

PF60828.ST25.txt
SEQUENCE LISTING

<110> CropDesign N.V.
<120> Over-expression of maize COX VIIa subunit for enhanced yield
<130> PF60828
<150> US 60/916,594
<151> 2007-05-08
<160> 12
<170> PatentIn version 3.3
<210> 1
<211> 485
<212> DNA
<213> Zea mays

<220>
<221> CDS
<222> (81)..(281)

<400> 1
ttgcgtcagg tcagcctccc tctccggatc cccacactgc tccgccgccg gccaacggat 60
cgctccccctt ggcagccagg atg aca gaa gca cca ttt ctg cca cgt gag agg 113
Met Thr Glu Ala Pro Phe Leu Pro Arg Glu Arg
1 5 10
ctc ttc aag ctg caa cat cat ttc cag aac atg acc aag cac acc tac 161
Leu Phe Lys Leu Gln His His Phe Gln Asn Met Thr Lys His Thr Tyr
15 20 25
ctg aaa ggg cgc tac gat gtg atc acc tcc gtt gcc atc cct ctt gca 209
Leu Lys Gly Arg Tyr Asp Val Ile Thr Ser Val Ala Ile Pro Leu Ala
30 35 40
ctt gct gcc tcc agc atg ttc atg att ggg cgt gga gtt tac aac atg 257
Leu Ala Ala Ser Ser Met Phe Met Ile Gly Arg Gly Val Tyr Asn Met
45 50 55
tct cat gga att ggg aaa aag gag tgatctacca cgggttaact agtttttcta 311
Ser His Gly Ile Gly Lys Lys Glu
60 65
cttggcatgg aagtaccatc cagactatga agtcttcttt gcttgctaaa taatactgtc 371
aaagaacaag tcgactacat ttttgcacat tatttctggt tgtatttggt gatatgaaat 431
gccatcaact tgaagatcag cattgttact attttgggtta aaaaaaaaaa aaaa 485

<210> 2
<211> 67
<212> PRT
<213> Zea mays

<400> 2
Met Thr Glu Ala Pro Phe Leu Pro Arg Glu Arg Leu Phe Lys Leu Gln
1 5 10 15
His His Phe Gln Asn Met Thr Lys His Thr Tyr Leu Lys Gly Arg Tyr
20 25 30
Asp Val Ile Thr Ser Val Ala Ile Pro Leu Ala Leu Ala Ala Ser Ser
35 40 45
Met Phe Met Ile Gly Arg Gly Val Tyr Asn Met Ser His Gly Ile Gly
50 55 60

PF60828.ST25.txt

Lys Lys Glu
65

<210> 3
<211> 201
<212> DNA
<213> Zea mays

<400> 3							
atgacagaag	caccatttct	gccacgtgag	aggctcttca	agctgcaaca	tcattttccag		60
aacatgacca	agcacaccta	cctgaaaggg	cgctacgatg	tgatcacctc	cgttgccatc		120
cctcttgca	ttgctgcctc	cagcatgttc	atgattgggc	gtggagttha	caacatgtct		180
catggaattg	ggaaaaagga	g					201

