



OWC 2020 Paper Submission - Science Forum

Topic 3 - Transition towards organic and sustainable food systems

OWC2020-SCI-1241

DEVELOPMENT AND STANDARDIZATION OF KNOWLEDGE TEST ON ORGANIC DAIRY FARMING (ODF) PRACTICES IN SUB TROPICS OF JAMMU REGION OF JAMMU AND KASHMIR UNION TERRITORY (INDIA)

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Abstract:

Organic farming is becoming very popular worldwide and being practiced in 181 countries of the world. In India too, the cultivated area under certified organic farming has increased exponentially over a decade. Intensive chemical based farming especially after green revolution has produced deteriorating effect on soil productivity and soil/animals/human health. Organic dairy production systems are knowledge and skill intensive, where the producers are expected to be knowledgeable about production norms, standards and practices for production and processing prescribed under approved standards. National Programme for Organic Production (NPOP) standards (2014) Government of India, International Federation of Organic Agriculture Movement, Germany (IFOAM) Norms for Organic Production and Processing, 2014 and Organic Animal Husbandry Development in Sikkim: The Road Map, Sikkim Organic Mission, Government of Sikkim, 2015 formed the basis for the subject matter of Knowledge test on organic dairy farming. As the knowledge plays a vital role in promoting and promulgating the practices of any farming. Therefore, a tool in the form of knowledge test was developed and standardized for measuring the knowledge of stakeholders regarding organic dairy farming practices. A total number of 55 statements were collected in the form of open-ended, multiple choice questions, True/False and Yes/No types, which were served to 30 dairy farmers of village Suchetgarh of block R.S.Pura in sub tropics of Jammu region of Jammu & Kashmir Union Territory of India for their response. Data were analyzed for calculating difficulty and discrimination index and 34 statements falling between the difficulty index of 30 to 80 and discrimination index of 0.30 to 0.55 were selected for calculating reliability and validity. Split-half reliability was calculated using Spearman Brown Prophecy Formula and was found to be 0.93. Internal consistency of the knowledge test was calculated using Cronbach's alpha (α) and the value was calculated to be 0.83 and was significant ($p < 0.05$), as Cronbach Alpha can be employed significantly for both binary-type (dichotomous) and large-scale data to judge the internal consistency of the instrument. The validity of knowledge test was established through content validity. Therefore, the final knowledge test containing 34 statements related to different aspects of organic dairy farming standards such as origin and conversion period, breeds and breeding aspects, Housing management, Feeding management, Animal Health Management, dairy animal welfare and Organic dairy Certification

were standardized. This test is suitable for assessing the knowledge level of the stakeholders for organic dairy farming practices and suitable interventions can be made for enhancing the knowledge, thus converting conventional dairy farmers to organic dairy farmers.

Introduction

21st century, a century of fast growth and dependence on machines. From early morning to the time to sleep, we are totally dependent on machines. In such a fast life, we often forget about one of very essentiality of our life i.e. food. Yes, food. It is not produced by machines but by plants and animals. If we don't bother about what we eat, certainly we are not bothered about its composition. We gained huge momentum in production of food through green revolution, white revolution, pink revolution, yellow revolution but at the same time incorporated many such chemicals and drugs in our food chain which have very deleterious effects on our health. Day by day, the use of such chemicals is increasing both in crop production and livestock production. Pesticides in crop production and antibiotics, hormones in livestock production, though had made us world leaders in food and milk production, giving food and nutritional security to our nation to some extent but along with such progress, it had endowed our body with many ailments due to bio-accumulation of those chemicals. The plant and animal produce treated with such chemicals serves as a slow poison for humans which are slowly killing our health and future generations. So, all around the world, the major producers are reverting back to chemical-free farming i.e. organic farming.

