of no return planting results in blossom and unit fill amid the most sizzling, driest time of the mid year. In a few zones mungbean is planted as a second product after the little grain is gathered. In the event that this is finished planting ought to happen instantly after the grain reap with a negligible unsettling influence of the seedbed.

Land Prepration

Set up the field by wrinkling, terrifying and leveling. The earth should be attempted to empty weeds and to set up a seedbed which will give incredible seed-soil contact. The last seedbed ought to be firm with a surface free of hunks and debris to allow a conventional dispersal of seeds. If clamminess is short, keep pre-plant refined to a base to envision drying out the principle a couple of inches.

Sowing Strategy

Most suitable methodology for sowing is exhausting. Broadcasting is regularly done in dry locale. The seeds are sown at 2 cm significance with a plant to plant isolating of 8 - 10 cm and 30 cm between lines. If the surface layers are dry this significance can be extended to 3 cm if the earth sort is one which does not outside viably. The seedlings of mungbean can encounter significant challenges overcoming a thick frame and stands will be diminished. Planting equipment for soybean, field bean and cowpea can be used to plant mungbean yet attentive changes must be made to fittingly pass on and disperse the little seeds. Peoples of 150,000-200,000 plants for each area of land can be cultivated.

PULSES
4.32 AREA AND PRODUCTION OF PULSES IN SINDH,
2009-10 TO 2015-16

YEAR	MASH	MASOOR	MATTER	MUNG	OTHERS
<u>A R E A (In Hectares)</u>					
2009-10	602	4806	48858	11222	6099
2010-11	547	3294	53263	10776	6357
2011-12	116	3404	28796	2397	2186
2012-13	233	1723	20274	2112	314
2013-14	293	1532	20985	1929	298
2014-15	261	1405	21071	2209	297
2015-16	244	1410	21201	2227	350
<u>PRODUCTION (In M.Tons)</u>					
2009-10	262	2755	31391	5427	1808
2010-11	255	1954	34747	4429	1900
2011-12	55	2052	17299	1019	594
2012-13	99	1030	12410	918	123
2013-14	125	913	12798	837	118
2014-15	111	855	12896	946	117
2015-16	104	871	13055	941	137

Source:- Crop Reporting Service Centre (C. R. S. C) Government of Sindh, Hyderabad.

The sugar supply: The starch substance of heartbeats is high (Table 3) (Reddy et al., 1985; Oke et al., 1995). The high starch content contributes a lot to the vitality supply of heartbeats. A huge level of heartbeats happens as starch (Table 3), about 1.8 - 18% happens as oligossacharide while 4.3 - 25% happens as dietary fiber (Table 4). In spite of the fact that the oligossacharides, which are comprised of raffinose, stachyose, verbascose, cause gas creation in man, they are by and by accepted to have some advantageous impacts. They can abbreviate travel time and advance the development of bifido microscopic organisms in man. Infact specialists in Japan have really recommended that oligossacharides from soyabeans could be utilized as substitute for regular table sugar. They are additionally conjectured to enhance life span and diminish colon malignant growth chance (Hayakawa et al., 1990; Koo and Rao, 1991). The high dietary fiber substance of heartbeats (Table 4), are proposed to have some imperative physiological impacts, for example, diminishing the travel time in the mammalian gut (Sathe et al., 1984). This would ease gastrointestinal conditions, for example, stoppage and diverticular infection. It is additionally equipped for bringing down the blood cholesterol level because of its capacity to tie with cholesterol in the human gut (Burkitt and Trowell, 1985). This element is being associated as being skilled with lessening colonic disease in man (Davis and Stewart, 1987; Hangen and Bennink, 2002). Heartbeats additionally have low glyceamic files (Hatford, 1985; Björek et al., 2000), which makes them important nourishments for diabetics. The cotyledon of vegetables like insect bean and (guar gum) diminishes postprandial glucose and insulin focuses in man (Fairchild et al., 1996; Gatenby, 1991; Feldman et al., 1995).

PROTEIN SUPPLY

Heartbeats have a high protein content the esteem is about twice that in oat and a few times that in root tuber (FAO, 1968), so they can enhance the protein admission of suppers in which grains and root tubers in blend with heartbeats are eaten (Kushwah et al., 2002). Heartbeat when eaten with oats, can likewise expand the protein nature of the dinner. In man, protein helps in the fix of body tissue, blend of catalysts and hormones and furthermore in the supply of vitality. In

kids, the utilization of heartbeats ought to be energized, especially where creature protein is rare and costly, as this would outfit the tyke with the important amino acids required for development.

