



Research Article

CONSTRAINTS FACED BY THE FARMERS IN RELATION TO ORGANIC FERTILIZERS

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Received: August 31, 2018; Revised: September 11, 2018; Accepted: September 12, 2018; Published: September 15, 2018

Abstract: Agriculture has played a vital role in sustaining human life. The introduction of agricultural fertilizers has marked the new agricultural revolution. Organic fertilizers are the end product obtained from conversion of various organic wastes. It is used as supplements to chemical fertilizers leads to maximize the yield of the crop. The present study was confined to Junner and Ambegaon talukas of Pune district of Maharashtra state. Multi stage purposive sampling technique was used for the selection of district, talukas, villages and farmers. The data were collected by personal interview method and analyzed through Kendall's W technique to find constraints faced by the farmers. The study concluded that higher price of organic fertilizers was the main problem of farmers followed by lack of quality product, thinking of farmers about less effectiveness of organic fertilizers, lack of confidence towards different organic fertilizers practices and lack of timely availability of organic fertilizers.

Keywords: Constraints, Kendall's W technique, Organic Fertilizers

Citation: Ghangale S.N., et al. (2018) Constraints Faced by the Farmers in Relation to Organic Fertilizers. International Journal of Agriculture Sciences, ISSN: 0975-3710 & E-ISSN: 0975-9107, Volume 10, Issue 17, pp.- 7102-7103.

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Introduction

Organic fertilizers are naturally-occurring fertilizers. Naturally occurring organic fertilizers include manure, slurry, worm casting, peat, seaweed, humic acid, and guano. Processed organic fertilizers include compost, blood meal, bone meal, humic acid, amino acids, and seaweed extracts. The global demand for organic food products is growing at a very rapid rate. Currently 37.5 million hectares are under organic agricultural management worldwide. The region with the most organic agricultural land is Oceania with 12.2 million hectares, followed by Europe with 11.2 million hectares, Latin America (6.8 million hectares), Asia (3.2 million hectares), North America (3 million hectares) and Africa (1.1 million hectares). India can take advantage of the growing opportunities in organic agriculture making use of its varied agro-climatic conditions and traditional organic resources and farming practices. Almost 7 million ton of production potential currently is having through different sources as livestock accounts nearly 40 per cent. It is followed by crop residues (30 per cent) and other sources (15 per cent). Other sources include the rural compost, vermi-compost and agricultural wastes. India is also having a huge potential of nearly 1000 tons of bio-pesticide preparations. The total production of rural compost at all India level was 1693.2 lakh ton. The total area covered by these units was 697.4 lakh ha. Among different states, the maximum production (60%) and area (73%) was covered under Karnataka state. In case of urban compost, the cumulative total production was 152.6 lakh ton. The covered area was only 76.2 ha. The total urban compost was only accounted for 9 per cent share in the total rural compost production [1-2]. [Table-1] shows that production of organic manures has been increased from year by year. Production of rural compost is higher in the year of 2012-13. FYM has major share in the production of organic manures. As, in the year of 2012-13 production of organic manure was highest which 4115 MT [3].

Methodology

Selection of Samples

Multi stage purposive sampling technique was used for the selection of district, taluka's, villages and farmers. Pune district was selected purposively. In order to select the farmers, 2 taluka's Junner and Ambegaon were selected purposively for

the present investigation. 10 villages from Junner and 14 villages from Ambegaon taluka were selected randomly as per availability of the users of the organic fertilizers and total 120 farmers selected for the study purpose. The data was analyzed with the help of Kendall's W method.

Kendall's W

Kendall's W was used to find out the sequence of constraints faced by the farmers.

Suppose that object i is given the rank r_{ij} by judge number j , where there are in total n objects and m judges. Then the total rank given to object i is

$$R_i = \sum_{j=1}^m r_{ij} \dots \dots \dots (1)$$

And the mean value of these total ranks is

$$\bar{R}_i = \frac{1}{n} \sum_{i=1}^n R_i \dots \dots \dots (2)$$

The sum of squared deviations, S , is defined as

$$S = \sum_{i=1}^n (R_i - \bar{R})^2 \dots \dots \dots (3)$$

And then Kendall's W is defined as

$$W = \frac{12 S}{(n^3 - n) m^2} \dots \dots \dots (4)$$

If the test statistic W is 1, then all the judges or survey respondents have been unanimous, and each judge or respondent has assigned the same order to the list of objects or concerns. If W is 0, then there is no overall trend of agreement among the respondents, and their responses may be regarded as essentially random. Intermediate values of W indicate a greater or lesser degree of unanimity among the various judges or respondents [4-12].

