Research Recommendations Released during 2023 by Mahatma Phule Krishi Vidyapeeth, Rahuri

Natural Resource Management

Agronomy

1. Application of 10 t FYM ha^{-1} at the time of preparatory tillage and 170 kg Urea -DAP briquettes (60 : 30 N : P_2O_5 kg ha^{-1}) + 50 kg K_2O ha^{-1} at the time of transplanting followed by 1% (10 g L^{-1} of water) foliar sprays of water soluble fertilizer 19:19:19 at 20 days and 0:52:34 or 19:19:19 at 40 days after transplanting is recommended for transplanted paddy cultivation of Sub-montane zone of Maharashtra for obtaining higher grain yield, monetary returns and to maintain nutrient status of soil.
2. Phule supercane nursery technology with use of 50 % soil and 50 % farm yard manure or vermicompost or sugarcane bagasse as a growing media in equal proportion (1:1) to achieve higher germination of single eye bud sugarcane setts for planting of sugarcane settlings on farmers own field is recommended.

Phule Supercane Nursery Technology

Preparation of sugarcane one eye bud setts

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Setts treatment (For 1 litre water 1 g Carbendazim + 3 ml Malathion then for 1 litre water 100 g Acetobactor + 12.5 g Phosphorus solubilising bacteria)

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Prepare raised bed in farmer's field

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Spread empty fertilizer bags/ plastic paper on raised bed

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Apply growing media in equal proportion on fertilizer bags/ plastic paper

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Keep one eye bud setts on fertilizer bags/ plastic paper

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Full Irrigation to raised beds

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Cover bed with sugarcane trash and black polythene paper for 7 days

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Removal sugarcane trash and black polythene paper after 7 days

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Daily irrigation after 7 days by watering can/micro sprinkler

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Sugarcane settlings ready for planting after 25 days

3. Planting of *suru* Sugarcane with drip method for irrigation and inverted modular micro-sprinkler to create microclimate and trash management in ratoons with shredder machine is recommended for Maharashtra to obtain sustainable and maximum cane yield, economic returns, soil health and efficient water use.
4. Soil application of multi-micronutrient Grade-I 25 kg ha^{-1} along with GRDF (100:50:50 N:P_2O_5:K_2O kg ha^{-1} + FYM 5 t ha^{-1}) at the time of sowing and foliar sprays of Phule liquid multi-micronutrient Grade-II 1% (10 ml/ lit of water) at 30 and 45 DAS is recommended to achieve good quality, higher forage yield and monetary returns of maize in medium deep black soils of Western Maharashtra.
5. Application of 25 % RDN (20 kg N ha^{-1}) through unban compost and 75% RDN (60 kg N ha^{-1}) + 100% P_2O_5 (40 kg ha^{-1}) and K_2O (40 kg ha^{-1}) + 5 kg $MgSO_4$ ha^{-1} through chemical fertilizers is recommended for higher seed production and monetary returns of *Tossa* jute (*Corchorus olitorius*L.) in *kharif* season on medium deep soils of Maharashtra.
6. Application of 40 kg ha^{-1} K_2O along with 5 t FYM and recommended dose of 60 kg N (two equal splits at sowing and 30 DAS) and 80 kg ha^{-1} P_2O_5 to Rajmah crop at the time of sowing is recommended in medium black soils of Western Maharashtra.
7. Dibbling of paddy variety Basmati-370 at spacing 25 x 25 cm with 125 % RDF (125:62.5:62.5 kg/ha N: P_2O_5:K_2O) is recommended to obtain high yield and monetary returns in upland paddy for the Krishna River bank in Sub-montane zone of Western Maharashtra.
8. If two canal irrigations are available during *rabi* season, cultivation of Safflower or Sorghum or Gram is profitable instead of Wheat crop with first canal irrigation at 20-25 days after

sowing and second canal irrigation at 60-65 days after sowing is recommended for Plain Zone of Maharashtra in Vertisols.

9. Pigeonpea + Sunflower (1:2) or Pigeonpea + Pearlmillet (1:2) and Pigeonpea + Soybean (1:3) or Pigeonpea + Groundnut (1:3) intercropping system in medium soils under scarcity zone of Western Maharashtra is recommended for higher yield and monetary returns.

Soil Science

10. Application of Nitrogen, Phosphorus and Potassium as per yield target equations for 15-20 q ha^{-1} yield of Rajmah bean and maintaining the soil fertility is recommended for medium deep black soils of Western Maharashtra.

