



Original Research Article

Survey on Diseases of Banana and Their Management in Batticaloa District, Sri Lanka

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ABSTRACT

Banana is the most popular fruit among Sri Lankans. Banana is being widely cultivated by small farmers. One of the problems associated with banana cultivation is the number of diseases affecting the crop. A survey was conducted to investigate diseases affecting banana cultivation in Batticaloa district, Sri Lanka using a specific format of a questionnaire and field observations. This study was further aimed at assessing the damage level and control methods of diseases. A total of 100 farmers from four mostly banana cultivated locations of Batticaloa district namely; Pallacholai, Vantharumoolai, Eravur and Kaluthavalai were randomly selected (25 farmers from each location) and interviewed using a structured questionnaire. The major diseases reported were banana streak virus disease, yellow sigatoka, panama wilt and banana bunchy top. Among these diseases, the most prevalent disease (64%) in banana cultivation in Batticaloa was banana streak virus disease. The highest disease incidence (34.6%) was also reported by the banana streak virus disease whereas bunchy top disease recorded the least incidence (2.6%). Forty four percent of the farmers responded diseases as the most important constraint to banana cultivation. Almost, 77% of the farmers used integrated chemical and cultural method of disease control. The inventory of the major common diseases of banana crop in Batticaloa district would be useful for preparing a disease management package for this locality.

Key words: Banana, diseases, disease incidence, disease control.

INTRODUCTION

Banana is one of the most important and popular fruit crops with year round production in Sri Lanka. It was estimated that approximately 100,000 Sri Lankans are engaged in the banana industry. ^[1] However, according to, ^[2] there was a very clear and sharp decline trend in productivity after the year 1980, although there was a gradual increment in the area cultivated in Sri Lanka. Clear explanation has not been given for the reasons for this decline, however, pests and diseases could have been one of the major constraints. In comparison to

insect pests, diseases are more damaging as they reduce yield of banana. In Sri Lanka, several studies were carried out on the prevalence of different banana diseases. ^[3] It is of utmost importance to personally observe as well as investigate the farmers' indigenous knowledge about the disease problems in banana crop. Hence, a survey was initiated to assess the damage level of diseases and the control measures used by the farmers in Batticaloa district, Sri Lanka.

MATERIALS AND METHODS

A survey was conducted in Batticaloa district, Sri Lanka. The farmers

were personally interviewed by using a structured questionnaire. The survey was conducted in 4 representative locations namely, Pallacholai, Vantharumoolai, Eravur and Kaluthavalai which are the mostly banana cultivated areas in Batticaloa district. Thus, a total of 100 farmers (25 farmers from each location) were randomly selected and interviewed. Visits to the representative field of the farmers were done to verify the problem of diseases of banana crop at the aforesaid locations. Visual observations and published literature were used for the identification of disease symptoms. Data were analyzed using SPSS package.

RESULTS AND DISCUSSION

The survey was conducted according to the above methodology using questionnaire as well as visual observations. The following parameters were studied.

Disease problem of banana crop

The major diseases observed were banana streak virus (BSV) disease, yellow sigatoka disease, panama wilt disease and bunchy top disease.

Table 1: More prevalent diseases of banana in Batticaloa district

Major diseases	No. of respondents (%)
BSV	64
Yellow sigatoka	42
Panama	30
Bunchy top	18

According to the visual observations made in the farmers' fields, the highest disease incidence was recorded by BSV (34.6%) which was lower than the level of national disease incidence (59%) of this disease. [4] BSV disease incidence was followed by yellow sigatoka (26.3%) among the diseases of banana in Batticaloa district whereas bunchy top disease produced the least disease incidence (2.6%).

Important constraints to banana cultivation

Forty four percent of the farmers reported diseases as the chief constraint in

banana cultivation in the district whereas insect pests were reported to be the least important constraint (Table 2).

Table 2: Constraints in banana cultivation

Cultivation constraints	Number of respondents (%)
Diseases	44
Water for irrigation	35
Quality planting materials	31
Agrochemicals	24
Insect pests	20

Disease control strategies

Among all the respondents interviewed, it was reported that 77% farmers were practicing integrated chemical and cultural method of disease control while the rest of the farmers were using only cultural disease control method.

CONCLUSIONS

Banana streak virus disease, yellow sigatoka, panamas wilt and banana bunchy top are the major diseases in Batticaloa district, Sri Lanka. Among these diseases, the highest disease incidence was recorded by banana streak virus disease. Most of the farmers use integrated chemical and cultural method of disease control. The inventory of the information would be useful to tackle the disease problem of banana crop in Batticaloa district, Sri Lanka.

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