

서남부간척지 중염답에서 벼 담수표면직파재배시 파종전후 물관리 방법

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Proper Water Management Before and After Direct Seeding on Flooded Paddy Surface at Medium Saline Soil in Reclaimed Saline Land in Rice

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실험목적

서남부간척지 중염토양에서 벼 담수표면직파재배시 입모향상을 위한 파종전 로타리후 환수횟수와 파종후 물관리방법을 구명하고자 함

재료 및 방법

- 공시품종 : 남평벼
- 공시토양 : 세사양토(문포통)
- 토양염농도 : 0.3%
- 처리내용
 - 로타리후 환수횟수 : 1회환수(로타리직후), 2회 및 3회 환수(2일간격)
 - 파종후 물관리 : 물 흘러대기, 파종후 1일, 2일, 3일, 4일 및 5일간격 환수
- 파종기 및 파종량 : 5월 18일, 7kg/10a
- 시비량(N-P₂O₅-K₂O) : 20-5.1-5.7kg/10a

실험결과

- 간척지 중염토양에서 벼 담수직파재배시 입모향상을 위해서는 로타리 후 3회환수를 실시해 주어야 적정입모수를 확보할 수 있었으나, 1회환수 및 2회환수에서는 적정 입모수 확보가 불가능하였고 쌀 수량도 현저히 감소하였다.
- 중염토양에서 파종 후에는 입모기간동안 담수관리하되 2일간격으로 환수를 실시해 주어야 적정 입모수 확보가 가능하였고 쌀 수량 감소도 줄일 수 있었다.

Table 1. Difference of seedling status by the irrigation times of fresh water before seeding in broadcasting on flooded paddy soil at middle saline reclaimed soil of rice.

Irrigation times after soil rotary	No. of seedling stand(No./m ²)	Seedling stand rate	Seedling stand uniformity(CV,%)
One time	57	21	23.5
Two times	95	35	19.2
Three times	137	51	15.5

Table 2. Difference of rice yield and its components by the irrigation times of fresh water before seeding in broadcasting of rice on flooded paddy soil at low saline reclaimed soil

Irrigation times after soil rotary	No. of spikelets/m ²	No. of spikelete/m ² (x1,000)	Ripened grain rate	1,000-grain wt. of brown rice(g)	Yield of milled rice (kg/10a)
One time	201	17.7	94	20.4	285
Two times	247	21.3	94	20.4	334
Three times	314	26.3	94	20.4	445
LSD(5%)	-	-	-	-	36

Table 3. Difference of seedling status by the irrigation methods of fresh water after seeding in broadcasting of rice on flooded paddy soil at middle saline reclaimed soil

Water exchange interval	No. of seedling stand(ea/m ²)	Seedling stand rate	Seedling stand uniformity(CV,%)
Continuous exchange	189	69	9.5
One day	173	64	11.0
Two days	152	56	13.0
Three days	136	50	14.3
Four days	96	35	23.5
Five days	70	29	33.2

Table 4. Difference of rice yield and its components by the irrigation methods of fresh water after seeding in broadcasting of rice on flooded paddy soil at middle saline reclaimed soil

Water exchange interval	No. of spikelets/m ²	No. of spikelete/m ² (x1,000)	Ripened grain rate	1,000-grain wt. of brown rice(g)	Yield of milled rice (kg/10a)
Continuous exchange	400	32.7	93	20.5	535
one day	389	32.2	92	20.4	517
two days	353	29.8	93	20.5	504
three days	313	28.4	93	20.5	494
four days	272	26.6	90	20.4	448
five days	221	22.8	88	20.3	375
LSD(5%)	-	-	-	-	33