Organic farming is becoming very popular worldwide and being practiced in 181 countries (FiBL & IFOAM Year Book, 2019). In India too, the cultivated area under certified organic farming has increased exponentially over a decade from 0.04 million hectares in 2003-04 to 3.56 million Hectare in 2017-18 (APEDA, 2019). In 2017, 2.9 million organic producers were reported worldwide and India continues to be the country with highest number of producers (835'000) followed by Uganda (210'352) and Mexico (210'000) (FiBL & IFOAM Year Book, 2019). India is bestowed with lot of potential to produce all varieties of organic products due to its various agro climatic regions. In several parts of the country, the inherited tradition of organic farming is an added advantage. This holds promise for the organic producers to tap the market which is growing steadily in the domestic and export market (APEDA, 2019). Alongside cereals, spices, cotton, tea etc, the Gol is now keen to promote organic animal husbandry through focused attention on native breeds and local practices. In XIIth five year plan, the GOI has launched *Paramparagat Krishi Vikas Yojana(PKVY)*, under which Rs. 300 crores (Union Budget 2015-16) have been allocated to promote organic agriculture including organic animal husbandry. The organic livestock and poultry standards have also been notified for implementation by Agriculture and Processed Food products Export Development Agency (APEDA) since 1st June, 2015, which, however, are not yet known to the stakeholders indicating the need to fill this gap. Organic production systems are knowledge and skill intensive, where the producers are expected to be knowledgeable about production norms, standards and practices for production and processing prescribed under approved standards. National Programme for Organic Production (NPOP) standards (2014) Government of India, International Federation of Organic Agriculture Movement, Germany (IFOAM) Norms for Organic Production and Processing, 2014 and Organic Animal Husbandry Development in Sikkim: The Road Map, Sikkim Organic Mission, Government of Sikkim, 2015 formed the basis for the subject matter of Knowledge test on organic dairy farming. It is expected from the organic dairy producers that they are not only familiar with organic dairy standards, but also well versed in good agricultural/livestock production practices, animal welfare standards, regulatory requirements as applicable to livestock and food production in general. R.S.Pura block in sub tropics of Jammu region of India is known for the production of one of the best aromatic Basmati Rice in the India. Considering the importance of organic farming and its export potential at remunerative prices, the Department of Agriculture,

Jammu region has taken an initiative for production of organic basmati and made a cluster of 10 groups of basmati grower farmers with its headquarters at Suchetgarh in R.S.Pura block of Jammu Division of Jammu & Kashmir Union Territory of India. The cluster is named as "Suchetgarh Organic Basmati Rice Cluster" and the project is named as SOBRC. To promote organic dairy farming along with organic basmati rice cultivation, it is essential to study the knowledge level of farmers towards organic dairy farming practices. Therefore, a tool in the form of knowledge test was developed and standardized for measuring the knowledge of dairy farmers regarding organic dairy farming practices.

A total number of 55 items/statements were collected in the form of open-ended, multiple choice questions, True/False and Yes/No types, which were served to 30 farmers for their response. Data were analyzed for calculating difficulty and discrimination index and 34 items falling between the difficulty index of 30 to 80 and discrimination index of 0.30 to 0.55 were selected for calculating reliability and validity. Split-half reliability was calculated using Spearman Brown Prophecy Formula and was found to be 0.93. The Cronbach's Alpha was calculated to be 0.83 and was significant ($p < 0.05$). The validity of knowledge test was established through content validity.

Therefore, the final knowledge test containing 34 items related to organic dairy farming standards such as origin and conversion period, breeds and breeding aspects, Housing management, Feeding management, Animal Health Management, dairy animal welfare and Organic dairy Certification were standardized. The test can be used for assessing the knowledge gap of the dairy farmers for organic dairy farming practices and suitable interventions can be made for enhancing the knowledge, thus converting conventional dairy farmers to organic dairy farmers. Vyas and Maheshwari (2009) have stated that the success or failure of any programme or practice mainly depends upon the people's awareness and knowledge towards innovations, hence making it essential to quantitatively determine the knowledge level of stakeholders before initiating any developmental work. According to modern definition of knowledge by Oxford Dictionary, knowledge is a familiarity, awareness or understanding, of someone or something, such as facts, information, description or skills, which is acquired through experience or education by perceiving, discovering or learning. Kerlinger (1964) defined test as a systematic procedure in which the individual tested is presented with a set of constructed stimuli to which he responds, the responses enables the tester to make inference about the intended trait. Whereas knowledge test can be defined as an instrument of measurement for measuring the present proficiency, mastery and understanding of general and specific areas of knowledge. Therefore, to find out the knowledge level of respondents regarding organic dairy farming practices, knowledge test on organic dairy farming was developed and standardized.

