

Opinions Held by National Fair Visitors and Agricultural and Youth Administrators Concerning the Adoption of the Palm Tree Climbing Contests as an Agricultural Extension Innovation

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Abstract. Cultural and harvest operations of palm trees are expensive, due to the rising cost of production and shortage of skilled labor. This study was initiated to determine opinions held by visitors of the National Tradition Fair and administrators concerning the adoption of the palm tree climbing contest as extension innovation in Saudi Arabia, in order to solve the problems of shortage of skilled labor and rising cost of cultural operations.

The population of the study consisted of 167 individuals: 64 administrators and 103 visitors. A questionnaire was developed to secure the information needed for this study.

The majority of the respondents (86%) have agreed on conducting contests in the palm tree climbing. They strongly agreed that the contests are a mean to preserve the vocation of palm tree climbing from vanishing and will help in reducing cost of horticultural operations, and provide manual labor for farming and agricultural agencies.

The administrators rated the advantages of palm tree climbing significantly higher than the visitors, however, both groups were highly correlated.

Safety precautions are very necessary in this kind of contests. Shoes and protective clothes should be available for all participants. Trunks of the trees should be tested before the contests, to be sure that they are safe for climbing. Hand books could be distributed to participants to create knowledge about palm tree horticultural operations.

It is recommended that the heights of palm trees for contests be 5, 10 and 15 meters. In addition to climbing, speed and accuracy of performing some horticultural operations such as thinning, pollination, clean up and cutting of the bases of the leaves should be also included.

Introduction

Date palm is an important crop in Saudi Arabia. The government spends millions of Riyals on date cultivation and industry in the form of subsidies. [1]

The number of date palm tree in the Kingdom exceeds 12 millions and the annual yield of date is nearly 484, 225 tons. [1] The largest part of annual yield is locally consumed. The remaining part is exported to neighboring countries.

Dates play an important role in food security of Arab countries, if special attention is given to eliminate the technical, social and economical problems that hinder the production of date to reach its optimal level. Dates can be consumed locally to replace some imported nutritive items, or it can be exported through intensive and active propaganda in foreign markets. Moreover dates could be used in several industries. Harvest and cultural operations of date palm by traditional means is difficult and expensive, due to the rising cost of living and shortage of trained labor.

Date culture, in most date growing areas, has been traced with many challenging problems that threaten the existence of many commercially known, and desired varieties. Among these problems are changes in food habits, diseases and pests, shortage of skillful date growers, high cost of labor and the failure of the conventional methods of date palm propagation to provide date growers with large numbers of strong, reliable, true-to-type date palm offshoot, of the commercially known and desired varieties on demand. [2]

Pollination and harvest are the most difficult cultural practices of date plants because they require climbing the trees several times during the season. Climbing is dangerous and also time consuming and requires special training.

Harvesting is the most expensive operation and consisted of selectively hand-picking the individual mature fruits on each bunch. The number of handpickings each season is gradually reduced due to the shortage in the trained workers for harvesting and increasing cost of labor. [3]

Pollinating is the next most expensive operation. It had to be performed during the flowering period in order to ensure good yield. The scarcity of workers for harvesting was also reflected in an inadequate supply of skilled workers for pollinating. [3]

Most of the manual laborers in agriculture are coming from outside Saudi Arabia. The percentage of expatriates in the work force of Saudi Arabia has dramatically risen in recent years from 10% in 1960, to 25% in 1970 and to 50% in 1980. [4]

Mechanization of the cultural and harvest operations faces several problems. Among these problems, date palm trees are not arranged according to systematic pattern in the field that they are haphazardly planted. Moreover, the date palm trees are frequently intercropped with other crops. Also, flood irrigation is the common type of irrigation so the field is divided by drainage and irrigation ditches. All these factors combined together seem to hinder the introduction of mobile machines to carry out the required farming operations on such traditional date plantings.

Agricultural extension is concerned with helping date growers to solve their problems. It helps farmers and youths to set up structure and develop organizations.

These organizations will make it easier for extension services to work with farmers and rural youths, and will also serve as a channel for disseminating information and knowledge. [5]

Extension agents are making a special effort to attract young people to participate in extension work in order to educate them, to realize their full potential, to use their skills and talents, and to play a constructive part in shaping their own society.

