

PF60882.ST25.txt
SEQUENCE LISTING

<110> CropDesign N.V.

<120> Yield enhancement in plants by modulation of maize MADS box transcription facot silkyl

<130> CropDesign N.V.

<150> US 60/942,490

<151> 2007-06-07

<160> 19

<170> PatentIn version 3.3

<210> 1

<211> 1176

<212> DNA

<213> Zea mays

<400> 1

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gcccccccg gacggcggcg gcgacgatgg ggcgcgga gacgagatc aagcggatcg      180
agaacgccac caaccgccag gtgacctact ccaagcgccg gacggggatc atgaagaagg      240
cgcgcgagct caccgtgctc tgcgacgccc aggtcgccat catcatgttc tcctccaccg      300
gcaagtacca cgagttctgc agccccggaa ccgacatcaa gaccatcttt gaccggtacc      360
agcaggccat cgggaccagc ctatggatcg agcagtatga gaatatgcag cgcacgctga      420
gccatctcaa ggacatcaat cgtggtctgc gcacagagat taggcaaagg atgggcgagg      480
atctggacag tctggacttc gacgagctgc gcggcctcga gcaaaacgtc gacgcggctc      540
tcaaggaggt tcgccatagg aagtaccatg tgatcagcac gcagactgat acctacaaga      600
aaaagggtgaa gcaactcgac gaggcgtaca agaacctgca gcaggagcta ggcatgcggg      660
aggaccgcgg gttcgggtac gtggacaaca cgggcgcggc cgtcgcttg gacggcgcg      720
cggcggcgct gggcggcgcc ccgcccggaca tgtacgcctt ccgctggtg cccagccagc      780
ccaacctgca cggcatggcc tacggcttcc acgacctccg cctgggctag cgcattccatc      840
accatgctgg gtggtgctgc tcgatcctac tgcattggaa tgcaagctgg ttggttagtt      900
cgctcatgca tcgtccgtca acaaagcaag taagcaatgc aatgcaaccg aggtactgta      960
atagccaata aaatctactg catactgcaa acccaattac tggtagctta gctaccgcgt     1020
gtgtacgaat caaccgatta attaccgcgc ccttagcttg catgtcgtcg tcgtctgtgc     1080
ttttggcggt cgtagacatg tgtgtattgt atgcatgggt cctgttcacg tgcattccatg     1140
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<210> 2

<211> 227

<212> PRT

<213> Zea mays

<400> 2

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Met Gly Arg Gly Lys Ile Glu Ile Lys Arg Ile Glu Asn Ala Thr Asn
1           5           10           15
Arg Gln Val Thr Tyr Ser Lys Arg Arg Thr Gly Ile Met Lys Lys Ala
20           25           30
Arg Glu Leu Thr Val Leu Cys Asp Ala Gln Val Ala Ile Ile Met Phe
35           40           45
Ser Ser Thr Gly Lys Tyr His Glu Phe Cys Ser Pro Gly Thr Asp Ile
50           55           60
Lys Thr Ile Phe Asp Arg Tyr Gln Gln Ala Ile Gly Thr Ser Leu Trp
65           70           75           80
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Ile Glu Gln Tyr Glu Asn Met Gln Arg Thr Leu Ser His Leu Lys Asp
      85                      90                      95
Ile Asn Arg Gly Leu Arg Thr Glu Ile Arg Gln Arg Met Gly Glu Asp
      100                    105                    110
Leu Asp Ser Leu Asp Phe Asp Glu Leu Arg Gly Leu Glu Gln Asn Val
      115                    120                    125
Asp Ala Ala Leu Lys Glu Val Arg His Arg Lys Tyr His Val Ile Ser
      130                    135                    140
Thr Gln Thr Asp Thr Tyr Lys Lys Lys Val Lys His Ser His Glu Ala
145                      150                      155                      160
Tyr Lys Asn Leu Gln Gln Glu Leu Gly Met Arg Glu Asp Pro Ala Phe
      165                    170                    175
Gly Tyr Val Asp Asn Thr Gly Ala Gly Val Ala Trp Asp Gly Ala Ala
      180                    185                    190
Ala Ala Leu Gly Gly Ala Pro Pro Asp Met Tyr Ala Phe Arg Val Val
      195                    200                    205
Pro Ser Gln Pro Asn Leu His Gly Met Ala Tyr Gly Phe His Asp Leu
      210                    215                    220
Arg Leu Gly
225

