

312. 粳米 播種期移動에 따른 主要形質 및 收量 變異에 관한 研究

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A Study on Major Agronomic Characters and Grain Yield Variation According to Different Seeding Dates of Pearl Barley (*Coix lacynosa-jabi* L. var. *ma-yuen* (Romanet) Stapf)

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일찍숙작: 粳米(薏苡)는 척박한 土壤에서도 生育이 잘되며 家畜飼料과 食糧資源으로서 開墾価値나 土地利用率를 높일수 있는 作物이다. 特히 種實내의 Coixin은 鎮痛 鎮靜作用에 또 Coixenolide는 抗癌作用, 抗腫瘤及 그의利尿作用 등이 있으며 種實은 食用으로 할 경우 滋養強壯의 效果가 認定되어 수요가 급증하고 있는 실정이다. 이러한 관점에서 本研究은 播種期の 移動에 따른 主要形質과 收量變異를 究明하여 栽培의 基礎資料로 活用코자 本 試驗을 遂行하였다.

: 粳米品種은 장성 在來種을 供試하였고, 試驗區配置는 반외법 3反復 栽植距離는 畦間 60cm x 株間 10cm. 播種期는 3月 20日부터 10日間격으로 5月 10일까지 6處理로 하였다. 施肥量은 10a당 N-P₂O₅-K₂O = 18-2-12kg, 堆肥 1000kg을 全量基肥로 施用하였으며 生育特性, 收量構成要素와 收量 및 種實一般成分含量을 조사 하였다.

: 1) 出穂日數는 播種期와 負의 상관관계가 認定되었으므로 (그림 2)

成熟日數는 63 ~ 77日 정도 걸렸다 (그림 3).

2) 收量은 分蘗數 稈直徑 乾稈重, 百粒重, 登熟率等과 高度의 正상관계, 粗蛋白質含量은 出穂日數, 葉數와 高度의 負상관계를 나타냈다 (표 7).

3) 葉數는 3月 20日 播種區는 14.0枚, 5月 10日 播種區는 11.0枚로 3.0枚가 적었다 (그림 4).

4) 最前分蘗期에 이르는 期間은 3月 20日 播種區는 67日, 5月 10日 播種區는 44日로 23日 단축되었으며 (그림 6) 分蘗數와 稈直徑은 4月 10日 播種區와 4月 20日 播種區에서 가장 높았다 (그림 7, 9).

5) 主稈節數와 乾稈重은 4月 10日 播種區에서 가장 많았으며 (그림 8, 10) 節間長에 있어서 第4節間과 第5節間은 播種期間에 有意差를 나타내지 않았다 (그림 11, 표 3).

6) 稈長은 170.5 ~ 186.6cm로 各 播種期間에 有意差가 없었으나 그의 다른 生育 특성은 有意差를 보였다 (그림 5, 표 2).

7) 主稈小穗數, 主稈粒數, 百粒重은 4月 10日 播種區에서 증가하였다 (그림 12, 13, 14).

8) 登熟率은 3月 20日 부터 4月 30日까지 播種區는 80%以上으로 良好하였다 (그림 15).

9) 收量은 4月 10日 播種區가 62.8kg으로 最高收量을 보였다 (그림 16), 各處理別 粗穀 搗精率은 平均 72.8%였다. 收量構成要素와 收量은 播種期間에 有意差를 보였다 (표 4) 一般成分含量은 粗蛋白質等은 播種期間에 有意差를 보였다 (표 4).

以上の 結果로 보아 4月 10日 播種區에서 收量이 높은 傾向인것은 前述한 分蘗數, 百粒重, 登熟率等의 모든 要因의 높은 傾向에 起因하는 것으로 思料된다.

그러므로 粳米를 多收穫하고자 栽培할 경우에는 4月 10日 경에 播種하는 것이 適期라 思料된다.

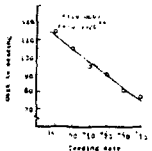


Fig. 2. Relationship between sowing date and yield in Peral barley.

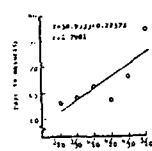


Fig. 3. Relationship between sowing date and yield in Peral barley.

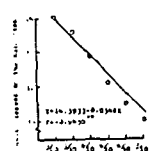


Fig. 4. Relationship between sowing date and no. of leaves on the main stem in Peral barley.

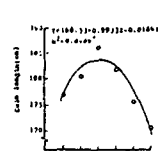


Fig. 5. Relationship between sowing date and stem length in Peral barley.