With FYM (5 t ha^{-1})

FN = 8.31 x T – 0.47 x SN – 1.48 x FYM
FP_2O_5 = 6.10 x T – 2.21 x SP – 1.75 x FYM
FK_2O = 3.96 x T – 0.08 x SK – 1.86 x FYM

Without FYM

FN = 8.98 x T - 0.51 x SN
FP_2O_5 = 6.74 x T – 2.44 x SP
FK_2O = 4.39 x T - 0.09 x SK

Where FN, FP_2O_5 and FK_2O is fertilizer N, P_2O_5 and K_2O in $kgha^{-1}$, T is yield target in q ha^{-1} and SN, SP and SK are soil available N, P and K in kg ha^{-1}, FYM in t ha^{-1}.

11. Application of 1 kg Arbuscular Mycorrhizal Fungi (AMF) culture in paddy nursery (10 R) with soil application of 10 t FYM ha^{-1} one month before transplanting followed by seedlings treated with PSB (*Bacillus megaterium*) or *Aspergillus awamori* solution (500 g per 20 lit. of water) for 30 minutes along with soil application of 50 kg P_2O_5 through SSP, recommended dose of 100 kg N and 50 kg K_2O ha^{-1} at the time of transplanting to lowland paddy is recommended for higher yield and monetary returns in Western Ghat Zone of Maharashtra.
12. The application of nitrogen and potassium from recommended dose of soybean (50 kg N : 75 kg P_2O_5 + 45 kg K_2O + 10 t FYM ha^{-1}) is recommended to apply in two splits as 50% at sowing and 50 % at 35 DAS for higher grain yield and monetary returns of soybean in light soils of Sub-montane Zone of Maharashtra.
13. Application of pressmud cake @ 5 t ha^{-1} alternate year, one month before sowing of chickpea along with recommended dose of fertilizers (25:50:00 N:P_2O_5:K_2O kg ha^{-1}) at the time of sowing grown on medium deep black soil in scarcity zone of Maharashtra is recommended

for obtaining higher yield, monetary returns, to maintain nutrient status and retain moisture in soil.

14. The foliar application of plant growth regulators and water soluble fertilizer nutrients with recommended dose of fertilizer to preseasonal sugarcane (340:170:170 N, P_2O_5 and K_2O kg ha^{-1}) and its two successive ratoons (250:115:115 N, P_2O_5 and K_2O kg ha^{-1}) along with 25 t ha^{-1} FYM and recommended trash management practice to ratoon is recommended for higher cane and CCS yield as per following schedule.

The spraying schedule for preseasonal sugarcane and its two successive ratoons (ha^{-1})

Sr. No.	Plant Growth Regulators/ Fertilizer Nutrients	Time of spray /Quantity of plant growth regulators and fertilizer nutrients (g) with water				
		1st Spray	2nd Spray	3rd Spray	4th Spray	5th Spray
		45 DAP	65 DAP	85 DAP	105 DAP	125 DAP
		Water: 150 Liter	Water: 225 Liter	Water: 350 Liter	Water: 375 Liter	Water: 500 Liter
1	**GA_3:** Gibbrelic Acid (40 ppm)	6	9	14	15	20
2	**6BA:** 6 Benzyl Adenine (40 ppm)	6	9	14	15	20
3	19:19:19 (1%)	1500	2250	3500	3750	5000
4	Phule Liquid Micro Grade II (0.25%)	375	562	875	937	1250
5	Silicic Acid (0.5%)	750	1125	1750	1875	2500

Note: As per need (especially in very leached soil) mix silicic acid (0.5 %) in above spray schedule

15. Application of 20 g sulphur $plant^{-1}$ after incubating with FYM (1:10 proportion) for one week in two splits (i.e. at planting and at 165 days after planting) with recommended dose of fertilizer (150:60:150 g N: P_2O_5: K_2O per plant) is recommended for higher yield and monetary returns of banana in medium deep black soil.
16. Foliar application of acetyl salicylic acid 0.1 mM (18 mg /litre) at floral primordial initiation and flowering stage is recommended to alleviate negative effects of soil moisture in banana crop.
17. Drenching of Phule liquid micronutrients grade II (Citric acid based) at field capacity @ 5.0 L ha^{-1} in two equal splits or two foliar sprays @ 1 % (10 ml/ litre water) at 35 and 50 DAS along with general recommended dose of nutrients (100:50:50 kg ha^{-1} N:P_2O_5:K_2O + 20 t ha^{-1} FYM) to okra is recommended for increase in availability and uptake of micronutrients, yield and monetary returns on medium deep black soils of western Maharashtra.
18. Application of $FeSO_4$ @ 20 kg ha^{-1} incubated in FYM (1:10 proportion) for one week along with general recommended dose of fertilizer (120:60:40 N: P_2O_5:K_2O kg ha^{-1} + 10 t FYMha^{-}