Many countries now have special extension efforts directed toward young people. Examples include the village polytechnics in Kenya, the Jamaican youth crops, the youth voluntary services in India, the 4H clubs and FFA in the United States and the 4S in Panama [5]. These clubs have three main purposes, educational, economic, and recreational.

The main aims and purposes of FFA in the United States, as example, are: to develop competent, aggressive, rural and agricultural leadership; to create more interest in the intelligent choice of agricultural choice of agricultural occupations; to participate in worthy undertaking for the improvement of agriculture; and to provide and encourage the development of organized rural recreational activities [6].

Some of the recreation activities could be directed to serve the local community. In the agricultural community, several contests were developed to encourage the youth to participate in the local activities such as crop and livestock judging, tractor driving, cow calling, bull riding, and other agriculture activities.

This study was initiated to determine opinion held by the national fair visitors and agricultural and youth administrators concerning the adoption of palm tree climbing contests as an agricultural extension innovation in Saudi Arabia, and to assess their advantages.

Methodology

This study was conducted in Riyadh region. The population of the study consisted of 64 administrators and 103 of 300 visitors of the National Fair who agreed to be interviewed while they were visiting Agricultural College booth during the last two days of the 14 days National Fair in 1989. The 64 administrators consisted of all agricultural officers in the Agricultural Bank; (14:29.7%); all agricultural personnel in Riyadh Branch of the Ministry of Agriculture; (13:20.3%); all officers in the Department of Sports at the General Presidency of Youth Welfare; (21:32.8%); all officers in the Department of National Fair at the National Guard (11:17.2%). The population was personally interviewed using a questionnaire.

Items for the questionnaire were selected after a thorough review of literature. A three-member panel of extension personnel reviewed the questionnaire to estab-

fish content validity. Modifications were made according to the suggestion of the extension panel. The responses were recorded on a five – point evaluation scale. (Strongly disagree = 1, disagree = 2, undecided = 3, agree = 4, strongly agree = 5).

The data were analyzed using the statistical analysis package program from the SAS User's Guide [7]. The following statistical procedures were used; frequencies, analysis of variance, t-test, rank, and chi-square. The significance tests were performed at the .05 level of probability.

Results

The results showed that 60.5% of respondents were less than 30 years old, 26.3% were 30–40 years old, and the remainder (13.2%) were 40 years. Only (23.4%) were agriculturists. About 49% had less than five years of experience in their job, and 26.3% had more than 10 years of experience. A high proportion (52.7%) had experience in palm tree production (Table 1).

Table 1. Distribution of respondents according to some demographic variables

Age	No.	%	Profession	No.	%	Experience in their job	No.	%	* Exp.	No.	%
< 30	101	60.5	Agriculture	39	23.4	< 5	81	48.5	Yes	88	52.7
30–40	44	26.3	Non-agriculture	128	76.6	5–10	42	25.2	No	79	47.3
> 40	22	13.2				> 10	61	26.3			
Total	167	100		167	100		167	100		167	100

*Experience in palm tree production.

The majority of the respondents (86%) have agreed on conducting contests in the palm tree climbing. About 32% of them said, the contests should be part of the activities of the National Tree Week, (43.2%) said, the contests should be part of the activities of the National Traditional Fair, and (19.3%) would like to see the contests as part of the activities of the General Presidency of Youth Welfare (Table 2).

About 41% of the respondents said, the participants in the contests should be recognized for their achievement by awards presented in the form of gifts such as date palm offshoots. About 35% of respondents said, the awards should be presented in the form of trophies, and (24.8%) of them said, the award should be presented in cash. About 44% of the respondents suggested that, the age of the participants in the contest should be 15–30 years, and about 34% of them said, the age of the participants should be > 30 years (Table 2).

The respondents strongly agreed on one advantage for the contest. It is preserving the vocation of palm trees climbing from vanishing. They also agreed on the rest as advantages for palm trees climbing (Table 3).

