

after diluting with 9 times of water. *Jeevamrit* was applied during two and three times as per treatments.

### RESULTS

On the basis of pooled data of three years presented in Table-I, it was revealed that 100% recommended NPK (125:75:70 kg N,P,O, K,O/ha) application through chemical fertilizers gave significantly highest marketable curd yield, net return and BC ratio. Superiority of 100% chemical fertilization and integrated use of organics in cabbage was also reported by Chahal *et al.*, 2019.

### CONCLUSION

In cauliflower, although the significantly highest yield and net returns were obtained under recommended dose of fertilizers application, but considering long term sustainability, the integrated application of inorganic and organic sources of nutrients through 50% recommended NPK + 10 t/ha VC or 25% recommended NPK + 5 t/ha VC + 2 sprays of 19:19:19 @ 0.5% + 2 sprays of multiplex 0.25%

were the best treatments, which have registered 127.0 and 115.5% higher curd yield with additional net returns of Rs. 2,90,005 and 2,64,453, respectively over control.

### REFERENCES

- Chahal, H.S., Singh, S., Dhillon, I.S. and Kaur, S. 2019. Effect of Integrated nitrogen management on macronutrient availability under Cauliflower (*Brassica oleracea* var. *botrytis* L.). *International Journal of Current Microbiology and Applied Sciences* 8(4): 1623-1633.
- Kaloo, G. and Pandey, A.K. 2002. Vegetable production -Commendable progress in research. *The Hindu Survey of Indian Agriculture* pp. 159-163.
- Roy, R.N., Finck, A., Blair, G.J., Tandon, H.L.S. 2006. Plant nutrition for food security, a guide for integrated nutrient management. *FAO Fertilizer and Plant Nutrition Bulletin* 16, FAO, Rome.
- Tekasangla, Kanaujia, S.P. and Singh, P.K. 2015. Integrated nutrient management for quality production of cauliflower in acid allisols of Nagaland. *Karnataka Journal of Agricultural Sciences*, 28: 244-247.



Extended Summaries : 5th International Agronomy Congress, November 23-27, 2021, India

## Performance of summer groundnut in natural farming in comparison with organic and conventional farming practices

CHANDRASHEKHARA C.P., MANJUNATHA S.B., PATIL B.O., SANKALPA C.P., BASAVESHA K.N., MAMATHASHREE C.M. AND SHIVANAND GOUDRA

Natural farming Operational Research Project Zone -8 (Agriculture) Department of Agronomy,  
College of Agriculture, University of Agricultural Sciences, Dharwad- 580005  
Email: cpcshekar@gmail.com

Crisis of Indian agriculture is very pertinent at this moment as green revolution is gradually losing its hope. Excessive, pointless exploitation of broods of green revolution has left bad footprints on country's food security and environmental safety. With the motto to ensure food security by reviving Indian agriculture in environmentally safe way as well as to release farmers from debt cycle and suicides, zero budget natural farming (ZBNF) has come in to the picture, which discards uses of all the chemical farming inputs and relies on natural way of farming i.e. rejuvenating soil and crop health through its own practices (Beejamrutha, Jeevamrutha, mulching, soil aeration, intercropping, crop diversification and perennial trees on the bunds, bio-pesticides etc.). ZBNF movement right now is the most popular

agrarian movement which begun in 2002 in Karnataka and later successfully spread in many states of the nation.

### METHODOLOGY

A field experiment was conducted at MARS, University of Agricultural Sciences, Dharwad in Northern Transition Zone (Zone 8) of Karnataka on clay soil to study the effect of different farming practices on groundnut under irrigated conditions during summer 2018-19, 2019-20 and 2020-21. The experiment was laid out in randomized complete block design (CRBD) with eight replications. The treatments comprised of three farming practices T<sub>1</sub>: Recommended Package of Practices (RPP); T<sub>2</sub>: Organic farming (OF) and T<sub>3</sub>: Natural Farming (NF). The inputs used in different farming