^{1}) at the time of sowing followed by foliar sprays of Fe EDTA @ 0.2 % (2 g per liter water) at tillering stage (40-45 DAS) and flowering stage (60-65 DAS) to wheat crop is recommended for higher yield, iron concentration in grain and monetary returns in iron deficient soils of plain zone of Maharashtra.

19. Application of 60% recommended dose of fertilizer (240:102:102 $N:P_2O_5:K_2O$ kg ha^{-1}) + 25 t ha^{-1} FYM along with water soluble solid micronutrient Grade I (Fe 2%, Zn 5%, Mn 1%, Cu 0.5%, B 0.1%) @ 25 kg ha^{-1} in four equal splits at planting, 60, 120 and 180 days after planting through fertigation is recommended for obtaining higher yield and monetary returns of preseasonal sugarcane in medium deep black soils of Western Maharashtra.

Horticulture

20. It is recommended to bag the mango fruits (Cv. *Kesar*) with skirting bags (fruit bag) at egg stage for quality fruit production and more monetary returns.
21. Grafting of brinjal varieties on *Solanum torvum* Swartz brinjal rootstock during first fortnight of August is recommended for maximum crop duration, graft success, brinjal fruit yield, monetary returns and less incidence of *fusarium* wilt.
22. In medium maturing potato cultivars dehaulming at 80-85 days after planting and harvesting 10 days thereafter is recommended for obtaining better quality tuber production and monetary returns.
23. Grafting of Phule Raja tomato hybrid on brinjal rootstock *Solanum torvum* is recommended for maximum crop duration, better growth, higher graft success, tomato fruit yield and more net monetary returns with less incidence of *fusarium* wilt.
24. Spray of gibberellic acid @ 25 ppm (25 ml/lit) in strawberry at 30 days after planting is recommended at Mahabaleshwar plateau for obtaining higher yield and monetary returns.
25. Transplanting of Dawana seedlings, in first fortnight of December on flat bed with spacing of 30 x 15 cm is recommended for higher yield of fresh herbage, oil and monetary returns in Western Maharashtra.
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Animal Science

27. Forage cactus can be utilized as forage for goat by chopping during forage scarcity period.
28. Value addition of cow dung by vermicomposting is recommended to increase the profitability in dairy farming.
29. Low cost hard moorum bed without any construction is recommended for better quality and quantity vermicompost production in a short period.
30. It is recommended to use betel vine leaves extract (10 g leaves + 100 ML water) @ 5 % and sugar @ 28 % of khoa for preparation of burfi having 6 days shelf life at 30ºC.
31. For preparation of cheese spread it is recommended to use 6 % guava fruit pulp of Sardar variety in the blend of cheddar cheese and goat milk chakka in the proportion 40:60.

Basic Sciences, Food Science and Biotechnology

32. Use of 700 g Little millet flour and 300 g Maida or 900 g Little millet flour and 100 g Wheat flour, 500 g sugar, 500 g vegetable fat, 5 g ammonium bicarbonate and 5 g sodium bicarbonate is recommended to prepare good quality nutritious biscuits with high fiber content upto 3 months storage.
33. Use of Dragon fruit pulp 1000 g, sugar 1000 g, vegetable fat 25 g, skim milk powder 50 g, starch 60 g, salt 20 g and maltodextrin 20 g is recommended to prepare good quality and nutritious toffee upto 3 months storage.
34. It is recommended to prepare dry safflower leafy vegetable with good nutritional quality, organoleptic properties and good keeping quality up to 3 months by harvesting leaves at 30 days (DAS) with blanching at 60^{o} C for 30 seconds in chemical solution of KMS (0.02%), MgO (1.5 g), Citric acid (1%), $NaHCO_3$ (1.5%) and NaCl (1.5%) and drying in tray dryer at 55 ^{0}C for 8 h.
35. Use of 5 g sorghum starch, 1 g vegetables powder (0.25g carrot, 0.20g tomato, 0.15g curry leaves, 0.15g coriander leaves, 0.25g green pea powder), 1 g spices powder (0.20g ginger, 0.20g garlic, 0.30g onion, 0.15g salt, 0.10g turmeric, 0.05g black pepper powder) and boiling in 100 mL water for 5 min is recommended for preparation of good quality nutritious sorghum starch soup.