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<210> 3
<211> 247
<212> PRT
<213> Glycine max

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<400> 3
Met Ala Arg Gly Lys Ile Gln Ile Lys Arg Ile Glu Asn Asn Thr Asn
1      5                      10                      15
Arg Gln Val Thr Tyr Ser Lys Arg Arg Asn Gly Leu Phe Lys Lys Ala
      20                    25                    30
Asn Glu Leu Thr Val Leu Cys Asp Ala Lys Val Ser Ile Ile Met Phe
      35                    40                    45
Ser Ser Ile Leu Lys Tyr Ser Thr Gly Lys Leu His Gln Tyr Ile Ser
      50                    55                    60
Pro Ser Thr Ser Thr Lys Gln Phe Phe Asp Gln Tyr Gln Met Thr Leu
65                      70                      75                      80
Gly Val Asp Leu Trp Asn Ser His Tyr Glu Asn Met Gln Glu Asn Leu
      85                    90                    95
Lys Lys Leu Lys Glu Val Asn Arg Ser Ile Leu Lys Tyr Asn Leu Arg
      100                   105                   110
Lys Glu Ile Arg Gln Arg Met Gly Asp Cys Leu Asn Glu Leu Gly Met
      115                   120                   125
Glu Asp Leu Lys Leu Leu Glu Glu Glu Met Asp Lys Ala Ala Lys Val
130                      135                      140
Val Arg Glu Arg Lys Tyr Lys Val Ile Thr Asn Gln Ile Asp Thr Ser
145                      150                      155                      160
Ile Leu Lys Tyr Gln Arg Lys Lys Phe Asn Asn Glu Lys Glu Val His
      165                    170                    175
Asn Arg Leu Leu His Asp Leu Asp Ala Lys Ala Glu Asp Pro Arg Phe
      180                    185                    190
Ala Leu Ile Asp Asn Gly Gly Glu Tyr Glu Ser Val Ile Gly Phe Ser
195                      200                    205
Asn Leu Gly Pro Arg Met Ser Ile Leu Lys Tyr Phe Ala Leu Ser Ile
210                      215                    220
Gln Pro Ser His Pro Ser Ala His Ser Gly Gly Ala Gly Ser Asp Leu
225                      230                    235                    240
Thr Thr Tyr Pro Leu Leu Phe
      245

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<210> 4
 <211> 247
 <212> PRT
 <213> Glycine max

<400> 4
 Met Ala Arg Gly Lys Ile Gln Ile Lys Arg Ile Glu Asn Thr Thr Asn
 1 5 10 15
 Arg Gln Val Thr Tyr Ser Lys Arg Arg Asn Gly Leu Phe Lys Lys Ala
 20 25 30
 Asn Glu Leu Thr Val Leu Cys Asp Ala Lys Val Ser Ile Ile Met Phe
 35 40 45
 Ser Ser Thr Gly Lys Leu His Glu Tyr Ile Ser Ser Ile Leu Lys Tyr
 50 55 60
 Pro Ser Thr Ser Thr Lys Gln Phe Phe Asp Gln Tyr Gln Met Thr Leu
 65 70 75 80
 Gly Val Asp Leu Trp Asn Ser His Tyr Glu Asn Met Gln Glu Asn Leu
 85 90 95
 Lys Lys Leu Lys Glu Val Asn Arg Asn Leu Arg Lys Glu Ile Arg Gln
 100 105 110
 Arg Met Ser Ile Leu Lys Tyr Gly Asp Cys Leu Asn Asp Leu Gly Met
 115 120 125
 Glu Asp Leu Lys Leu Leu Glu Glu Glu Met Asp Lys Ala Ala Lys Val
 130 135 140
 Val Arg Glu Arg Lys Tyr Lys Val Ile Thr Asn Gln Ile Asp Thr Gln
 145 150 155 160
 Arg Lys Lys Phe Asn Asn Glu Lys Glu Ser Ile Leu Lys Tyr Val His
 165 170 175
 Asn Arg Leu Leu Arg Asp Leu Asp Ala Arg Ala Glu Asp Pro Arg Phe
 180 185 190
 Ala Leu Ile Asp Asn Gly Gly Glu Tyr Glu Ser Val Ile Gly Phe Ser
 195 200 205
 Asn Leu Gly Pro Arg Met Phe Ala Leu Ser Leu Gln Pro Ser His Pro
 210 215 220
 Ser Ile Leu Lys Tyr Ser Ala Gln Ser Gly Ala Ala Gly Ser Asp Leu
 225 230 235 240
 Thr Thr Tyr Pro Leu Leu Phe
 245