Particulars	Recommended Package of Practices	Organic farming	Natural Farming
Seed treatment	<i>Rhizobium</i> @ 1250 g/ha + PSB @ 1250 g/ha and <i>Trichoderma</i> @ 5 g/kg seed	<i>Rhizobium</i> @ 1250 g/ha + PSB @ 1250 g/ha and <i>Trichoderma</i> @ 5 g/kg seed	Bejamrutha @ 25 litr./100 kg seed
Nutrients management	18-46-10 kg N: P:O <sub>2</sub> : K:O haapplied as a basal	Nutrient were supplied equivalent to recommended dose of Phosphorus (40 kg P <sub>2</sub> O <sub>5</sub> /ha) through FYM and VC (a 50 % each) FYM: 11.5 t/ha and Vermicompost 2.0 t/ha). Foliar application of Panthaveyya and soil application of Jecvamrutha done as per the recommendations	<ul style="list-style-type: none"> <li>• Ganjesevamarutha @ 1000 kg/ha in two equal splits @ 500 kg/ha at sowing and 30 DAS</li> <li>• Jecvamrutha was sprinkled on crop and soil @ 500 l/ha at 30, 50, 70 and 90 DAS.</li> </ul>
Plant protection measures adopted to control the pests and diseases	As per the conventional pesticides and fungicides	Beveta, Nuemorea and Pseudomonas fluorescense and other organic recommended formulations	Prescribed natural farming formulations like Neemasra (500 l/ha), Brahmasra (3%), Agni ashra (3%), Shanti ashray and Dhaashaparni were used

**Table 1.** Growth parameters of summer ground nut as influenced by different farming practices

Treatments	Plant height (cm)	No. Primary Branches / plant	Dry matter production (g/plant)	Number of pods/plant
T <sub>1</sub> : RPP	30.6	15.5	74.1	48.2
T <sub>2</sub> : Organic farming	27.1	13.2	64.3	47.9
T <sub>3</sub> : Natural Farming	27.4	16.0	68.8	52.8
S.E.m	0.7	0.9	1.8	2.3
CD (p= 0.05)	2.2	NS	5.5	NS

**Table 2.** Yield parameters of summer ground nut as influenced by different farming practices

Treatments	Pod weight (g/plant)	Test weight (g/100 seeds)	Shelling Percentage (%)	Pod yield (kg/ha)
T <sub>1</sub> : RPP	43.11	53.22	71.9	2954.3
T <sub>2</sub> : Organic farming	41.63	51.60	71.1	2710.9
T <sub>3</sub> : Natural Farming	41.31	50.05	70.2	2837.7
S.E.m	1.72	0.83	0.7	37.4
CD (p= 0.05)	NS	NS	2.2	115.2

practices are as follows.

## RESULTS

The pooled data of summer ground nut growth and yield components as influenced by different farming practices are presented in Table 1 and 2.

Pooled data indicated that growth parameters of summer ground nut differed significantly at harvest. RPP recorded significantly higher plant height (30.6 cm) and total dry matter production (74.1 g/plant) as compared to organic farming (27.1 cm and 64.3 g/plant) respectively and natural farming (27.4 cm and 68.8 g/plant) respectively. Among the different farming practices, natural farming recorded significantly higher number of primary branches (16.0) and mature pods per plant (63.5) and lower number of immature pods per plant (15.4) as compared to recommended package of practices and organic farming. Similarly significantly

higher pod yield (2954.3 kg/ha) as compared to organic farming (2710.9 kg/ha) and natural farming practices (2837.7 kg/ha). However organic farming and natural farming practices were on par with each other with respect to pod yield. Pod weight per plant, test weight and shelling percentage were found to be non significant among farming practices.

## CONCLUSION

Cultivation of summer ground nut under recommended package of practices has resulted in higher pod yield as compared to other farming practices. However organic farming and natural farming practices were on par with each other with respect to pod yield.

## REFERENCE

Bishnoi and Bhati 2017. An overview: Zero Budget Natural Farming. *Trends in BioScience* 10(46): 9314-9316.