

Investigation of Vegetable Diseases in Pipehouse and Their Control in I-Lan¹

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summary

The occurrences of Vegetable diseases in pipehouse of I-Lan area were surveyed and recorded, and nonchemical control of those diseases were also studied. The results showed that edible amaranth (*Amaranthus tricolor* L.) was susceptible to white rust disease (*Albugo* sp.) whole year, the incidence rate was from 0.2% to 3.1%. Edible amaranth anthracnose was found in both Wun-Jye and Cherng-Shing areas, and the incidence rates were 0.9% to 2.1%, The incidence rate of stem rot disease (*Pythium* sp.) were 15.2% on November and 8.4% on December. The occurrence percentage of spinach(*Spinacia oleracea* L.) damping off disease (*Pythium* sp.) was decreased gradually from 23.0% on November 1994 to 0.8% on February 1995. The other diseases, such as celery yellows (*Fusarium oxysporum* f. sp.), lettuce soft rot (*Erwinia carotovora*) and Chinese white cabbage soft rot (*Erwinia* sp.) were occurred lightly.

The seedling wilt disease was caused by *Rhizoctonia* sp. The results of this study showed that seedling wilt disease was found through the year. The occurrence percentage in celery was 15.3% to 34.5%. The other seedling wilt diseases had occurred lightly.

The randomized complete block design was used in disease control experiment with two treatments and four replications. One of the treatments was cleaning stubble before sowing, the other was non-cleaning stubble as the check. The result showed that cleaning stubble treatment with incidence of white rust disease was 3.1% whereas the check was 5.4%. The occurrence percentage of stem rot disease on cleaning stubble treatment was 3.6% compare with the check 7.2%, and cleaning stubble treatment could also increase the yield by 4.9%. On comparison of successional cropping (check) and non-successional cropping of edible amaranth, the incidences of white rust disease were 5.6% to 2.3%. Respective values for stem rot disease were 7.9% to 5.8%. The yield of non-successional cropping was 3.7% higher than the successional cropping.

(Key words: Leafy Vegetables, Vegetable diseases, Pipehouse, Non-chemical disease control)

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