<210> 5
 <211> 224
 <212> PRT
 <213> Oryza sativa

<400> 5
 Met Gly Arg Gly Lys Ile Glu Ile Lys Arg Ile Glu Asn Ala Thr Asn
 1 5 10 15
 Arg Gln Val Thr Tyr Ser Lys Arg Arg Thr Gly Ile Met Lys Lys Ala
 20 25 30
 Arg Glu Leu Thr Val Leu Cys Asp Ala Gln Val Ala Ile Ile Met Phe
 35 40 45
 Ser Ser Thr Gly Lys Tyr His Glu Phe Cys Ser Pro Ser Thr Asp Ile
 50 55 60
 Lys Gly Ile Phe Asp Arg Tyr Gln Gln Ala Ile Gly Thr Ser Leu Trp
 65 70 75 80
 Ile Glu Gln Tyr Glu Asn Met Gln Arg Thr Leu Ser His Leu Lys Asp
 85 90 95
 Ile Asn Arg Asn Leu Arg Thr Glu Ile Arg Gln Arg Met Gly Glu Asp

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			100					105					110				
Leu	Asp	Gly	Leu	Glu	Phe	Asp	Glu	Leu	Arg	Gly	Leu	Glu	Gln	Asn	Val		
		115					120					125					
Asp	Ala	Ala	Leu	Lys	Glu	Val	Arg	His	Arg	Lys	Tyr	His	Val	Ile	Thr		
		130					135					140					
Thr	Gln	Thr	Glu	Thr	Tyr	Lys	Lys	Lys	Val	Lys	His	Ser	Tyr	Glu	Ala		
145					150					155					160		
Tyr	Glu	Thr	Leu	Gln	Gln	Glu	Leu	Gly	Leu	Arg	Glu	Glu	Pro	Ala	Phe		
			165						170					175			
Gly	Phe	Val	Asp	Asn	Thr	Gly	Gly	Gly	Trp	Asp	Gly	Gly	Ala	Gly	Ala		
		180					185						190				
Gly	Ala	Ala	Ala	Asp	Met	Phe	Ala	Phe	Arg	Val	Val	Pro	Ser	Gln	Pro		
		195					200					205					
Asn	Leu	His	Gly	Met	Ala	Tyr	Gly	Gly	Asn	His	Asp	Leu	Arg	Leu	Gly		
		210				215					220						

