

(19)  
(12)

(KR)  
(A)

(51) 。 Int. Cl. <sup>7</sup>  
C05F 11/08

(11)  
(43)

2002 - 0008486  
2002 01 31

(21) 10 - 2000 - 0041692  
(22) 2000 07 20

(71) 175

(72) 175

(74)

:

(54)

가 가

1a

2

1a 1b  
 (%) , a , b

가 가 ,

H가 (pH) pH pH 5.0 - 6.5 , p  
 pH 7.0 - 8.0 , (Aspergillus oryzae) pH 5.4  
 pH가 pH가

가 pH pH 3 - 7  
 (Bacillus) (Aspergillus oryzae) pH 4.5 - 7.5  
 (pH6.5 ) pH pH 6.0

(chemical fertilizer) , 가 ,  
 , 3 1  
 , 2 ,  
 , 가  
 가 가

1) ,  
 2) ,  
 3) , ,  
 4) ,  
 5) 가 가 .



(CaO) ,  
 60 - 67 % , 60 % , 67 %

(SiO<sub>2</sub>) ,  
 ( ) 가 ,  
 1 - 3 % 1 % 가  
 , 3 % ,

(MgO) ,  
 0.3 - 0.6 % , 0.3 %  
 , 0.6 %  
 가 ,

2 ,  
 0.1 - 0.3 % , 0.1 - 0.2 % ,  
 2 ,  
 0.001 - 0.005 % ,

(S) 가 ,  
 -SH , CoA,  
 가 , 0.2 - 0.4 %  
 0.4 % , 0.2 % ,

(P) ,  
 RNA , 가 가  
 가 ,  
 0.3 - 0.7 % , 0.3 %  
 , 0.7 % ,

0.5 %      0.2 %      0.2 - 0.5 %  
 가      가  
 ( , ) ,  
 :

(Rhizopus oligosporus)

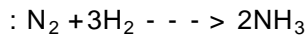
(Aspergillus oryzae)

(Bacillus sp)

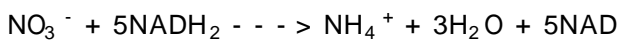
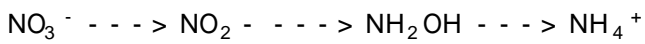
(Cellulomonas sp)

(Lactobacillus fermentum)

가



: NADH<sub>2</sub>



( ),

가

(Bacillus subtilis)

(Bacitracin)

(peptide antibiotics)  
 (C55 - isoprenylpyrophosphate)가 C55 -  
 (dephosphorylation)

(C55 - isoprenylphosphate)

(Cellulomonassp)

(penicillin acylase)

( - lactam ring)

가

2 0.19 %, 33.201 %      62.6 %, 0.52 %,      2 %, 0.003 %,      0.4 %, 0.34 %,      0.166 %, 0.58 %

1

[ 1 ]

	20 - 30g + 200L	1 - 2
	50 - 80g + 200L	1 - 2
	50 - 80g + 200L	1 - 2
	500 - 1000g + 1000kg	

2

[ 2 ]

	가

1a, 1b

(57)

1.

60 - 67 %,

1 - 3 %,

0.2 - 0.4 %,

(Al<sub>2</sub>O<sub>3</sub>) 0.1 - 0.2 %,

2 (Fe<sub>2</sub>O<sub>3</sub>) 0.1 - 0.3 %,

(MgO) 0.3 - 0.6 %,

(TiO<sub>2</sub>) 0.001 - 0.005 %,

(S) 0.2 - 0.4 %,

(P) 0.3 - 0.7 %,

31 - 34 %

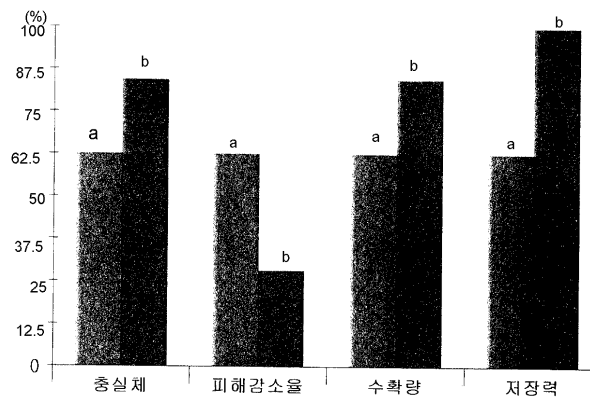
2.

1 ,  
(Aspergillus oryzae),  
Ilulomonassp),

(Rhizopus oligosporus),  
(Bacillus subtilis),  
(Lactobacillus fermentum)

(Ce

1a



1b