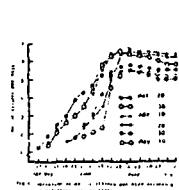


Fig. 6. Relationship between sowing date and grain yield in Peral barley.

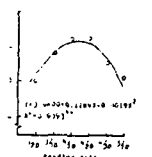


Fig. 7. Relationship between sowing date and no. of tillers per hill in Peral barley.

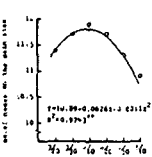


Fig. 8. Relationship between sowing date and no. of spikes on the main stem in Peral barley.

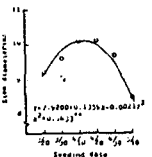


Fig. 9. Relationship between sowing date and stem diameter in Peral barley.

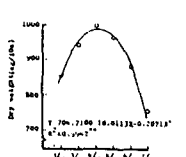


Fig. 10. Relationship between sowing date and dry weight in Peral barley.

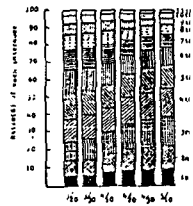


Fig. 11. Harvest of main internode of Peral barley according to different sowing dates.

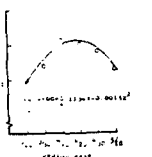


Fig. 12. Relationship between sowing date and no. of spikes per hill in Peral barley.

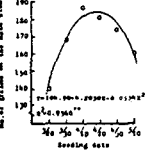


Fig. 13. Relationship between sowing date and no. of grains on the main stem in Peral barley.

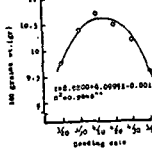


Fig. 14. Relationship between sowing date and 100 grains wt. in Peral barley.

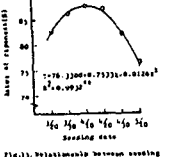


Fig. 15. Relationship between sowing date and rate of tillering in Peral barley.

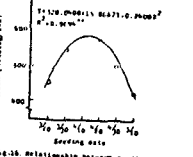


Fig. 16. Relationship between sowing date and grain yield in Peral barley.

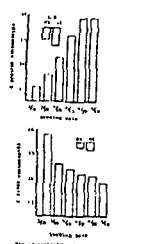


Fig. 17. Relationship between sowing date and grain yield in Peral barley.

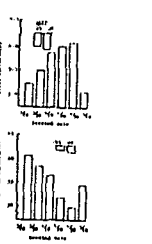


Fig. 18. Relationship between sowing date and grain yield in Peral barley.

Table 2. Percentage of 1000 grains according to different sowing dates of Peral barley.

Sowing date	Percentage of 1000 grains				
	1/2	1/3	1/4	1/5	1/6
Mean	10.5	10.5	10.5	10.5	10.5
Max	11.5	11.5	11.5	11.5	11.5
Min	9.5	9.5	9.5	9.5	9.5
St. dev.	0.5	0.5	0.5	0.5	0.5
Correlation	0.9	0.9	0.9	0.9	0.9

The mean percentage of 1000 grains varies according to different sowing dates of Peral barley.

Table 3. Percentage of main internode according to different sowing dates of Peral barley.

Sowing date	Percentage of main internode				
	1/2	1/3	1/4	1/5	1/6
Mean	15.0	15.0	15.0	15.0	15.0
Max	16.0	16.0	16.0	16.0	16.0
Min	14.0	14.0	14.0	14.0	14.0
St. dev.	0.5	0.5	0.5	0.5	0.5
Correlation	0.9	0.9	0.9	0.9	0.9

The percentage of main internode varies according to different sowing dates of Peral barley.

Table 4. Relationship between sowing date and grain yield in Peral barley.

Sowing date	Grain yield (t/ha)				
	1/2	1/3	1/4	1/5	1/6
Mean	120	120	120	120	120
Max	130	130	130	130	130
Min	110	110	110	110	110
St. dev.	10	10	10	10	10
Correlation	0.9	0.9	0.9	0.9	0.9

The relationship between sowing date and grain yield in Peral barley is highly significant.

Table 5. Percentage of grain yield according to different sowing dates of Peral barley.

Sowing date	Percentage of grain yield				
	1/2	1/3	1/4	1/5	1/6
Mean	10.0	10.0	10.0	10.0	10.0
Max	11.0	11.0	11.0	11.0	11.0
Min	9.0	9.0	9.0	9.0	9.0
St. dev.	1.0	1.0	1.0	1.0	1.0
Correlation	0.9	0.9	0.9	0.9	0.9

The percentage of grain yield varies according to different sowing dates of Peral barley.