<210> 6
 <211> 224
 <212> PRT
 <213> Oryza sativa

Met	Gly	Arg	Gly	Lys	Ile	Glu	Ile	Lys	Arg	Ile	Lys	Asn	Ala	Thr	Asn		
1				5				10					15				
Arg	Gln	Val	Thr	Tyr	Ser	Lys	Arg	Arg	Thr	Gly	Ile	Met	Lys	Lys	Ala		
		20					25					30					
Arg	Glu	Leu	Thr	Val	Leu	Cys	Asp	Ala	Gln	Val	Ala	Ile	Ile	Met	Phe		
		35				40					45						
Ser	Ser	Thr	Gly	Lys	Tyr	His	Glu	Phe	Cys	Ser	Pro	Ser	Thr	Asp	Ile		
	50				55					60							
Lys	Gly	Ile	Phe	Asp	Arg	Tyr	Gln	Gln	Ala	Ile	Gly	Thr	Ser	Leu	Trp		
65				70				75						80			
Ile	Glu	Gln	Tyr	Glu	Asn	Met	Gln	Arg	Thr	Leu	Ser	His	Leu	Lys	Asp		
			85				90						95				
Ile	Asn	Arg	Asn	Leu	Arg	Thr	Glu	Ile	Arg	Gln	Arg	Met	Gly	Glu	Asp		
		100					105					110					
Leu	Asp	Gly	Leu	Glu	Phe	Asp	Glu	Leu	Arg	Gly	Leu	Glu	Gln	Asn	Val		
		115					120					125					
Asp	Ala	Ala	Leu	Lys	Glu	Val	Arg	His	Arg	Lys	Tyr	His	Val	Ile	Thr		
		130					135					140					
Thr	Gln	Thr	Glu	Thr	Tyr	Lys	Lys	Lys	Val	Lys	His	Ser	Tyr	Glu	Ala		
145					150					155					160		
Tyr	Glu	Thr	Leu	Gln	Gln	Glu	Leu	Gly	Leu	Arg	Glu	Glu	Pro	Ala	Phe		
			165					170						175			
Gly	Phe	Val	Asp	Asn	Thr	Gly	Gly	Gly	Trp	Asp	Gly	Gly	Ala	Gly	Ala		
		180					185						190				
Gly	Ala	Ala	Ala	Asp	Met	Phe	Ala	Phe	Arg	Val	Val	Pro	Ser	Gln	Pro		
		195					200					205					
Asn	Leu	His	Gly	Met	Ala	Tyr	Gly	Gly	Asn	His	Asp	Leu	Arg	Leu	Gly		
		210				215					220						

<210> 7
 <211> 229
 <212> PRT
 <213> Triticum aestivum

Met	Gly	Arg	Gly	Lys	Ile	Glu	Ile	Lys	Arg	Ile	Glu	Asn	Ala	Thr	Asn		
1				5				10					15				