Material and methods:

The knowledge test was developed according to the methodology given by Edwards (1957). According to criteria laid by Edwards (1957), 89 statements were initially selected encompassing major areas of organic dairy farming standards. The items selected were according to the level of knowledge and understanding of the dairy farmers. A relevancy check was done for these 89 items by sending mails to the experts from Veterinary Universities, Deemed Institutes and State Agricultural Universities for screening out non-relevant and weak statements. Finally 55 statements which considered 'most relevant' by the experts were selected. These 55 selected statements were administered to 30 dairy farmers of village Suchetgarh of block R.S.Pura. The responses were quantified by giving a score of one (1) to the correct response and zero (0) to the incorrect response or in case farmers do not know the answer. Thus, total number of correct answers rendered by an individual was the knowledge score secured by him. Thus, the range of obtainable score was 0-55. Item analysis was carried out using difficulty and discrimination index. The item analysis of a test usually yields two kinds of information, i.e. the item difficulty and item discrimination. The index of the item difficulty reveals how difficult the item is; whereas the index

of discrimination indicates the extent to which an item discriminates the well-informed farmer from the poorly informed ones. After calculating the score obtained by 30 respondents, the scores were arranged in a descending order. These 30 respondents were then divided into six equal groups, each having five respondents. These groups were named as G1, G2, G3, G4, G5 and G6 respectively. For calculating discrimination index, the middle two groups, i.e., G3 and G4 were eliminated. Only four extreme groups with high and low scores have been considered for computation of discrimination indices.

The difficulty index was measured in terms of percentage of correct responses obtained for a particular question. This was calculated by using the formula:

$$P_i = \frac{n_i}{N_i} \times 100$$

Where,

P_i = Difficulty index in percentage of the i^{th} item

n_i = Number of respondents giving correct answer, to i^{th} item

N_i = Total number of respondents to whom i^{th} item was administered i.e. 30 in the present study.

The discrimination index was calculated by using the method suggested by Mehta (1958). The formula by which the item discrimination index was calculated by using the given formula:

$$E^{1/3} = \frac{\{(S1 + S2) - (S5 + S6)\}}{N/3}$$

Where,

S1, S2, S5 and S6 = Frequencies of correct answers in G1, G2, G5 and G6 groups respectively

N = Total number of respondents in the sample of item analysis

Based on the results of difficulty and discrimination index, final selection of items was done. Two criteria viz. item difficulty and item discrimination index had been considered for selection of items in the final format of the knowledge test. A total of 34 items were included in the final format of the knowledge test.

Validity and Reliability

Further, all the knowledge items/statements were subjected to reliability and validity. Validity and reliability are two fundamental elements in the evaluation of a measurement instrument to enhance the accuracy of their assessment and evaluations (Tavakol and Dennick, 2011). In order to be useful, measurement instruments should be both valid and reliable. According to Messick (1993) "Validity is an overall evaluative judgement of the degree to which empirical evidence and theoretical rationales support the adequacy and appropriateness of inferences and actions based on test scores". Reliability is the extent to which the instrument consistently measures what it is intended to measure. While validity requires an instrument to be reliable, the reverse doesn't hold as an instrument can be reliable without being valid (Kimberlin and Winterstein, 2008).

Reliability in the present study was measured by split half method in which the format of 34 items was split into two halves of 17 each. Two sets of scores were obtained and were correlated using correlation between forms (r). Spearman Brown Prophecy Formula (also known as Spearman-Brown Prediction Formula) was used to calculate the reliability of full test and is given as under:

$$R = \frac{2r}{1+r}$$

Where,

R = Reliability of full test

r = Correlation between two half tests

For testing the internal consistency of the test, Cronbach's alpha (α) was calculated given by the formula:

$$\alpha = \frac{N \times c}{v + (N - 1) \times c}$$

Where,

N = Number of items.

c = Average covariance between item-pairs.

v = Average variance.

Cronbach's alpha determines the internal consistency or average correlation of items in a survey instrument to gauge its reliability (Reynaldo and Santos, 1999). It is a function of the number of items in a test, the average covariance between pairs of items, and the variance of the total score. It is a marker of internal consistency (Tavakol and Dennick, 2011). The value of alpha significantly depends on correlation among pairs of items in a questionnaire and affected by the length of the test (Falk and Savalei, 2011). Cronbach Alpha coefficient was invented by Professor Cronbach, and is a measure of squared correlation between observed scores and true scores. Alpha was firstly employed in 1951 by Lee Cronbach (Cronbach L, 1951) which presented a measure of the internal consistency of a test or scale. The resulting α coefficient of reliability ranges from 0 to 1 in providing the overall assessment of a measure's reliability. If all of the test items are entirely independent from one another (i.e., are not correlated or share no covariance), then $\alpha = 0$; and, if all of the items have high covariances, then α will approach 1 as the number of items in the test approaches infinity. In other words, the higher the α coefficient, the more the items have shared covariance and probably measure the same underlying concept. The general rule of thumb is that a Cronbach's alpha of .70 and above is good, .80 and above is better, and .90 and above is best. Cronbach Alpha can be employed significantly for both binary-type (dichotomous) and large-scale data to judge the reliability of the instrument (Goforth, 2015, Sharma 2016, and Singh *et al*, 2019).