Plant Protection

Agril. Entomology

36. Bagging of fruits with the polypropylene cloth bags (6x4") at 120 days after bahar is recommended for the prevention of fruit sucking moth at late *ambia* bahar on pomegranate.
37. Spraying of Cyantraniliprole 10.26 OD @ 9 ml per 10 liter of water at 50 % fruit setting followed by second need base spraying is recommended for the control of fruit borer in pomegranate.
38. Soil application of granular insecticide fipronil 40% + imidacloprid 40% WG @ 437.5 g/ha along the side of ridge in the month of June is recommended for the control of white grub in sugarcane.

Plant Pathology and Agri. Microbiology

39. Seed treatment to gram seeds with MPKV consortium (*Rhizobium,* phosphate solubilizing and potash mobilizing bacteria) @ 25 g/kg seed and application of 75% recommended dose of N, P and K chemical fertilizers is recommended for higher grain yield and saving 25% of recommended dose of chemical fertilizers.
40. Seed treatment to sorghum seeds with MPKV consortium (*Azotobacter,* phosphate solubilizing and potash mobilizing bacteria) @ 25 g/kg seed and application of 75% recommended dose of N, P and K chemical fertilizers is recommended for higher grain yield and saving 25% of recommended dose of chemical fertilizers.
41. Seed biopriming of black gram with MPKV liquid *Rhizobium* and PSB @ 25 ml each/kg seed/litre water for 12 hrs followed by drying in shade for 30 min before sowing and application of 50 % of recommended N and P_2O_5 (10 : 20 kg N and P_2O_5/ha) at the time of sowing is recommended for obtaining higher grain yield, monetary returns and saving of 50 % recommended N and P_2O_5 under dryland conditions in the medium deep black soils of scarcity zone of Maharashtra.
42. Seed biopriming of chickpea with MPKV liquid *Rhizobium* and PSB @ 25 ml each per litre water/kg seed for 6 hrs followed by drying in shade for 30 min before sowing and application of 50 % of recommended N, 75 % recommended P_2O_5 and 100 % recommended K_2O (13 : 38 : 30 kg N, P_2O_5 and K_2O/ha) at the time of sowing is recommended for obtaining higher grain yield, monetary returns and saving of 50% recommended N and 25 % P_2O_5 under dryland conditions in the medium deep black soils of scarcity zone of Maharashtra.

43. Seed biopriming of green gram with MPKV liquid *Rhizobium* and PSB @ 25 ml each/kg seed/litre water for 12 hrs followed by drying in shade for 30 min before sowing and application of 50 % of recommended N and P_2O_5 (10 : 20 kg N and P_2O_5/ha) at the time of sowing is recommended for obtaining higher grain yield, monetary returns and saving of 50 % recommended N and P_2O_5 under dryland conditions in the medium deep black soils of scarcity zone of Maharashtra.
44. Application of 25% of recommended dose of nitrogen (62.5 kg ha^{-1} N) + 75% phosphorus (86.25 kg ha^{-1} P_2O_5) + 100% potassium (115 kg ha^{-1} K_2O) and 20 t ha^{-1} FYM with sett treatment of PSB @ 1.25 kg ha^{-1} at the time of planting to suru sugarcane then, after 60 days of planting foliar spray of consortium of endophytic nitrogen fixing bacteria @ 3 l. ha^{-1} in 500 lit of water to sugarcane in the morning hours is recommended for obtaining equivalent use of recommended dose of fertilizer for cane, sugar yield and quality in medium deep black soils of western Maharashtra.
45. Spraying of fungicide Kresoxim methyl 44.3% SC @ 1 ml per litre water on appearance of disease and second spray after 10 days is recommended for effective management of leaf blight disease, obtaining higher yield and monetary returns in wheat crop.
46. Two sprays of Copper Hydroxide 53.8 % DF@ 1g/liter of water, first at Booting stage and second at 50 % Flowering stage are recommended for management of false smut disease of paddy for obtaining higher grain yield, straw yield and monetary returns.
47. Three sprays of the combi-fungicide azoxystrobin 18.2% + difenconazole 11.4% SC @ 0.1% (1 ml per litre water) at 15 days interval after disease appearance is recommended for effective management of rust disease of sugarcane.
48. For the preventive management of purple seed stain disease in soybean seed production and higher germination, seedling vigour and yield, two sprays of Picoxystrobin 22.52% SC @ 0.1% (1 ml/ L of water) at pods initiation and seed formation stage is recommended.