Table 2. Opinion of respondents concerning the adoption of palm tree climbing as extension innovation

Opinion	No.	%	Age for climbing	No.	%	Awards for climbing*	No.	%	Arrangement of climbing*	No.	%
Agree	143	86.1	<15	17	10.2	Cash	54	24.8	General Presidency of Youth Welfare	47	19.3
Disagree	24	13.9	15-30	72	43.4	Gifts	85	40.4	National Fair	105	43.2
			>30	56	33.7	Trophies	75	34.9	During the week of tree	75	31.5
			Undecided	21	12.7				Other	15	6.17
Total	167	100		167	100		218	100		243	100

* Respondents are asked to select more than one answer.

Table 3. Means (standard deviation) of the advantages of palm tree climbing content for the administrators (A) and visitors (B) and their test of significance.

Advantages	Mean		General mean	S.D.	
	A	B		A	B
1 - Providing skilled labor for palm tree planting	3.86a(9)	3.40b(6)	3.64(8)	0.89	1.35
2 - Converting unskilled labor to skilled labor in horticultural practices	3.92a(7)	3.14b(10)	3.53(10)	0.82	1.41
3 - Providing manual labor for farming and agricultural agencies	3.66a(13)	3.12b(12)	3.39(12)	0.89	1.38
4 - Providing opportunity of work for uneducated laborers	4.08a(3)	3.42b(5)	3.75(5)	0.78	1.49
5 - Planting palm trees at sport clubs and public squares	4.05a(4)	3.66b(3)	3.86(3)	0.93	1.46
6 - Training youth on palm tree climbing	4.25a(2)	3.66b(3)	3.95(2)	0.63	1.38
7 - Preserving the vocation of palm tree climbing from vanishing	4.34a(1)	3.98b(1)	4.14(1)	0.69	1.41
8 - Motivating the interest in manufacturing the traditional materials of climbing	3.95a(6)	3.36b(9)	3.65(7)	0.74	1.49
9 - Reducing cost of horticultural practices	3.80a(10)	3.37b(8)	3.58(9)	0.91	1.41
10 - Using shoes for climbing	3.66a(12)	2.89b(13)	3.27(13)	0.95	1.56
11 - Wearing protective clothes while climbing	3.72a(11)	3.14b(11)	3.42(11)	0.86	1.54
12 - Improving the traditional materials used for climbing	3.92a(7)	3.40b(5)	3.66(6)	0.76	1.44
13 - Stressing the importance of cutting of base of the leaves	4.03a(5)	3.70b(2)	3.86(5)	0.71	1.42

*for each advantage, means followed by different letters are significant at the .05 level of probability. Number between parenthesis are the rank of the advantage.

The administrators strongly agree on five advantages for the contest. They are preserving the vocation of palm tree climbing from vanishing, training youth on palm tree climbing, providing opportunity of work for uneducated labors, planting palm trees at sport clubs and public squares, and stressing the importance of the cutting of base of the leaves (Table 3).

On the other hand, the visitors agreed on all the advantages, whereas the administrators agreed on eight advantages for the contest. They are motivating some people to be involved in manufacturing the traditional materials used on palm tree climbing, improving the traditional materials used to climb tree, converting unskilled labor to skilled labor familiar with palm tree horticultural practices, providing skilled labor for palm tree planting, reducing cost of horticultural practices, wearing protective clothes while climbing, using shoes for climbing, and providing manual labor for farming and agricultural agencies (Table 3).

Spearman's coefficient of rank correlation was calculated to test the association between the reaction of the visitors and the administrators to the 13 advantages. The correlation coefficient amounted to 0.857, a highly significant value that would indicate that the two groups were highly correlated in judging the different advantages of the contest.

Means of the administrators were significantly higher than those for the visitors for the different advantages, except stressing the importance of culting of leaf bases, according to the t-test at the .05 level of probability (Table 3). Also the ANOVA revealed that the four groups of officers belonging to the administrators were equal in their means for all the advantages except converting the unskilled labor to skilled labor, wearing protective clothes and providing manual labor for farming (Table 4).

The frequency of the response was computed for each of the thirteen advantages of the contest. A chi-square test for independence was used to test the significant difference between response frequencies of administrators when grouped according to age, work, education, experience, and the knowledge in palm tree production. It was found that, there were no significant differences between response frequencies of administrators for the advantages of contests, when grouped according to these demographic variables.