Content Validity of Knowledge Test

The validity of knowledge test was established through content validity, which means the representativeness or sampling adequacy of the content of a measuring instrument. The content validity of the knowledge test was derived from a long list of test items representing the whole universe of latest organic dairy farming standards and practices viz National Programme for Organic Production (NPOP) standards for Organic Livestock, Poultry & Products, 2014; IFOAM norms for Organic Production and Processing, 2014; Organic Animal Husbandry Development in Sikkim: The Road Map, Sikkim Organic Mission, Government of Sikkim, 2015 and also in consultation with experts who had knowledge about organic dairy farming. It was assumed that the score obtained by administering the knowledge test of this study measures what was intended to measure.

Results and Discussion

Selection of items for the test

The responses were collected for 55 items based on knowledge regarding organic dairy farming practices from 30 respondents. For selection of items in the final format of the knowledge test, two criteria viz. item difficulty and item discrimination index had been considered. The underlying assumption in the statistics of item difficulty was linearly related to the level of individual's knowledge about organic dairy farming practices. When a respondent gave the correct answer to an item, it was assumed (Coombs, 1950) that the item is less difficult than his ability to cope with it. In the present study

items with difficulty index ranging from 30 to 80 and discrimination index ranging from 0.30 to 0.55 were included in the final format of the knowledge test as described by Mehta (1958). According to this procedure, 34 items were selected for the final format of knowledge test on organic dairy farming practices and is given in table1.

Reliability of the knowledge test

Reliability is the accuracy or precision of a measuring instrument (Kerlinger 1964). Reliability is concerned with the ability of an instrument to measure consistently while the reliability does not depend on validity of an instrument (Tavakol et al, 2008). Reliability in the present study was measured by split-half method. The coefficient of correlation between forms was found to be (r) 0.87. This correlation coefficient produces the reliability of the test. These coefficients underestimates the reliability of full-length measure which provides a larger sample of the content domain and also tend to produce a wider range of scores, both of which have the effect of raising the reliability estimates. Hence, the above coefficient needs to be corrected to give the stepped-up reliability of the whole measure or to give the reliability of the full-length test (R). Therefore, Spearman Brown Prophecy Formula (also known as Spearman-Brown Prediction Formula) was used. It is formula which relates the psychometric reliability of a test to the test length and has been used by the psychometricians to predict the reliability of a test after changing the test length. The value of R was found to be 0.93.

Internal consistency of the knowledge test

According to Yu, C. H. (2001) one could compute and examine internal consistency within a single test through Cronbach Alpha Coefficient, Kuder Richardson (KR) Formula, or Spilt-half Reliability Coefficient. Cronbach Alpha is recommended over the other two for the reasons such as it can be used for both binary-type and large-scale data. On the other hand, KR can be applied to dichotomously scored data only. Secondly, spilt-half can be viewed as a one-test equivalent to alternate form and test-retest, which use two tests. In spilt-half, one single test is treated as two tests by dividing the items into two subsets. Reliability is estimated by computing the correlation between the two subsets. Therefore, the reliability coefficient may vary from group to group. On the other hand, Cronbach Alpha is the mean of all possible spilt-half coefficients that are computed by the Rulon method (Crocker & Algina, 1986). In the present study, the internal consistency of the test was calculated using Cronbach's alpha (α) and the value was calculated to be 0.83, testifying the internal consistency of the knowledge test. All the coefficients were found to be significant at one per cent level of significance. Hence the knowledge test constructed was highly stable and reliable.

Table.1 Indices of difficulty and discrimination for items included in the final format of knowledge test

S. No.	Statements	Difficulty Index	Discrimination Index
I. Origin and Conversion Period			
1	Can landless farmers (having no organically managed land) practice ODF? Yes/No	50.0	0.40
2	How can a landless farmer (having no organically managed land) start ODF?	50.0	0.40
3	What is conversion period in organic dairy farming practices?	46.7	0.40
II. Breeds and Breeding			

