

International Journal of Agriculture Extension and Social Development

Volume 8; Issue 4; April 2025; Page No. 34-37

Received: 31-01-2025
Accepted: 04-03-2025

Indexed Journal
Peer Reviewed Journal

Exploring farmers' perceptions and adoption of orobanche management methods

¹B Hema, ²A Srinivas, ³Y Subbaiah and ⁴S Kasturi Krishna

¹Scientist, ICAR-National Institute for Research on Commercial Agriculture, Rajahmundry, Andhra Pradesh, India

²Scientist, Department of Agriculture of Agricultural Extension, ICAR-IIMR, Hyderabad, Telangana, India

³Principal Scientist, Department of Agriculture of Agricultural Extension, ICAR-National Institute for Research on Commercial Agriculture, Rajahmundry, Andhra Pradesh, India

⁴Principal Scientist, Department of Agriculture of Agronomy, ICAR-National Institute for Research on Commercial Agriculture, Rajahmundry, Andhra Pradesh, India

DOI: <https://www.doi.org/10.33545/26180723.2025.v8.i4a.1731>

Corresponding Author: B Hema

Abstract

The present study is an attempt to analyze the farmers perception and adoption behaviour with respect to *orobanche* management. *Expost facto* research design is used, and random sampling technique is employed in selection of respondents. The study is based on field survey and interaction with FCV tobacco farmers in Andhra Pradesh and Karnataka. The primary data was collected from 30 randomly selected FCV tobacco farmers in each of the two tobacco growing regions viz., Southern Light Soils (SLS) & Southern Black Soils (SBS) in Prakasam district of Andhra Pradesh and Karnataka Light Soils (KLS) region in Mysuru district of Karnataka thus making total sample size of 60 respondents. Results showed that *orobanche* menace is more prominent in FCV tobacco cultivated in black soils and drought condition triggers the parasite in Andhra Pradesh and Karnataka respectively. Majority of the farmers follow physical removal of the parasite, deep summer ploughing, inundation to the fields and crop rotation as commonly followed practices for its management. Low adoption behaviour was observed among the respondents in both the study areas. Correlation analysis of independent variables with the adoption behaviour showed that operational land holding, annual income, cosmopolitan nature, mass media exposure, extension contact and participation in extension activities exhibited significant correlation.

Keywords: Adoption, farmers, FCV tobacco, management, *Orobanche* and perception

Introduction

Parasites, the unwanted guests in the cultivated crops get their nutrition by stealing it from host plants. Notably, *Orobanche* is recognized as the most notorious and harmful parasite, primarily affecting the roots of crops that hold economic value. *Orobanche*, commonly known as broomrape, poses a considerable challenge to various legume crops such as faba bean (*Vicia faba*), pea (*Pisum sativum*), lentil (*Lens culinaris*), and chickpea (*Cicer arietinum*), as well as to commercial crops. According to the findings of Das (2019) [3], the annual impact of *orobanche* infestation on crops can range from complete loss (100%) to no damage (0%), with total crop losses globally estimated to be between \$1.3 billion and \$2.6 billion. *Orobanche* species display high diversity regarding their host range. However, the infection severity varies among different crops across regions. In the field study conducted by Shekhawat *et al.*, (2012) [16] reported that there is 28% reduction in the seed yield of Indian mustard which was due to parasite infestation and caused great damage across the world. According to Akhter *et al.*, (2018) [1] a significant yield drop of around 15-49% has been recorded in the mustard was noticed. As already mentioned above, this parasite infestation is not an exception in commercial crops among

which, particularly *Orobanche cernua* is problem in tobacco. Reports also showed that it is a major biotic production constraint to Indian tobacco. Punia (2014) [11] estimated that in Andhra Pradesh, 50% area under tobacco (40,000 ha) was infested with broomrape and caused 50% crop loss. In Karnataka, 90% area under tobacco was infested with this parasite which was accounted to 50- 60% yield deficit.

India has emerged as the second largest tobacco producer (761 M kg) after China (2135 M kg) globally (FAOSTAT 2020) [4]. The export of tobacco and tobacco products from India have increased from Rs 6058 crores in 2015-16 to Rs 6305 crores in 2020-21 (Tobacco Board, 2021) [20]. Tobacco specifically FCV (Flue Cured Virginia) is boon to farming community. Among different crops grown, farmers reap riches in cultivation of tobacco in specific regions of Andhra Pradesh and Karnataka as these are the major FCV tobacco growing regions of the country. There is more feasibility for cultivation of FCV tobacco in these regions which is due to the prevailing demand in the market. Unfortunately, broomrape remain an uncontrolled problem to the tobacco farmers in these two states leading to significant decline in crop yield and distressed crop quality in infested fields. Considering the vital importance of FCV tobacco crop in the