Table 5 shows that there were no significant differences between the two classes of visitors when grouped according to their experience with palm tree production according to t-test at the .05 level of probability.

Conclusion

Sport is probably the most common social and recreational activity of youth. Some countries are making sport from the agricultural vocation. Bulldogging, horse-

Table 4. Summary of ANOVA for the advantages of palm tree climbing to test the differences among the four groups of administrators.

Advantage	df	Anova SS	F-Value	PR > F
1- Preserving the vocation of palm trees climbing from vanishing	3	3.548911	1.54	0.2142
2- Training youth on palm trees climbing	3	0.929405	0.45	0.7210
3- Planting palm trees at sport clubs and public squares	3	2.008385	0.83	0.4829
4- Stressing the importance of the cutting of base of the leaves	3	1.758876	1.01	0.3950
5- Providing opportunity of work for uneducated labors	3	0.214686	0.08	0.9714
6- Improving the traditional materials used for climbing trees	3	0.396794	0.27	0.8482
7- Motivating some people to be involved in manufacturing the traditional materials used for palm trees climbing	3	1.071322	0.73	0.5383
8- Providing skilled labor for the improvement of palm trees planting	3	0.358227	0.20	0.8485
9- Reducing cost of horticultural operations	3	3.565256	1.47	0.2341
10- Converting unskilled labors to skilled labor familiar with palm trees horticultural operations	3	7.683026	3.15*	0.0313
11- Wearing protective clothing while climbing	3	12.115094	6.96*	0.0004
12- Providing manual labor for farmers and agricultural agencies	3	4.471863	2.78*	0.0485
13- Using shoes for climbing	3	0.594246	0.38	0.7663

*at the .05 level of probability.

riding and tractor racing are the most common activities of Rodeo in the United States of America. A high proportion (86%) of the respondents in the study agreed, that the palm tree climbing contests is very good vocational sport. It can be used as extension innovation in Saudi Arabia. It is a suitable activity during either the National Tree Week or the National Tradition Fair. Also it could be a part of the activities of the Department of Sport for All, at the General Presidency of Youth Welfare.

Many farmers, in Saudi Arabia, are skillful in palm tree climbing, and they can use their experience in coaching interested participants. Palm tree climbing will be a very good extension innovation in Saudi Arabia, if mass media expose the contests to people, and extension agents concentrated their efforts on creating awareness of these contests.

The advantages of palm tree climbing contests were preserving the vocation of palm tree climbing from vanishing, training youth on palm tree climbing, providing opportunity of work for uneducated labor, and planting palm trees at sport clubs and public squares.

Table 5. Means (x) standard deviation (SD) for the two groups of the visitors classified according to their experience in palm tree production, for the different advantages of palm tree climbing.

Advantages	Exp.	No.	Mean*	S.D.	T	PR>T
1-Providing skilled labor for palm tree planting	Yes	49	3.57	1.32	1.17	0.244
	No	54	3.26	1.38		
2-Converting unskilled labors to skilled labor in horticultural practices	Yes	49	3.04	1.47	0.717	0.475
	No	54	3.20	1.36		
3-Providing manual labor for farming and agricultural agencies	Yes	49	3.00	1.47	0.885	0.378
	No	54	3.24	1.29		
4-Providing opportunity of work for uneducated labors	Yes	49	3.67	1.51	0.386	0.700
	No	54	3.48	1.49		
5-Planting palm trees at sport clubs and public squares	Yes	49	3.77	1.432	0.634	0.527
	No	54	3.99	1.486		
6-Training youth on palm tree climbing	Yes	49	3.67	1.40	0.092	0.926
	No	54	3.64	1.37		
7-Preserving the vocation of palm tree climbing from vanishing	Yes	49	4.12	1.36	0.974	0.332
	No	54	3.85	1.44		
8-Motivating the interest in manufacturing the traditional materials of climbing	Yes	49	3.89	1.50	0.843	0.400
	No	54	3.24	1.49		
9-Reducing cost of horticultural practices	Yes	49	3.41	1.41	0.268	0.789
	No	54	3.33	1.41		
10-Using shoes for climbing	Yes	49	2.82	1.61	0.474	0.657
	No	54	2.96	1.53		
11-Wearing protective clothes while climbing	Yes	49	3.20	1.57	0.366	0.715
	No	54	3.09	1.52		
12-Improving the traditional materials used for climbing	Yes	49	3.43	1.37	0.203	0.839
	No	54	3.37	1.52		
13-Stressing the importance of cutting of base of the leaves	Yes	49	3.86	1.33	1.011	0.314
	No	54	3.57	1.49		