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Arg Gln Val Thr Tyr Ser Lys Arg Arg Ser Gly Ile Met Lys Lys Ala
      20      25      30
Arg Glu Leu Thr Val Leu Cys Asp Ala Gln Val Ala Ile Ile Met Phe
      35      40      45
Ser Ser Thr Gly Lys Tyr His Glu Phe Cys Ser Thr Gly Thr Asp Ile
      50      55      60
Lys Gly Ile Phe Asp Arg Tyr Gln Gln Ala Ile Gly Thr Ser Leu Trp
65      70      75      80
Ile Glu Gln Tyr Glu Asn Met Gln Arg Thr Leu Ser His Leu Lys Asp
      85      90      95
Ile Asn Arg Asn Leu Arg Thr Glu Ile Arg Gln Arg Met Gly Glu Asp
      100      105      110
Leu Asp Ala Leu Glu Phe Glu Glu Leu Arg Asp Leu Glu Gln Asn Val
      115      120      125
Asp Ala Ala Leu Lys Glu Val Arg Gln Arg Lys Tyr His Val Ile Thr
      130      135      140
Thr Gln Thr Glu Thr Tyr Lys Lys Lys Val Lys His Ser Gln Glu Ala
145      150      155      160
Tyr Lys Asn Leu Gln Gln Glu Leu Gly Met Arg Glu Asp Pro Ala Tyr
      165      170      175
Gly Phe Val Asp Asn Pro Val Ala Gly Gly Trp Asp Gly Val Ala Ala
      180      185      190
Val Ala Met Gly Gly Gly Leu Ala Ala Asp Met Tyr Ala Phe Arg Val
      195      200      205
Val Pro Ser Gln Pro Asn Leu His Gly Met Ala Tyr Gly Gly Ser His
      210      215      220
Asp Leu Arg Leu Gly
225

```

<210> 8
 <211> 232
 <212> PRT
 <213> Hordeum vulgare

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<400> 8
Met Gly Arg Gly Lys Ile Glu Ile Lys Arg Ile Glu Asn Ala Thr Asn
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Arg Gln Val Thr Tyr Ser Lys Arg Arg Ser Gly Ile Met Lys Lys Ala
      20      25      30
Arg Glu Leu Thr Val Leu Cys Asp Ala Gln Val Ala Ile Ile Met Phe
      35      40      45
Ser Ser Thr Gly Lys Tyr His Glu Phe Cys Ser Thr Gly Thr Asp Ile
      50      55      60
Lys Gly Ile Phe Asp Arg Tyr Gln Gln Ala Ile Gly Thr Ser Leu Trp
65      70      75      80
Ile Glu Gln Tyr Glu Asn Met Gln Arg Thr Leu Ser His Leu Lys Asp
      85      90      95
Ile Asn Arg Asn Leu Arg Thr Glu Ile Arg Gln Arg Met Gly Glu Asp
      100      105      110
Leu Asp Ala Leu Glu Phe Glu Glu Leu Arg Gly Leu Glu Gln Asn Val
      115      120      125
Asp Ala Ala Leu Lys Glu Val Arg Gln Arg Lys Tyr His Val Ile Thr
      130      135      140
Thr Gln Thr Glu Thr Tyr Lys Lys Lys Val Lys His Ser Gln Glu Ala
145      150      155      160
Tyr Lys Asn Leu Gln Gln Glu Leu Gly Met Arg Glu Asp Pro Ala Tyr
      165      170      175
Gly Phe Val Asp Asn Pro Ala Ala Gly Gly Trp Asp Gly Val Ala Ala
      180      185      190

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Val	Ala	Met	Gly	Gly	Gly	Ser	Ala	Ala	Asp	Met	Tyr	Ala	Phe	Arg	Val
		195					200					205			
Val	Pro	Ser	Gln	Pro	Asn	Leu	His	Gly	Met	Ala	Tyr	Gly	Gly	Ser	His
	210					215					220				
Asp	Leu	Arg	His	Leu	Arg	Leu	Gly								
225					230										

<210> 9
 <211> 223
 <212> PRT
 <213> Oryza sativa

<400> 9

Met	Gly	Arg	Gly	Lys	Ile	Glu	Ile	Lys	Arg	Ile	Lys	Asn	Ala	Thr	Asn
1				5					10					15	
Arg	Gln	Val	Thr	Tyr	Ser	Lys	Arg	Arg	Thr	Gly	Ile	Met	Lys	Lys	Ala
			20					25					30		
Arg	Glu	Leu	Thr	Val	Leu	Cys	Asp	Ala	Gln	Val	Ala	Ile	Ile	Met	Phe
		35					40					45			
Ser	Ser	Thr	Gly	Lys	Tyr	His	Glu	Phe	Cys	Ser	Pro	Ser	Thr	Asp	Ile
	50					55					60				
Lys	Gly	Ile	Phe	Asp	Arg	Tyr	Gln	Gln	Ala	Ile	Gly	Thr	Ser	Leu	Trp
65					70				75						80
Ile	Glu	Gln	Tyr	Glu	Asn	Met	Gln	Arg	Thr	Leu	Ser	His	Leu	Lys	Asp
				85				90						95	
Ile	Asn	Arg	Asn	Leu	Arg	Thr	Glu	Ile	Arg	Gln	Arg	Met	Gly	Glu	Asp
			100					105					110		
Leu	Asp	Gly	Leu	Glu	Phe	Asp	Glu	Leu	Arg	Gly	Leu	Glu	Gln	Asn	Val
		115					120					125			
Asp	Ala	Ala	Leu	Lys	Glu	Val	Arg	His	Arg	Lys	Tyr	His	Val	Ile	Ser
		130					135				140				
Thr	Gln	Thr	Glu	Thr	Tyr	Lys	Lys	Lys	Val	Lys	His	Ser	Tyr	Glu	Ala
145					150					155					160
Tyr	Lys	Thr	Leu	Gln	Gln	Glu	Leu	Gly	Leu	Cys	Glu	Glu	Pro	Ala	Trp
				165				170						175	
Phe	Val	Asp	Asn	Thr	Gly	Gly	Gly	Trp	Asp	Gly	Gly	Ala	Gly	Ala	Gly
			180					185					190		
Ala	Ala	Ala	Asp	Met	Phe	Ala	Phe	Arg	Val	Val	Pro	Ser	Gln	Pro	Asn
		195					200					205			
Leu	His	Gly	Met	Ala	Tyr	Gly	Gly	Asn	His	Asp	Leu	Arg	Leu	Gly	
	210					215					220				

<210> 10
 <211> 227
 <212> PRT
 <213> Triticum aestivum

<400> 10

Met	Gly	Arg	Gly	Lys	Ile	Glu	Ile	Lys	Arg	Ile	Glu	Asn	Ala	Thr	Asn
1				5					10					15	
Arg	Gln	Val	Thr	Tyr	Ser	Lys	Arg	Arg	Ser	Gly	Ile	Met	Lys	Lys	Ala
			20					25					30		
Arg	Glu	Leu	Thr	Val	Leu	Cys	Asp	Ala	Gln	Val	Ala	Ile	Ile	Met	Phe
		35					40					45			
Ser	Ser	Thr	Gly	Lys	Tyr	His	Glu	Phe	Cys	Ser	Thr	Gly	Thr	Asp	Ile
	50					55					60				
Lys	Gly	Ile	Phe	Asp	Arg	Tyr	Gln	Gln	Ala	Ile	Gly	Thr	Ser	Leu	Trp
65					70				75						80
Ile	Glu	Gln	Tyr	Glu	Asn	Met	Gln	Arg	Thr	Leu	Ser	His	Leu	Lys	Asp

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      85              90              95
Ile Asn Arg Asn Leu Arg Thr Glu Ile Arg Met Gly Glu Asp Leu Asp
      100          105          110
Ala Leu Glu Phe Glu Glu Leu Arg Asp Leu Glu Gln Asn Val Asp Ala
      115          120          125
Ala Leu Lys Glu Val Arg Gln Arg Lys Tyr His Val Ile Thr Thr Gln
      130          135          140
Thr Glu Thr Tyr Lys Lys Lys Val Lys His Ser Gln Glu Ala Tyr Lys
145          150          155          160
Asn Leu Gln Gln Glu Leu Gly Met Arg Glu Asp Pro Ala Tyr Gly Phe
      165          170          175
Val Asp Asn Pro Ala Ala Gly Gly Trp Asp Gly Val Ala Ala Val Ala
      180          185          190
Met Gly Gly Gly Ser Ala Ala Asp Met Tyr Ala Phe Arg Val Val Pro
      195          200          205
Ser Gln Pro Asn Leu His Gly Met Ala Tyr Gly Gly Ser His Asp Leu
      210          215          220
Arg Leu Gly
225