4	Do you know that in ODF breeding systems shall be based on breeds that can be managed and can reproduce successfully under natural conditions? Yes/No	50.0	0.30
5	Is Artificial Insemination permitted in ODF? Yes/No	33.3	0.40
6	Whether genetically engineered breeds are allowed in organic dairy farming systems? Yes/No	46.7	0.30
7	At what age calves can be procured by the beginners from conventional farms to start organic dairying? a) One week b) Two weeks c) Three weeks d) Four weeks	36.7	0.50
8	Only indigenous dairy animals should be reared under ODF. True/False	36.7	0.30

III. Housing management

9	Adequate natural bedding materials for animals are necessarily required under ODF. True/False	80.0	0.50
10	What are the basic housing essentialities required in Organic Dairy Farms? a) Free movement b) accessibility to fresh air ,water and natural daylight c) protection from excessive sunlight and rain d) All of the above	30.0	0.50
11	Herd animals should be kept individually under ODF. True/False	43.3	0.30
12	Whether in general tethering is allowed in ODF? Yes/No	36.7	0.30
13	Maintenance of sanitation, hygiene and bio-security in dairy farms are essential in ODF. True/False	50.0	0.30
14	Whether animals of two different species can be kept together as per ODF standards? Yes/No	46.7	0.40
15	What should be the ideal floor space requirement (covered and uncovered in square metre) for keeping an adult dairy animal under ODF? a) 1.5, 3 b) 2.5, 5 c) 3.5, 7 d) 4.5.	33.3	0.30

IV. Feeding Management

16	Do you know that dairy animals under ODF should meet their nutritional requirements from organic forage and feed only? Yes/No	30.0	0.40
17	What should be the maximum percentage of non-organic feed (under adverse condition) on dry matter basis which can be fed to dairy animals under ODF? a) 10 b) 20 c) 40 d) 50	46.7	0.30
18	Do you know that feeding of urea and other synthetic nitrogen compounds like amino acids to dairy animals are prohibited in organic dairy farming? Yes/No	50.0	0.30

19	Young stock (calves) of dairy animals should be provided maternal milk or organic milk from their own species. True/False	60.0	0.50
20	What is the minimum weaning age for young stock (calves) of dairy animals under ODF? a) 1 month b) 3 months c) 6 months d) 12 month	50.0	0.30
V. Animal Health Management			
21	Which system of medicine should be prioritized in ODF? a) Allopathic b) Homeopathic c) Ayurvedic d) both b and c	50.0	0.30
22	Do you know that in ODF, vaccinations are allowed when a vaccination is legally required? Yes/No	50.0	0.30
23	Oxytocin can be used for milk let down in organic dairy animals. True or False	46.7	0.50
24	In ODF, allopathic medicine can be used when no other alternative is available, but if the animal is on allopathic treatment for two subsequent times in a year, then it loses its organic status for that year? True/False	50.0	0.30
25	Do you know that milk of sick animals treated with antibiotics can be consumed after drug withdrawal period? Yes/No	53.3	0.50
VI. Welfare			
26	Do you know that in ODF no sick animals should be put to work? Yes/No	53.3	0.50
27	Child labour is allowed in ODF. True or False	30.0	0.30
28	Whether tagging of each dairy animal is mandatory in ODF? Yes/No	30.0	0.30
29	Do you know that in ODF, mutilations in general are prohibited with some exceptions? Yes/No	46.7	0.40
VII. Organic dairy Certification			
30	Animal production records are mandatory under ODF for certification. True/ False	53.3	0.40
31	Do you know that to produce organic milk, dairy farm must be registered with an organic control body and production system?	36.7	0.40
32	Do you know about the certification process of organic dairy farming?	53.3	0.30

33	National Programme for Organic Production (NPOP) was started by (a) NCOF, Ghaziabad b) IARI, New Delhi c) NDRI, Karnal d) IVRI, Izzatnagar	46.7	0.30
34	Name few organic certifying agencies?	30.0	0.30

In the final selection of items, care was taken to include items covering the entire universe of relevant behavioural aspects of respondents with respect to knowledge about the organic dairy farming practices and it has been assumed that the scores obtained by administering the tests measures knowledge of the respondents as it was intended. The final knowledge test with answers is given in table 3.

