

Doungdao Juntachai 2012: Effect of Locations and Seasons on Agricultural Characteristics and Yield of Commercial Cucumber. Master of Science (Agricultural Research and Development), Major Field: Agricultural Research and Development, Faculty of Agriculture of Kamphaeng Sean. Thesis Advisor: Assistant Professor Pramote Saritnirun, Dr. Ing. 108 pages.

The commercial hybrid cucumber seeds from private companies were distributed in the market that has difference on yield and agricultural characteristics. The yield potential of each variety depended on genetic, environment and their interaction. The study on effect of locations and seasons on yield and agricultural characteristics was examined in ten commercial cucumber cultivars in three seasons at two locations as Nakhon Pathom and Chaiyaphum province. The experiment was designed in RCBD with 3 replications during March 2007 to February 2008. The results showed that, combined analysis of variance in all factors by environment revealed significant effect on varieties in most of agricultural characteristics, yield and yield components, except fruit diameter. Cultivars-environments interaction was significant difference on first female and male flower appeared, number of staminate flower per plant, F/M ratio, fruit weight, fruits per plant and yield/rai with statistical difference at 0.05. Yield was significantly positive correlations with female and male flower/plant, branch/plant, fruit weight and fruit/plant ($r = 0.47, 0.31, 0.51, 0.35$ and 0.96 respectively). The AMMI model was used to evaluate all ten cucumber cultivars and showed that the effects of environment, genotype and GxE were highly significant ($p < 0.05$) in yield. However, Viengphing cultivar showed more relatively stability and adaptability than other cultivar while Chingjung cultivar had unstability but gave high yielding. Madung cultivar was found highly stability but gave low yielding. In addition, location Chaiyaphum in summer season and location Nakhonpathom in rainy season were relatively stability but location Chaiyaphum in rainy season was highly yield and unstability.

Student's signature

Thesis Advisor's signature