

202. 보리종자의 유묘세 예측 방법 비교

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The use of multiple seed vigor indices to predict field emergence and performance of naked and malting barley

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보리종자의 생리적 특성을 포장출현력과 비교함으로써 포장성적의 예측에 적합한 검정방법을 구명하고자 맥주보리 (두산12호, 두산22호), 쌀보리 (새싹보리, 영산보리)를 일위노화처리 (무처리, 2, 4, 6일)를 하고 Warm germination test, Cold germination test, T2 vigor test, Electroconductivity 검정을 실시한 각종 유묘세 검정치와 포장출현 및 수량성과 비교하였다.

결과 및 고찰

보리 포장출현력을 실내에서 효율적으로 예측하기 위하여 stepwise multiple regression을 분석하고 맥주보리와 쌀보리를 비교 하였던바

맥주보리에서는  $Y$  (포장출현률) =  $-2.962 + 0.229$  (% warm germination) -  $0.001$  (vigor, WGT) +  $0.354$  (vigor, CT) -  $0.558$  (% cold germination)으로 vigor (WGT)가 4%, vigor (CT)가 7%, % cold germination이 9%씩 그 효율이 증가되었다.

쌀보리에서는  $Y$  (포장출현률) =  $-0.498 - 0.021$  (% cold germination) +  $0.001$  (vigor, WGT) -  $0.098$  (% cold germination) +  $0.135$  (vigor, CT) +  $0.106$  (plumule length, WGT)으로 vigor (WGT)가 3%, % cold germination이 2%, vigor (CT)가 6%, plumule length (WGT)가 2%씩 그 효율이 증가되었다.

Table Summary of stepwise multiple regression analysis of emergence rate and seed vigor criteria in two malting and two naked barley cultivars.

Entered variable <sup>a)</sup>	R <sup>2</sup>	Residual mean squares
<i>Malting barley</i>		
% warm germ.	.649	69.998
Vigor (WGT)	.685	65.011
Vigor (CT)	.758	51.034
% cold germ.	.843	35.063
Plumule length (aw, WGT)	.844	36.340
% T2 germ. pred.	.845	37.568
Vigor (T2)	.850	38.016
Electroconductivity	.852	38.403
<i>Naked barley</i>		
% warm germ.	.356	93.747
Vigor (WGT)	.386	92.724
% cold germ.	.408	92.721
Vigor (CT)	.543	74.526
Plumule length (aw, WGT)	.586	73.732
Vigor (T2)	.585	73.584
% T2 germ. pred.	.588	76.775
Electroconductivity	.588	80.411

<sup>a)</sup> Order of variables entered in addition to previous variables.

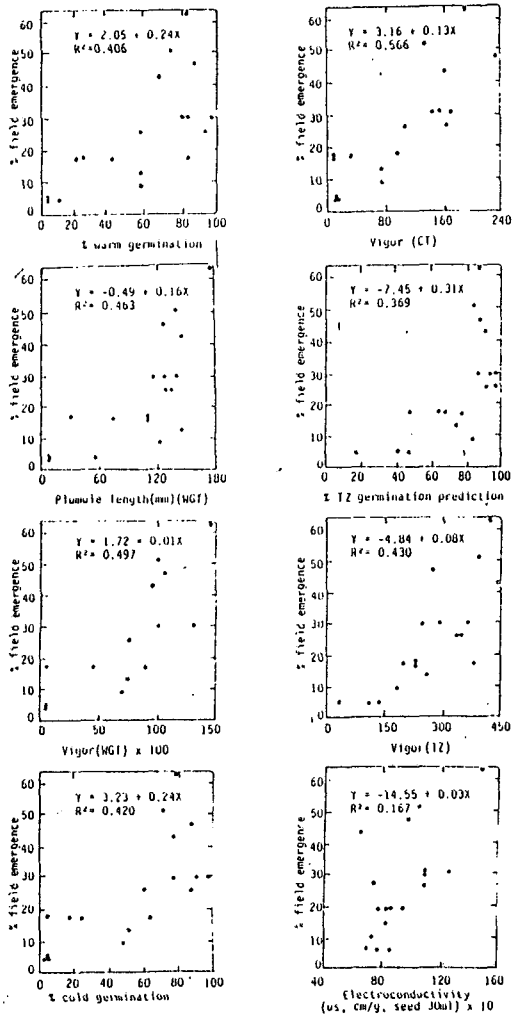


Fig. 1. Relationships between field emergence and several vigor tests in two malting and naked barley cultivars.

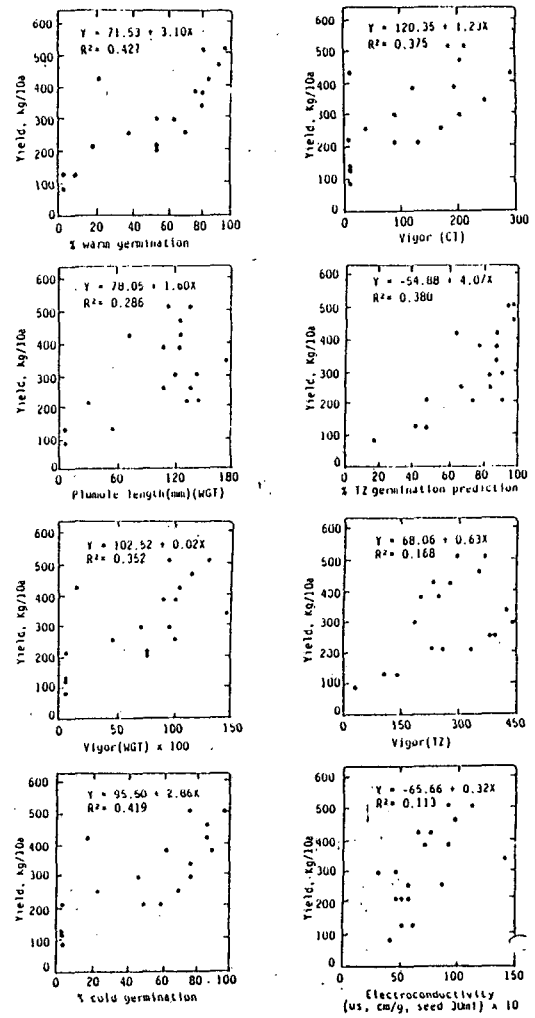


Fig. 2. Relationships between yield and several vigor tests in two malting and naked barley cultivars.