Agril. Engineering

49. MPKV developed 'LiDAR based sensor module' is recommended for detecting stem of orchard plants within defined range.
50. The "NiceSSM" mobile and web-based real time digital agro-advisory platform developed jointly by Mahatma Phule Krishi Vidyapeeth, GIZ and MANAGE, Hyderabad is recommended for adoption for farmers.

51. Mobile and web based “Phule Decision Support System for Irrigation Scheduling)Phule DSS-IS(” is recommended for decision making support on irrigation water requirementand time of operation of surface, sprinkler and drip irrigation methods using smart weather station data and different irrigation interval strategies for different crops.

Farm machinery and power engineering

52. ‘MPKV developed package of improved farm implements’ is recommended to save input cost, time, reduce cost of operation, reduces drudgery and increasing yield for Horticultural crops.

53. ‘MPKV developed package of improved farm implements’ is recommended to save input cost, time, reduce cost of operation, reduces drudgery and increasing yield for sugarcane crop.

Agril. Process Engineering

54. Use of 1200 mg ascorbic acid and 200 mg potassium metabisulphide as a preservative per kilogram of custard apple fruit pulp is recommended upto six months storage at -20 $\pm 2^{o}$C temperature.

Interfaculty Department of Irrigation Water Management

55. Application of 80% recommended dose of fertilizer (80:40:40, N: P_2O_5: K_2O kg/ha) of water soluble fertilizers through fertigation in 17 weekly splits as per following schedule is recommended for higher yield, efficient use of water and nutrient for summer bitter gourd cultivated in medium deep soils of western Maharashtra.

Fertilizer Schedule

Per cent nutrients applied in 17 weekly splits to summer bitter gourd

Days after transplanting	Nitrogen(N)		Phosphorus(P)		Potassium(K)	
	%	Kg	%	Kg	%	Kg
1-28 days (4weeks)	25	20.0	30	12.0	20	08.0
29-56 days (4weeks)	30	24.0	40	16.0	30	12.0
57-84 days (4weeks)	30	24.0	20	08.0	30	12.0
85-119 days (5weeks)	15	12.0	10	04.0	20	08.0
Total	**100**	**80.0**	**100**	**40.0**	**100**	**40.0**

Soil Water Conservation

56. 'Revised NDSSI' and 'Modified NDSSI' are recommended for analyzing the spectral behavior of suspended particles in reservoir.

Social Sciences

Agril. Economics

57. Geranium distillation unit's Internal Rate of Return was 32.47 per cent with 161 per cent more additional net income to the cultivators through value addition in geranium. Therefore, it is recommended that group of farmers or rural unemployed may opt geranium distillation units as a new start-up in potential areas.
58. On the basis of price analysis of chickpea in nine major markets (Latur, Daryapur, Hinganghat, Amravati, Nagpur, Akola, Washim, Khamgaon, Murtizapur) of Maharashtra, the prices of chickpea was observed maximum during the months of September to December and comparatively highest in Latur market. Therefore, it is recommended that the farmers may sell their chickpea during the months of September to December in nine major markets, instead of immediate sell after harvest for better price realization.
59. Considering the majority of dryland areas in Maharashtra and the increasing impact of climate change, it has been found that if farmers in dryland areas adopt dairy farming as a joint venture, their total income increases by 23 per cent and the risk is reduced by 21 per cent. Therefore, it is recommended to encourage farmers to take up dairy farming along with agriculture as a source of sustainable income and to reduce risk in dryland areas.
60. The non-basmati rice export from India is highly competitive and diversified with less international trade risk. Benin, Bangladesh, Nepal, Senegal ,Togo and Cote D' Ivoire are40 % export value providers and Benin, Bangladesh, Senegal and Togo are the most stable markets for Indian non-basmati rice. Therefore, it is recommended to encourage the non-basmati rice production and to increase the export of non- basmati rice to stable market and value providing importing countries.
61. Jasmine being a delicate and perishable flower, the fluctuations in its arrivals, did not bring drastic changes in the prices, indicating relatively stable prices. Therefore, cultivation of Jasmine as a source of assured income is recommended for farmers.
62. The study on trends in arrivals and prices of major foodgrain crops in Dhule, Nandurbar and Jalgaon APMCs indicated that most of the times farmers received up to 91 per cent less price compared to Minimum Support Prices as declared by the Central Government every year for

the major foodgrain crops viz; jowar, bajra, maize, wheat, tur and gram during last 11 years (2012-2022). Therefore, it is recommended that, APMC Dhule, Nandurbar and Jalgaon should see that farm produce brought for sale in these APMCs should not be sold below the MSPs declared by the Central Government from time to time and simultaneously, Government should start the procurement of this produce through FCI, NAFED and other Govt. Agencies or Govt. Shold adopt price support scheme in order to protect the interest of the farmers and to have the food security.