Table.2 Knowledge test on organic dairy farming practices with answers

S. No.	Statements	Yes	No
I. Origin and Conversion Period			
1	Can landless farmers (having no organically managed land) practice ODF? No		
2	How can a landless farmer (having no organically managed land) start ODF? (By establishing a written cooperation (leased) agreement with another certified organic farmer/operator for feeding, housing and other organic standards requirements)		
3	What is conversion period in organic dairy farming practices? Organic farming involves undergoing a period of conversion in which the land, dairy animals and producer adjust to the organic methods		
II. Breeds and Breeding			
4	Whether in ODF breeding systems shall be based on breeds that can be managed and can reproduce successfully under natural conditions? Yes		
5	Is Artificial Insemination permitted in ODF? Yes		
6	Whether genetically engineered breeds are allowed in organic farming systems? No		
7	At what age calves can be procured by the beginners from conventional farms to start organic dairying? a) One week b) Two weeks c) Three weeks d) Four weeks		
8	Only indigenous dairy animals should be reared under ODF. True/False		
III. Housing management			
9	Adequate natural bedding materials for animals are necessarily required under ODF. True/False		
10	What are the basic housing essentialities required in Organic Dairy Farms? a) Free movement b) accessibility to fresh air ,water and natural daylight c) protection from excessive sunlight and rain d) All of the above		
11	Herd animals should be kept individually under ODF. True/False		

- 12 Whether in general tethering is allowed in ODF? **No**
- 13 Maintenance of sanitation, hygiene and bio-security in dairy farms are essential in ODF. **True/False**
- 14 Whether animals of two different species can be kept together as per ODF standards? **No**
- 15 What should be the ideal floor space requirement (covered and uncovered in m²) for keeping an adult dairy animal under ODF? a) 1.5, 3 b) 2.5, 5 c) **3.5, 7** d) 4.5, 9

IV. Feeding Management

- 16 Do you know that dairy animals under ODF should meet their nutritional requirements from organic forage and feed only? **Yes**
- 17 What should be the maximum percentage of non-organic feed (under adverse condition) on dry matter basis which can be fed to dairy animals under ODF? a) **10** b) 20 c) 40 d) 50
- 18 Do you know that feeding of urea and other synthetic nitrogen compounds like amino acids to dairy animals are prohibited in organic dairy farming? **Yes**
- 19 Young stock (calves) of dairy animals should be provided maternal milk or organic milk from their own species. **True/False**
- 20 What is the minimum weaning age for young stock (calves) of dairy animals under ODF? a) 1 month b) **3 months** c) 6 months d) 12 month

V. Animal Health Management

- 21 Which system of medicine should be prioritized in ODF? a) Allopathic b) Homeopathic c) Ayurvedic d) **both b and c**
- 22 Whether in ODF, vaccinations are allowed when a vaccination is legally required? **Yes**
- 23 Oxytocin can be used for milk let down in organic dairy animals. True or **False**
- 24 In ODF, allopathic medicine can be used when no other alternative is available, but if the animal is on allopathic treatment for two subsequent times in a year, then it loses its organic status for that year. **True**
- 25 Milk of sick animals treated with antibiotics can be consumed after drug withdrawal period? **True/False**

VI. Welfare

- 26 Whether in ODF, sick animals should be put to work? **No**
- 27 Child labour is allowed in ODF. True or **False**
- 28 Whether tagging of each dairy animal is mandatory in ODF? **Yes**
- 29 Whether in ODF, mutilations in general are prohibited with some exceptions? **Yes**

VII. Organic Certification

- 30 Animal production records are mandatory under ODF for certification. **True/False**
- 31 To produce organic milk, dairy farm must be registered with an organic control body and production system. **True/False**
- 32 Do you know about the certification process of organic dairy farming?
- 33 National Programme for Organic Production (NPOP) was started by (a) **NCOF, Ghaziabad** b) IARI, New Delhi c) NDRI, Karnal d) IVRI, Izzatnagar
- 34 Name few organic certifying agencies? Indocert, Ecocert, NPOP
- (Answers are presented in brackets or formatted bold)**

Utility and Conclusion

The test will serve as a tool to ascertain the knowledge of stakeholders regarding organic dairy farming practices. The test can be used by researchers, institutes and organizations for ascertaining the knowledge of respondents under study. The test can be used for estimating the net knowledge deficit regarding organic dairy farming practices that will thrust policy making in this direction. Assessment of knowledge gain and knowledge enhancing interventions can be made using the test. The test items presented in the test are simple in nature and easily understandable making the test handy to use.

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Disclosure of Interest: P. Kumar is employee of: SKUAST-Jammu, P. Slathia is employee of: SKUAST-Jammu, R. Peshin is employee of: SKUAST-Jammu, A. Singh has a conflict with: Ex Scholar, IVRI, Izzatnagar

Keywords: Binary-type (dichotomous) data, Cronbach's alpha, Knowledge Test, Organic Dairy Farming (ODF), Reliability, Validity