Results

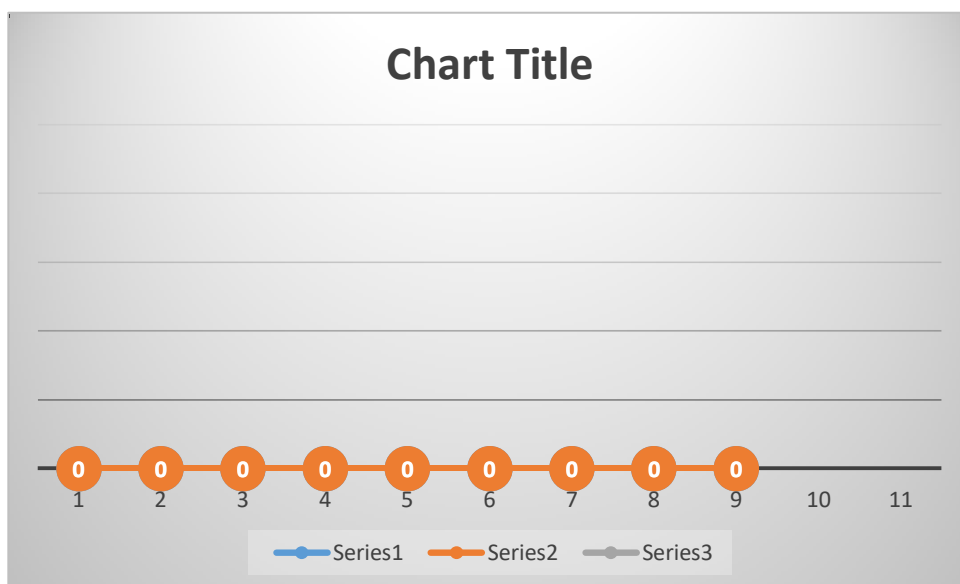
MUNG BEAN PRODUCTION RESPONSE ON DIFFERENT SOWING DATES

Farmers	Sowing dates	Seed	Yield
Sohu	20 April,18	Local	12 m./Acre
Sarai	21 April,18	Local	11m./Acre
Naveed	22 April,18	Local	11 m./Acre
Liaqat	23 April,18	Local	110m./Acre
Saeed	24 April,18	Local	10 m./Acre
Azeeem	25 April,18	Local	9m./Acre
Dargai	28 April,18	Local	09 m./Acre
Ameen	29 April,18	Local	08m./Acre
Abdul nabi Chandio	29 April,18	Local	08 m./Acre
Nusrat	29 th April. 18	Local	08m./Acre

According the results of different sowing dates from 20th April, 2018 to 29th April, 2018, it was revealed that production response is differernt as well as acreage yield. Results indicates that production and acreage response of the different dates shows that if sowing dates in the last week of April, than production response is quiet low compare to early April, sowing dates. Farmers can earn more income by sowing Moungebean as a third crop.

Table-2. Production and acreage of Different sowing dates

Sowing dates	Production Acreage Response
20 April,18	12 m./Acre
21 April,18	11m./Acre
22 April,18	11 m./Acre
23 April,18	110m./Acre
24 April,18	10 m./Acre
25 April,18	9m./Acre
28 April,18	09 m./Acre
29 April,18	08m./Acre



Conclusions: Mung beans were cultivated in diistrict Kamber-Shahdadkot as a third major crop. The results shows that farmers can earn extra income by sowing Mung beans in the waiting period between April and July. A pulse like soyabean, contains linolenic acid, which is an omega–3–fatty acid. This fatty acid is currently being studied for its ability to reduce the risk of heart disease and cancer. vitamin E and K are also found in pulses. The B-vitamins act as co-enzymes in biological processes Vitamin E is known to play a role as an antioxidant inhibiting the oxidation of vitamin A in the GIT and of polyunsaturates in the tissues. It is also believed to maintain the stability of cell membranes (Davies and Stewart, 1987). Vitamin K functions primarily in the liver where it is necessary for the formation of blood clotting factors.

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