<210> 4
<211> 3600
<212> DNA
<213> Zea mays

<220>
<221> misc_feature
<222> (2056)..(2059)
<223> n is a, c, g, or t

<400> 4							
tatttagttt	cmtccgttcg	atctatgatt	agaaaaataa	yaaaaaatatc	acataatgca		60
tttaagtc	caaattaagt	tataagttga	ataaatttgt	ttccttgat	ctaaacgtga		120
gtactagttt	gtttttttat	caaagtcat	ggtagtcgga	ggcctatatc	taaaacaccc		180
cggggtccac	ccatgtcgtt	gaggttgcc	gcccttgtaa	aatagaattt	gtgtcataaa		240
aattatgaat	ggtagctctt	ttctaaatga	gttaaaattg	ttgttcaa	gtagtgtcag		300
aaatatat	tagtttccgt	ctcttgaatt	ttctatcttt	gttcatgg	acgagctttt		360
tggaagag	gttcttaagc	atcttgcaaa	ttggctgtgt	gataactatg	tgaaggattc		420
actggtcatg	tgtgtacagt	gtgtaggctc	tctagttcga	tgatatcaag	tggcaatgtc		480
caagtttatt	tgctgccagg	ctaagtcact	gttagttmt	tttgcttg	cggttatatt		540
atgtggagaa	aaagaaacag	agaagttttt	tcccccaatc	ccttggtgc	tcccaaacia		600
gccctcaaag	ggcttcataa	gactactgtg	ctgtttgctg	gtcaatttcc	tggaatcctt		660
gatactccta	ggagcatcca	catttctgat	aaattccaaa	acactggtt	tatgcattga		720
aatgcagtg	catcaaactc	gatcggatgt	tgctaaacaa	aaacgggtaca	gacagattgc		780
taatagcaac	ctggataaaa	tggtttataa	acattttaga	gatttttttcg	gagatagaga		840
gagagactgt	gtgtgttttt	gaggaaagag	tgagaaatgc	tatggtaatt	cttttcccg		900
tgaactgggc	ctctgtgtsg	gcctggtaga	gccagaaat	tattagccca	cggagcgaat		960
ccagaatcca	caaaggacgt	gccctcccc	ctcgttcoga	tgtttgtttc	ggttgcgta		1020
ggtcagcctc	cctctccgga	tccccacct	gtccgcgcgc	cggccaacg	atcgctccc		1080
ttggcagcca	ggttcgcgtc	gggctctctc	cttccctttg	ccgtaaaccg	gtgccgtcgc		1140
gccgattcgt	ccccgaatct	ggagggggcg	aagggcgctt	agtttaccta	ttttgttcca		1200
ttctgatttg	gtctcgccga	atgcacgcgc	tgctcgcgtg	ggatctgcgc	tggcgcgygt		1260
gtgacgcgcc	tgctgttttc	tctatttccc	ttcgatgtga	tggagggtac	ccgcgattta		1320
acgtgggtgcc	cgcgattcag	cgcgatgtcc	tctgttcoga	ctatgggtgt	ggtcgggtct		1380
gctgcctata	tgtatcttac	ctattccagc	gattatcaaa	ttaagtgtt	caaaccctct		1440
agtttggtca	atcgtgcctt	gtggtgtcat	ggttaactat	gtctctcgga	ttcctgctac		1500
cttgccgtct	caaaacatcg	cttcggtact	ttcgcagtat	tacttatg	aaacagatgt		1560
gaaatcattg	ttttacccta	tgcattgcat	gaacctaggc	aacgagtcct	cttgtctttt		1620
gatccagaga	gttggttgat	gctgggggta	tgaatatgaa	taacgtttgt	agtgggttgc		1680
ctttgagaca	tggttaatgg	taggtgcata	acattcttgc	aaattctttt	aaagtatca		1740
cgaatgtgtg	agactttctt	gcaatggatt	tttcttagaa	aaacatattt	cataatatca		1800
tgcccgga	ctttatttgt	gcaaaatgta	ataaatattt	aattttgtac	tacactattc		1860
tggtcatgtg	caaccaggac	actttggcca	aggaattgcc	tttcccctta	actctgccc		1920
cagtatgact	gctgtgatgc	ctgtgctcta	catgttagtc	ctggatgatc	acttgcactc		1980
cttgtctcat	tcccattatc	cagtatagat	caacagtcac	cgtatgattg	gacatatgtt		2040

PF60828.ST25.txt

```
tactcgcaaa ccaaannnnt gttgtgatag gtggagtcaa acagctaact tactttgtga 2100
ggattaaata tgtttacgat ttttaaggcc atttgtgctg tttttatggt taccggtaca 2160
agtgatttaa gtaaccatga aaattactct atatacagaat attgggtgaa gaaggcttgt 2220
ctctcattat ggtagtaggc tgtaagttca ttatcttttg atgcaggatg acagaagcac 2280
catttctgcc acgtgagagg ctcttcaagc tgcaacatca tttccagaac atgaccaagc 2340
acacctacct gaaagggcgc tacgatgtga tcacctccgt tgccatccct cttgcacttg 2400
ctgcctccag catgttcgat attgtaagtt tgaactttca acctaagaga tcattgcctg 2460
tttaactttc cttgttgtct cctcacttggt tggtttgttt cctggttttg cgaacagggg 2520
cgtggagtgtt acaacatgtc tcatggaatt gggaaaaagg agtgatctac cacgggttaa 2580
ctagtttttc tacttggcat ggaagtacca tccagactat gaagtcttct ttgcttgcta 2640
aataatactg tcaaagaaca agtcgactac atttttgcat catatttctg tttgtatttg 2700
tggaatgaa atgccatcaa cttgaagatc agcattgtta ctattttggt taattactcc 2760
attcctgtcg ctgtttgtgt cctttcaatt gaagctagcc ttatattttt ttctgagggtc 2820
cagtcactctt actcagttca tcagctgctc cgcaccacgt catgcacaaa tctcaaactct 2880
ggctgaagca tgcacgcaag aggcactctg tgcacaaaac tgtcaaacca agcggaaatt 2940
atgggtcaatt gctatcttag gctagggttg gagccacaaa accggaaaag attggaggac 3000
taaaatctct tccttattta aaattaaatg ggaaggggat tttaactcct acaatcctct 3060
ccggttttgt ggctcctaaa caagccctta tatattttt ttctttcgca catttcgttt 3120
gtcgtcttga tgtttctcca cctccacctc gacggaagaa cagcactagt cttgtattat 3180
cagtttgacg actgtcatct ttgttccact tggaaaaaga gcagtattag cttgttagta 3240
ttaatgtgaa aaagattttt tttgaataaa catattttca agatgtcttc tcaactcatc 3300
aaattcgtat gcattagtaa ctgtcgtaga gagctaatat ttccaaatct catctcataa 3360
agctagcgta tgcattagtg attgtcatta atatttctaa atctcatctc atcaaattag 3420
agtagrcatt agtatatcca ttggcagaaa aagtgagtgt ttgttacagt gtctacggaa 3480
gtctatacct ccgatacttc ccagactcac tcaccgaaag aagaatgact cactcaccca 3540
aagaagaatg gagcctttgc attggtggct tgaaaatata agttttggca aaagggcatg 3600
```