*Differences between the two groups were not significant according to t-test at the 0.05 level of probability.

Safety precautions are very necessary in this kind of contests. Shoes and protective clothes should be available for all participants. trunk of the trees should be tested before the contests, to be sure that they are safe for climbing. Hand books could be distributed on participants to create knowledge about palm tree horticultural practices.

It is recommended that the heights of palm trees for contests be 5, 10 and 15 m. The contests should also include in addition to climbing, speed and accuracy of performing some horticultural practices such as thinning, pollination, clean up and cutting of the base of the leaves.

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آراء زوار المعرض الوطني والمسؤولين من وزارة الزراعة والمياه والبنك الزراعي
والحرس الوطني والرئاسة العامة لرعاية الشباب حول تبنى مسابقة في تسلق
النخيل كمنفعة إرشادية جديدة في المملكة العربية السعودية

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ملخص البحث: تعتبر التمور من أهم المحاصيل الزراعية في المملكة العربية السعودية، لكن يعاني إنتاجها من عدة مشكلات منها قلة عدد العمال الذين يجيدون إتقان العمليات الزراعية والخاصة بخدمة النخيل وارتفاع أجور العمالة الزراعية. لذلك يهدف هذا البحث إلى إجراء مسابقات في تسلق النخيل كشط إرشادي قد يساعد في توفير عدد من العمال المهرة بالإضافة إلى خفض نفقات أجور العمالة الزراعية. ولإجراء الدراسة تم استطلاع آراء ١٦٧ شخصاً من الجمهور في مهرجان الجنادرية والمسؤولين من وزارة الزراعة والمياه، والبنك الزراعي العربي السعودي والحرس الوطني والرئاسة العامة لرعاية الشباب، وقد صممت استمارة خاصة لجمع البيانات. وقد أوضحت النتائج أن ٨٦٪ من المسجونين يرون أهمية القيام بمثل هذا المسابقة لما لها من فوائد منها:

المحافظة على المهنة من الاندثار، تدريب الشباب على تسلق النخيل، تأمين فرص العمل للأشخاص الذين لا يتمتعون بمؤهلات علمية، غرس أعداد من النخيل في الميادين والأندية الرياضية، الاهتمام بتكريب النخيل، وتبين أن الوقت الملائم لإجراء مثل هذه المسابقة هو أسبوع الشجرة أو أسابيع المهرجان الشعبي في الجنادرية. وقد وجد أن هناك فروقاً معنوية بين زوار المعرض الوطني والمسؤولين فيما يتعلق بفوائد إجراء المسابقة إذ وجد أن المسؤولين كانوا أكثر تقارباً في أن هذه المسابقة سوف تحقق الأهداف المرسومة لها. وحيث إن مثل هذه المسابقة لها بعض المخاطر لذلك فإن احتياطات السلامة لابد من الأخذ بها، مثل استعمال الأحذية والملابس الواقية التي تحمي المتسابقين من السقوط، وكذلك يجب إجراء اختبارات على جنود النخيل المستعملة للسياق حتى يتم التأكد من قوة وسلامة الجذع. وقد أوصت الدراسة بالألتوقف المسابقة على صعود النخلة من أسفل إلى أعلى بل يطلب من المتسابقين السرعة والدقة في إنجاز بعض العمليات الزراعية مثل التكريب والتشويك وقطع الجريد والتلقيح والتدلية وغيرها من العمليات الزراعية الأخرى. كذلك أوصى بإجراء المسابقة على نخيل ذي ثلاثة مستويات من الارتفاع هي ١٠.٥، ١٥، ١٥ مترًا.