63. In MahaDBT-Krishi portal for reducing the cancellation of applications after getting selected in lottery and thereby avoiding unnecessary work burden and time lag in process, it is recommended that MahaDBT-Krishi portal should to make provision of preferential system for prioritizing the required component and accordingly to draw the lottery of the beneficiaries based on the preferences given by the farmers.
64. The economic impact analysis of the research study revealed that B:C ratio of local breed in poultry was 1.72, whereas Kaveri breed was 2.63. Hence, it is revealed that intervention of Kaveri breed in backyard poultry has given good returns to the respondents. Thus, it is recommended to use improved Kaveri breed in backyard poultry farming. Further, the availability of day old chicks of improved Kaveri breed is needed at village level. For this purpose the rural youth need to be promoted for development of entrepreneurship on egg incubation.

Statistics

65. On the basis of path analysis, the highest contribution of FYM in the yield of Rajma was found in both with and without fertilized plots. Hence, an application of fertilizer nutrients as per STCR based yield target equations with FYM is recommended for obtaining higher yield of Rajma, increasing fertilizer use efficiency and maintaining soil health.
66. The Maldives, Saudi Arab and UAE are major importer countries of Indian sheep and goat meat (90.0, 86.0 and 80.0 per cent respectively) and stable markets for prices (77.0, 84.0, and 82.0 per cent respectively). Therefore it is recommended that it needs to concentrate on these countries for export of Indian sheep and goat meat.
67. The Granger Causality Test results showed bidirectional effect on prices of Banana in between Nagpur-Jaipur markets and for Pomegranate in between Delhi-Bengaluru, Bengaluru -Chennai and Bengaluru -Kolkata markets which indicates change in prices has an

effect in both the markets. The unidirectional effect on prices of Banana and Pomegranate stating prices in only one market affecting prices in second market as given in table below.

Sr. No.	Market causing effect	Market being affected
A)	**Banana**	
1	Mumbai	Jaipur, Kolkata
2	Chennai	Kolkata
B)	**Pomegranate**	
1	Bengaluru	Mumbai, Nagpur
2	Mumbai	Chennai
3	Kolkata	Mumbai
4	Jaipur	Bengaluru, Chennai

It is recommended that the Banana and Pomegranate growers in India should consider the prices of market causing effect before taking decision of selling Banana and Pomegranate in market being affected to avoid potential price risks.

68. The Granger Causality Test results showed bidirectional effect on prices of Onion in between Lasalgaon- Bengaluru markets, for Tomato in between Delhi-Ahmedabad and for Potato in between Mumbai-Pune, Pune-Bengaluru and Bengaluru-Hyderabad markets which indicates change in prices has an effect in both the markets. The unidirectional effect on prices of onion, tomato and potato stating prices in only one market affecting prices in second market as given in table below.

Sr. No.	Market causing effect	Market being affected
A)	**Onion**	
1	Mumbai	Pune, Bengaluru, Delhi, Chennai
2	Delhi	Pune, Lasalgaon, Bengaluru, Chennai
3	Pune	Chennai
4	Lasalgaon	Chennai
B)	**Tomato**	
1	Mumbai	Pimpalgaon, Delhi
2	Ahmedabad	Mumbai
3	Chennai	Mumbai, Pimpalgaon, Ahmedabad, Delhi
C)	**Potato**	
1	Mumbai	Bengaluru, Hyderabad
2	Pune	Hyderabad
3	Delhi	Mumbai, Pune, Agra
4	Ahmedabad	Pune
5	Agra	Mumbai, Pune, Bengaluru, Hyderabad, Ahmedabad

It is recommended that the Onion, Tomato and Potato growers in India should consider the prices of market causing effect before taking decision of selling onion, tomato and potato in market being affected to avoid potential price risks.

Resistant Source for Biotic and Abiotic stress

69. Based on disease resistance reaction under natural and artificial epiphytotic conditions, *desi* chickpea genophyte RVSSG-64 is recommended as potential donor for dry root rot resistance in the chickpea improvement programme.