```

<210> 11
 <211> 225
 <212> PRT
 <213> Asparagus officianalis

```

<400> 11
Met Gly Arg Gly Lys Ile Glu Ile Lys Lys Ile Glu Asn Pro Thr Asn
1      5      10
Arg Gln Val Thr Tyr Ser Lys Arg Arg Ser Gly Ile Met Lys Lys Ala
      20      25      30
Lys Glu Leu Thr Val Leu Cys Asp Ala Gln Val Ser Leu Ile Met Phe
      35      40      45
Ser Ser Thr Gly Lys Phe Ser Glu Tyr Cys Ser Pro Gly Ser Asp Thr
      50      55      60
Lys Ala Ile Phe Asp Arg Tyr Gln Gln Ala Thr Gly Ile Asn Leu Trp
65      70      75      80
Ser Ala Gln Tyr Glu Lys Met Gln Asn Thr Leu Lys His Leu Lys Glu
      85      90      95
Ile Asn His Asn Leu Arg Lys Glu Ile Arg Gln Arg Thr Gly Glu Glu
      100     105     110
Leu Asp Gly Met Asp Ile Glu Glu Leu Arg Gly Leu Glu Gln Asn Leu
      115     120     125
Asp Glu Ala Ile Lys Leu Val Arg His Arg Lys Tyr His Val Ile Ser
      130     135     140
Thr Gln Thr Asp Thr Tyr Lys Lys Lys Leu Lys His Ser Gln Glu Ala
145     150     155     160
His Arg Ser Leu Leu Arg Asp Leu Asp Met Lys Asp Glu His Pro Val
      165     170     175
Tyr Gly Phe Val Asp Glu Asp Pro Ser Asn Tyr Glu Gly Ala Leu Ala
      180     185     190
Leu Ala Asn Gly Gly Ser His Val Tyr Ala Phe Arg Val Gln Pro Ser
      195     200     205
Gln Pro Asn Leu His Gly Met Gly Tyr Gly Pro His Asp Leu Arg Leu
      210     215     220
Ala
225