Result and Discussion

The constraints faced by farmers in adoption of organic fertilizers have been revealed from the survey and from the mean rank column of [Table-2], it was inferred that higher price was the main problem of the farmers with mean score (2.44). Due to the higher price of the organic fertilizers in particular area, farmers are dis-satisfied with it. Study shows that lack of quality product (2.89) was the second largest problem of farmers. Due to over competition among the various companies, the production was increases in less time but quality of product was

Table-1 Production of organic manures in India (Unit-MT)

Year	Rural compost	FYM	City compost	Organic manure	Vermi compost	Other manure	Total manure
2008-09	486.40	1302.38	255.88	0.00	55.80	35.20	2135.66
2009-10	804.49	1220.65	618.96	0.00	73.72	40.62	2758.44
2010-11	797.54	2234.44	111.24	0.00	114.16	131.82	3389.20
2011-12	939.85	1860.64	140.86	0.00	268.51	35.43	3486.36
2012-13	1039.35	2850.50	143.05	0.00	53.71	29.17	4115.78
2013-14	224.98	1399.30	63.34	9.50	582.27	14.78	2294.15
2014-15	225.88	1400.39	64.22	10.19	583.20	14.76	2298.62
2015-16	231.40	1409.60	79.50	31.10	591.80	95.60	2547.90

Table-2 Constraints faced by the farmers

Problem	N	Mean	Std. Deviation	Min.	Max.	Assigned Rank
Higher price	120	2.44	2.411	1	10	1
Lack of quality product	120	2.89	2.386	1	10	2
Farmers thinking about organic fertilizers are less effective than chemical fertilizers	120	5.04	2.349	1	10	3
Lack of confidence towards different organic fertilizers practices	120	5.48	2.200	1	10	4
Lack of timely availability of organic fertilizers	120	5.87	3.054	1	10	5
Lack of guidance/training from expert personnel	120	5.94	2.306	1	10	6
Lack of knowledge about organic fertilizers	120	6.18	2.341	1	10	7
Lack of subsidies on organic fertilizers	120	6.76	2.401	2	10	8
Lack of interest	120	7.19	2.437	1	10	9
Complicated methods	120	7.20	2.191	1	10	10

decreases due to improper method of production of organic fertilizers. Farmers required quick result after applying the fertilizers, but organic fertilizers are slow effective than chemical fertilizers so that the problem of thinking of farmers about less effectiveness of organic fertilizers (5.04) was the third main problem. Lack of confidence towards different organic fertilizers practices (5.48) was also the main problem followed by lack of timely availability of organic fertilizers (5.87). Complicated method, lack of interest, lack of subsidies on organic fertilizers, lack of knowledge about organic fertilizers and lack of guidance/training from expert personnel was fewer problems faced by the farmers.

The Kendall's coefficient of concordance was 0.297, which reveals that there was the less degree of concordance (agreements) among the farmers in ordering of the problems. The significance value 0.000, which was less than 0.05, indicates that there was a significant difference in the ranking among the ten problems faced by the farmers.

Table-3 Test statistics – farmers

N	120
Kendall's W ^a	0.297
Chi-Square	320.711
DF	9
Asymp. Significance	0.000

a = Kendall's Coefficient of Concordance

Conclusion

Organic fertilizers are the end product obtained from conversion of various organic wastes. It is used as supplements to chemical fertilizers leads to maximize the yield of the crop. From the study it was found that the higher price of organic fertilizers was the main problem of the farmers in relation to organic fertilizers followed by quality product.

Application of research: Study of constraints faced by the farmers

Research Category: Agri-Business Management

Acknowledgement / Funding: Author thankful to Post Graduate Institute of Agri-Business Management, Junagadh Agricultural University, Junagadh, 362001, Gujarat, India

Research Guide or Chairperson of research: Dr K. A. Khunt

University: Junagadh Agricultural University, Junagadh, 362001, Gujarat, India.

Research project name or number: MBA Thesis

Author Contributions: All author equally contributed

Author statement: All authors read, reviewed, agree and approved the final manuscript.

Conflict of Interest: None declared

Ethical approval: This article does not contain any studies with human participants or animals performed by any of the authors.

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