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Factors influencing the adoption level of farmers towards glory lily cultivation

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ABSTRACT

Dindigul and Tuticorin have suitable agro-climatic conditions for cultivation of medicinal plants. There is a need to take up a systematic approach towards cultivation of medicinal plants to provide a consistent supply of medicinal plant produce of international quality. It is imperative to study the adoption of glory lily recommended practices by the medicinal plant farmers in their cultivation. The farmer in his day to day business uses a wide range of resources. Within this view, the present paper has been taken up with the adoption of glory lily technologies. In view of this, Dindigul district was selected purposively for the analysis of production and marketing of glory lily. The purposive sampling technique was used to select one block in the Dindigul district. The extent of adoption of glory lily cultivation practices by the respondents major glory lily cultivation practices were selected in consultation with the extension officials, researchers and based on the available literature. More than fifty per cent of the respondents had medium level of adoption followed nearly one-third of the respondent who had high level of adoption.

Keywords: glory lily, respondents, adoption level

Introduction

India is said to be the home to 8,000 species out of 21,000 species used for medicinal purpose in the world. Around 800 species are used by industries and out of which 25.00 per cent are cultivated (NBPGR, 1996) this rich bio-diversity together with diverse agro-climatic conditions provides unlimited opportunities for India to cultivate a variety of medicinal plants demanded by the market.

The demand for medicinal plants in India - to meet both domestic and export market - comprising 162 species, is expected to increase at about 15.00-16.00 per cent between 2002 and 2005 (CRPA, 2001). The current gap between demand and supply is estimated to be 40,000 to 2,00,000 tonnes, which is expected to rise to 1.52.000 to 4,00,000 tons by 2005 (Planning Commission, 2000 and CRPA, 2001). This indicates that we have not capitalized the market, neglecting the export of medicinal plants, especially finished and the processed crude drugs exports. This gap, together with the opening of international market for trade and commerce under WTO regime, provides opportunities for India to become a global leader in marketing of medicinal plants.

Tamil Nadu, situated at the southern tip of India is blessed with diverse ecological habitats, which harbour and sustain immense plant diversity with a total area under medicinal and aromatic plants of about 7000 ha. It not only ranks first in the production of senna, but also produces superior quality periwinkle and *Gloriosa* products in the world. Senna, periwinkle and ashwagandha are grown more in Tirunelveli and Ramanathapuram districts, whereas glory lily, ashwagandha and *Coleus* are found in Salem, Namakkal, Madurai and Dindigul districts.

Dindigul and Tuticorin have suitable agro-climatic conditions for cultivation of medicinal plants. There is a need to take up a systematic approach towards cultivation of medicinal plants to provide a consistent supply of medicinal plant produce of international quality. Glory lily & senna is two of the medicinal plants widely cultivated by the farmers in the district.

Methodology

Glory lily is a native of tropical Asia and Africa. It is found in India, Madagascar, Sri Lanka,

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Indonesia and on the adjacent islands. It is found throughout tropical India, from northwest Himalayas to Assam and Deccan peninsula, extending upto an elevation of 2,120 m (www.nandhiniherbs.com). Glory lily is commercially cultivated in Tamil Nadu, Karnataka and Andhra Pradesh. However, Tamil Nadu state leads in production and export of *Gloriosa* seeds in India. In Tamil Nadu, it is grown in Erode, Dindigul, Athur, Salem and Madurai covering an area of about 1000 ha. The annual production of seed is about 400 tonnes, and about Rs.80 million worth of seeds are exported to other countries especially Italy and USA.

Finding discussion

Table 1: Association and contribution of characteristics of glory lily growers and their extent of adoption of recommended cultivation technologies (n = 100)

Var. No	Variables	'r' value	Standartised regression co-efficient	Standard error	't' value
X ₁	Age	0.162 NS	0.366	0.166	1.412 NS
X ₂	Educational status	0.199*	2.162	1.112	1.949*
X ₃	Occupational status	0.101 NS	-0.986	0.712	-1.384 NS
X ₄	Farm Size	0.092 NS	1.510	1.001	1.508 NS
X ₅	Area under medicinal plants	0.142 NS	-0.732	0.500	-1.464 NS
X ₆	Social Participation	0.207*	2.068	1.200	1.723*
X ₇	Extension agency contact	0.216*	0.648	0.312	2.162*
X ₈	Mass media exposure	0.162 NS	-2.001	1.400	1.429 NS
X ₉	Risk orientation	0.262**	0.998	0.400	2.450**
X ₁₀	Scientific orientation	0.241*	1.629	0.812	2.012*
X ₁₁	Cosmopoliteness	0.065 NS	-2.468	1.962	1.086 NS
X ₁₂	Export potentiality	0.161 NS	0.442	0.300	1.112 NS

a - 9.654 $R^2 = 0.546$ $F = 7.012^{**}$

** - Significant at 0.01 per cent level of Probability

* - Significant at 0.05 per cent level of Probability

NS - Non - Significant

A. Association of characteristics of glory lily growers and their extent of adoption of recommended cultivation practices of glory lily

The results in Table 1, exhibited that out of 12 variables considered for the study, the variables risk orientation (X₉) had shown positive and significant association with extent of adoption of glory lily at one per cent level of probability. The variables educational status (X₂), social participation (X₆), extension agency contact (X₇) and scientific orientation (X₁₀) also had significant association at five per cent level of probability. The correlation values for the rest of seven variables showed non-significant association with the extent of adoption of glory lily growers.