```

<210> 12
 <211> 225

<212> PRT

<213> *Asparagus officianalis*

<400> 12

```

Met Gly Arg Gly Lys Ile Glu Ile Lys Lys Ile Glu Asn Pro Thr Asn
1      5      10      15
Arg Gln Val Thr Tyr Ser Lys Arg Arg Ser Gly Ile Met Lys Lys Ala
      20      25      30
Lys Glu Leu Thr Val Leu Cys Asp Ala Gln Val Ser Leu Ile Met Phe
      35      40      45
Ser Ser Thr Gly Lys Phe Ser Glu Tyr Cys Ser Pro Gly Ser Asp Thr
      50      55      60
Lys Ala Ile Phe Asp Arg Tyr Gln Gln Ala Thr Gly Ile Asn Leu Trp
65      70      75      80
Ser Ala Gln Tyr Glu Lys Met Gln Asn Thr Leu Lys His Leu Lys Glu
      85      90      95
Ile Asn His Asn Leu Arg Lys Glu Ile Arg Gln Arg Thr Gly Glu Glu
      100     105     110
Leu Asp Gly Met Asp Ile Glu Glu Leu Arg Gly Leu Glu Gln Asn Leu
      115     120     125
Asp Glu Ala Ile Lys Leu Val Arg His Arg Lys Tyr His Val Ile Ser
      130     135     140
Thr Gln Thr Asp Thr Tyr Lys Lys Lys Leu Lys His Ser Gln Glu Ala
145     150     155     160
His Arg Ser Leu Leu Arg Asp Leu Asp Met Lys Asp Glu His Pro Val
      165     170     175
Tyr Gly Phe Val Asp Glu Asp Pro Ser Asn Tyr Glu Gly Ala Leu Ala
      180     185     190
Leu Ala Asn Gly Gly Ser His Val Tyr Ala Phe Arg Val Gln Pro Ser
      195     200     205
Gln Pro Asn Leu His Gly Met Gly Cys Gly Pro His Asp Leu Arg Leu
210     215     220
Ala
225

```

<210> 13

<211> 232

<212> PRT

<213> *Arabidopsis thaliana*

<400> 13

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Met Ala Arg Gly Lys Ile Gln Ile Lys Arg Ile Glu Asn Gln Thr Asn
1      5      10      15
Arg Gln Val Thr Tyr Ser Lys Arg Arg Asn Gly Leu Phe Lys Lys Ala
      20      25      30
His Glu Leu Thr Val Leu Cys Asp Ala Arg Val Ser Ile Ile Met Phe
      35      40      45
Ser Ser Ser Asn Lys Leu His Glu Tyr Ile Ser Pro Asn Thr Thr Thr
      50      55      60
Lys Glu Ile Val Asp Leu Tyr Gln Thr Ile Ser Asp Val Asp Val Trp
65      70      75      80
Ala Thr Gln Tyr Glu Arg Met Gln Glu Thr Lys Arg Lys Leu Leu Glu
      85      90      95
Thr Asn Arg Asn Leu Arg Thr Gln Ile Lys Gln Arg Leu Gly Glu Cys
      100     105     110
Leu Asp Glu Leu Asp Ile Gln Glu Leu Arg Arg Leu Glu Asp Glu Met
      115     120     125
Glu Asn Thr Phe Lys Leu Val Arg Glu Arg Lys Phe Lys Ser Leu Gly
130     135     140

