

P24. Studies on Early Transplanting Cultivation of Rice in Greenhouse of Southern Area

Gyongbuk ATA : Jang-Soo Choi, Deok-Jong Seong-Phil Lee, Boo-sull Choi

남부지역 시설하우스 벼 조기재배에 관한 연구

경북농업기술원 : 최장수, 안덕중, 이승필, 최부술

Objectives

The objectives of this research are to elucidate the pattern of growth and determine the optimum transplanting date on early transplanting cultivation of rice in greenhouse of southern area.

Materials and Methods

Variety : Jinbubyeo

Experimented greenhouse : P.E vinyl house without heating

Transplanting date : March 10, March 20, March 30, April 10, April 20

Planting density : 30×12cm

Fertilizer application : N - P₂O₅-K₂O = 11 - 4.5 - 5.7 kg/10a

Experimental design : Completely randomized design with 3 replications

Results and discussion

Mean air temperature during rice growth in greenhouse was higher by 0.3°C~7.6°C than that in field, while the standard deviation of mean air temperature in greenhouse was higher than that in field. Respiratory consumption index during ripening of early transplanting cultivation in greenhouse was lower than that of normal transplanting cultivation in field, while the standard deviation of that in greenhouse was higher than in field. Heading date on early transplanting cultivation in greenhouse was from June 11, to June 26. It was possible to determine the heading date by accumulated effective temperature from transplanting to heading in early transplanting cultivation of greenhouse. It was estimated that the optimum transplanting date on early transplanting cultivation in greenhouse was on April 8. Variation of number of spikelets per m² as affected by the transplanting date in early rice cultivation of greenhouse was less than those of polished rice weight x ripened grain ratio

Corresponding author - Phone:053-320-0224,E-mail : choijs8867@hanmail.net

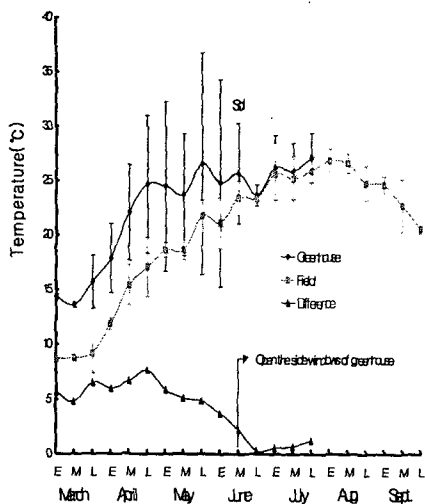


Fig.1. Comparisons of mean air temperature between greenhouse and field during rice growing period in 1998 to 2000

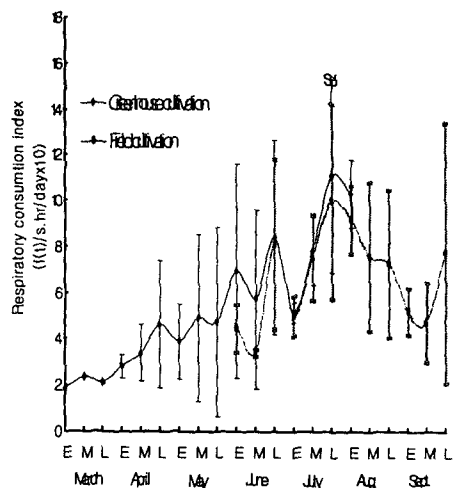


Fig.2. Comparisons of respiratory consumption index between greenhouse and field during rice growth in 1998 to 2000

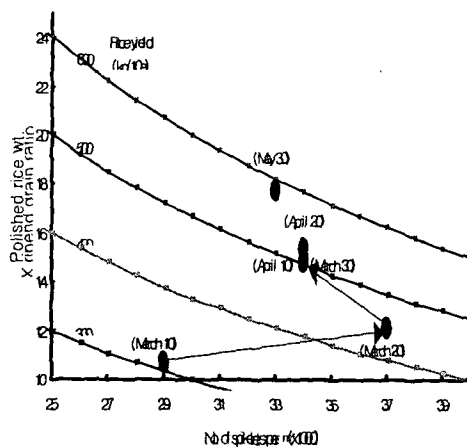


Fig.3. Changes in no. of spikelets and polished rice weight x ripened grain ratio as affected by the transplanting date on early rice culture in greenhouse

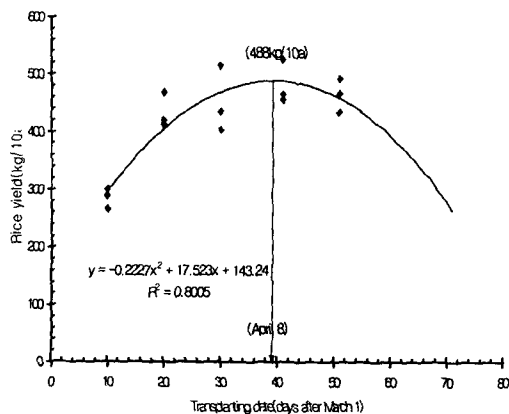


Fig.4. Relationships between rice yield and transplanting date on early rice culture in greenhouse