Educational status had shown positive and significant association at 0.05 per cent level of probability. It may be stated that more than 70.00 per cent literate would have enhanced the adoption of new and existing technologies in glory lily cultivation. This finding is in line with the findings of Sudhakar (2007)^[2].

The Positive and significant association towards social participation at 0.05 per cent level of probability is understandable. It is quite natural that the respondents with medium level of social participation would have more opportunities to acquire information and credit from various social institutions. This might have enabled them to identified their result is agreement with the results of Sudhakar (2007)^[2].

Extension agencies contact had also shown a positive and significant relationship at 0.05 per cent level of probability. Thus, it is quite obvious for the respondents with high extension agencies contact tendency to have increased adoption of medicinal plants

Dindigul and Tuticorin districts were selected purposively for conducting the survey with respect to glory lily and senna, respectively. The glory lily is mainly cultivated in Dindigul, Erode and Salem districts of Tamil Nadu. The Dindigul district has larger area under commercial cultivation of glory lily and is expanding the area in the recent years. Because of this process, the buyers from all over India have established their purchasing counters in this area. In view of this, Dindigul district was selected purposively for the analysis of production and marketing of glory lily. The purposive sampling technique was used to select one block in the Dindigul district.

technologies for better utilization of technologies. This results of is in agreement with the findings of Jeyaseelan (2005)^[1].

Risk orientation had shown a positive and significant association with extent of adoption of glory lily is the characteristics feature of medicinal plant growers. Hence, the respondents with more risk orientation would have high level of adoption in glory lily. This is how the positive and significant association between risk orientation and extent of adoption of recommended cultivation practices of glory lily.

Scientific orientation had exhibited a positive and significant association at 0.05 per cent level of probability. This might be due to the fact that most of the glory lily growers had high level of favour their attitude towards higher adoption in glory lily cultivation. This result is in agreement with the results of Sudhakar (2007)^[2].

B. Contribution of Characteristics of glory lily growers and their extent of adoption of recommended cultivation practices of glory lily

The multiple regression analysis was performed in find out the extent of contribution of each characteristics towards the extent of adoption of recommended practices of glory lily cultivation.

The data in Table 2 indicate that the R^2 value was 0.546 which revealed that 54.60 per cent of variation in the extent of adoption of glory lily was explained by twelve variables selected for the study. Since the 'f' value was significant at one per cent level of probability, the predication equation was found for the extent of adoption of recommended practices of glory lily cultivation of the

respondents as given below:

$$Y = 9.654 + 0.366x_1 + 2.162 x_2 - 0.986 x_3 + 7.510 x_4 - 0.732 x_5 + 2.068 x_6 + 0.648 x_7 - 2.001 x_8 + 0.998 x_9 + 1.629 x_{10} - 2.468 x_{11} + 0.442 x_{12}.$$

It could be seen from the above equation that the regression coefficient of one variables namely risk orientation (X_9) were found to be positive and significant contribution towards the extent of adoption of glory lily at one per cent level of probability. Educational status (X_2), social participation (X_6), extension agency contact (X_7) and scientific orientation (X_{10}) had positive and significant contribution at 0.05 per cent level of probability with extent of glory lily cultivation practices.

The strength of contribution of these variables can be explained as an unit increased *ceteris paribus* in educational status (X_2), social participation (X_5), extension agency contact (X_7), risk orientation (X_9) and scientific orientation (X_{10}) would increased the extent of adoption of the respondents by 2.162, 2.068, 0.648, 0.998 and 1.629 units respectively.

Educational status, social participation, extension agency contact, risk orientation and scientific orientation showed positive and significant association with extent of adoption of glory lily growers. Due to their rich knowledge in education coupled with scientific orientation they had more chance to search for new technologies in glory lily. From the study, it could be conclude that educational status, social participation, extension agency contact, risk orientation and scientific orientation were the five variables that significantly contributed towards the adoption of respondents in glory lily cultivation.

Conclusion

Adoption of medicinal plant technologies was found to be medium. Hence, it is suggested to offer more number of training programmes on medicinal plant cultivation practices. With respect to practice wise adoption of medicinal plant technologies, low adoption was found against the practices, viz., cross pollination and weed management. Hence it is suggested to design more number of trainings in these subject matter areas. Method demonstration, seminars and group discussions may be organized so as to enhance their adoption level in these aspects. The characteristics namely educational status, social participation, extension agency contact, scientific orientation, and risk orientation were found to have significant relationship with the adoption level. Hence, these factors may be taken in to consideration in the dissemination of technologies in medicinal plant cultivation.

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