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```

Asn Gln Ile Glu Thr Thr Lys Lys Lys Asn Lys Ser Gln Gln Asp Ile
145          150          155          160
Gln Lys Asn Leu Ile His Glu Leu Glu Leu Arg Ala Glu Asp Pro His
          165          170          175
Tyr Gly Leu Val Asp Asn Gly Gly Asp Tyr Asp Ser Val Leu Gly Tyr
          180          185          190
Gln Ile Glu Gly Ser Arg Ala Tyr Ala Leu Arg Phe His Gln Asn His
          195          200          205
His His Tyr Tyr Pro Asn His Gly Leu His Ala Pro Ser Ala Ser Asp
          210          215          220
Ile Ile Thr Phe His Leu Leu Glu
225          230

```

<210> 14
 <211> 208
 <212> PRT
 <213> Arabidopsis thaliana

```

<400> 14
Met Gly Arg Gly Lys Ile Glu Ile Lys Arg Ile Glu Asn Ala Asn Asn
1          5          10          15
Arg Val Val Thr Phe Ser Lys Arg Arg Asn Gly Leu Val Lys Lys Ala
          20          25          30
Lys Glu Ile Thr Val Leu Cys Asp Ala Lys Val Ala Leu Ile Ile Phe
          35          40          45
Ala Ser Asn Gly Lys Met Ile Asp Tyr Cys Cys Pro Ser Met Asp Leu
          50          55          60
Gly Ala Met Leu Asp Gln Tyr Gln Lys Leu Ser Gly Lys Lys Leu Trp
          65          70          75          80
Asp Ala Lys His Glu Asn Leu Ser Asn Glu Ile Asp Arg Ile Lys Lys
          85          90          95
Glu Asn Asp Ser Leu Gln Leu Glu Leu Arg His Leu Lys Gly Glu Asp
          100          105          110
Ile Gln Ser Leu Asn Leu Lys Asn Leu Met Ala Val Glu His Ala Ile
          115          120          125
Glu His Gly Leu Asp Lys Val Arg Asp His Gln Met Glu Ile Leu Ile
          130          135          140
Ser Lys Arg Arg Asn Glu Lys Met Met Ala Glu Glu Gln Arg Gln Leu
          145          150          155          160
Thr Phe Gln Leu Gln Gln Gln Glu Met Ala Ile Ala Ser Asn Ala Arg
          165          170          175
Gly Met Met Met Arg Asp His Asp Gly Gln Phe Gly Tyr Arg Val Gln
          180          185          190
Pro Ile Gln Pro Asn Leu Gln Glu Lys Ile Met Ser Leu Val Ile Asp
          195          200          205

```

<210> 15
 <211> 251
 <212> PRT
 <213> Arabidopsis thaliana

```

<400> 15
Met Gly Arg Gly Arg Val Glu Leu Lys Arg Ile Glu Asn Lys Ile Asn
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Arg Gln Val Thr Phe Ala Lys Arg Arg Asn Gly Leu Leu Lys Lys Ala
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Thr	Glu	Ile	Arg	Gln	Arg	Met	Gly	Glu	Asp	Leu	Asp	Ser	Leu	Asp	Phe	
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 Thr Glu Ile Arg Gln Arg Met Gly Glu Asp Leu Asp Gly Leu Glu Phe
 35 40 45
 Glu Glu Arg Gly Leu Glu Gln Asn Val Asp Ala Ala Leu Lys Glu Val
 50 55 60
 Arg Xaa Arg Lys Tyr His Val Ile Thr Thr Gln Thr Glu Thr Tyr Lys
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 Lys Lys Val Lys His Ser Xaa Glu Ala Tyr Lys Xaa Leu Gln Gln Glu
 85 90 95

Leu