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Scale to Measure Growers' Adoption about Dry Farming Technology of Groundnut

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INTRODUCTION

Drylands constitute about 80 per cent of the aerable areas of the Saurashtra region where 60 to 75 per cent areas are under groundnut. The yield of groundnut is not only low but exeedingly fluctuating as well.

Like other crops, yield of groundnut is governed by various yield components viz. use of improved seeds, spacing, fertilisers and its application, agronomic practices, the control of pests and diseases. To have the maximum yield per unit of land, all these components must be fully and wisely adopted. The wide gap exists between the average yield of common farmers (523 kg/ha) and actual potential yield (979 kg/ha) of groundnut (Patel, 1982). It may be due to the fact that available dry farming technologies of groundnut are not adopted by the farmers.

Sometimes, it was very difficult for planners, policy makers, research scientists and extension workers to know the extent of adoption of groundnut growers about dry farming technology. No specific scale was available to measure the adoption of dry farming technology of groundnut and it was pertinent in agriculture, particularly in increasing yield of groundnut.

Keeping the above facts in view, a scale to measure Growers' Adoption about dry farming technology of groundnut was developed with the following objectives :

1. To develop a scale of measuring the extent of adoption of dry farming technology of groundnut by groundnut growers.
2. To test the reliability and validity of the scale.

METHODOLOGY

Seventeeen recommended practices of dry farming technology of groundnut were identified by consulting literature and experts in the field. These practices were grouped into six major heads as shown in Table 1.

The seventeen practices were circulated among 40 experts, who had more than 5 year experience in generating or propagating dry farming technology of groundnut. They were in the ranks of class-I and above as mentioned below :

1	Research Scientists	9
2	Associate Research Scientists	24
3	Joint/Dy. Director of Agriculture (Extension)	7
	Total	40

They were asked to distribute 100 scores among 17 practices, keeping in mind the importance of particular practice for contributing the groundnut yield. The weightage assigned to a practice by all the experts was summed up and arithmatic mean was calculated and rounded off to nearest integral figure.

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Realiability of Scale :

To know the reliability of adoption scale developed, the test- retest method was employed. The developed scale was administered twice to the 14 experts at 15 days interval, who were not previously interviewed. Thus, two sets of adoption scales were obtained for each of the 14 experts. The coefficient of correlation between the two sets of scale was calculated. The adoption scale developed for dry farming technology of groundnut was highly stable and significant (r=0.941).

RESULTS AND DISCUSSION

The practices and their weightage of adoption of dry farming technology are presented in Table 1.

These weightage (scales) can be used to work out the adoption quotient (Extent of adoption of dry farming technology) by using following formula (Chattopadhyay, 1974) :

Table 1. Practicewise weightage of adoption of dry farming technology of groundnut.

Group	Sr. No.	Practice	Weightage
I Manures & Manuring			(15)
	1	Soil testing	4
	2	FYM/Compost manuring	6
	3	Chemical fertilisers	5
II Improved variety			(9)
	4	Improved varieties of groundnut	9
III Seed and Seeding			(17)
	5	Seed rate	7
	6	Sowing distance	7
	7	Gap filling	3
IV Agronomic Practices			(29)
(Conservation of Soil	8	Cultivation across the slope	5
Moisture)	9	Earthing up/opening of furrow	6
	10	Supplementary irrigation	7
	11	Interculturing	5
	12	Weeding	6
V Plant Protection			(19)
	13	Seed treatment	5
	14	Control of insects & Pests	8
	15	Control of diseases	6
VI Contigent Crop Planning			(11)
	16	Intercropping	5
	17	Mid season correction	6
		Total	100

$$AQ = \frac{\sum \frac{e_1.w_1}{p_1} + \sum \frac{e_2.w_2}{p_2} + \sum \frac{e_n.w_n}{p_n}}{W.N.} \times 100$$

Where,

AQ = Adoption Quotient

$e_1 ... e_n$ = Extent of adoption in terms of score obtained by the groundnut growers for the particular practice.

$P_1 ... p_n$ = Potentiality of adoption in terms of score (considering the area) for the particular practice.

$W_1 ... W_n$ = Weightage of the particular practice.

W = Summation of weightages of all the practices included.

N = Numbr of years for which adoption quotient is calculated.

CONCLUSION

This adoption scale can be useful to measure the extent of adoption of dry farming technology for all the groundnut growers in all the groundnut growing states with slight modification depending upon local situation.

This scale will also provide a guide for developing the adoption scale in other crops too.

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