<210> 5
 <211> 67
 <212> PRT
 <213> Triticum aestivum

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

<210> 6
 <211> 67
 <212> PRT
 <213> Oryza sativa

<400> 6
 Met Thr Glu Ala Pro Phe Val Pro Arg Glu Lys Leu Phe Lys Gln Gln
 1 5 10 15
 Gln Tyr Phe Gln Asn Leu Thr Lys His Thr Tyr Leu Lys Gly Arg Tyr
 20 25 30
 Asp Val Ile Thr Ser Val Ala Ile Pro Leu Ala Leu Ala Gly Thr Ser
 35 40 45
 Leu Phe Met Ile Gly Arg Gly Val Tyr Asn Met Ser His Gly Ile Gly
 50 55 60
 Lys Lys Glu

65

<210> 7
 <211> 67
 <212> PRT
 <213> Sorghum sp.

<220>
 <221> UNSURE
 <222> (3)..(3)
 <223> Unknown amino acid

<220>
 <221> UNSURE
 <222> (11)..(11)
 <223> Unknown amino acid

<220>
 <221> UNSURE
 <222> (29)..(29)
 <223> Unknown amino acid

<400> 7
 Met Thr Xaa Ala Pro Phe Leu Pro Arg Glu Xaa Leu Phe Lys Gln Gln
 1 5 10 15
 His Tyr Phe Gln His Leu Thr Lys His Thr Tyr Leu Xaa Gly Arg Tyr
 20 25 30
 Asp Val Ile Thr Ser Val Ala Ile Pro Leu Ala Leu Ala Ser Ser
 35 40 45
 Met Phe Met Ile Gly Arg Gly Val Tyr Asn Met Ser His Gly Ile Gly
 50 55 60
 Lys Lys Glu
 65

<210> 8
 <211> 68
 <212> PRT
 <213> Arabidopsis thaliana

<400> 8
 Met Leu Thr Glu Thr Pro Phe Arg Pro Arg Glu Lys Leu Leu Glu Lys
 1 5 10 15
 Gln Arg Leu Phe Gln Ser Ile Gln Arg His Thr Tyr Leu Lys Gly Pro
 20 25 30
 Met Asp Lys Ile Thr Ser Val Ala Ile Pro Ile Ala Leu Ala Ala Ser
 35 40 45
 Ser Leu Tyr Met Ile Gly Thr Gly Ile Tyr Asn Met Ser Asn Gly Ile
 50 55 60
 Gly Lys Lys Glu
 65

<210> 9
 <211> 67
 <212> PRT
 <213> Cyamopsis tetragonolobus

<400> 9
 Met Ser Glu Ala Pro Phe Arg Pro Arg Glu Lys Leu Leu Glu His Gln
 1 5 10 15

PF60828.ST25.txt

```

Lys Tyr Tyr Gln Ser Ile His Arg His Thr Tyr Leu Lys Gly Pro Phe
      20      25      30
Asp Lys Ile Thr Ser Val Ala Ile Pro Leu Ala Leu Ala Ala Ser Ser
      35      40      45
Ile Tyr Leu Ile Gly Arg Gly Ile Tyr Asn Met Ser His Gly Ile Gly
      50      55      60
Lys Lys Glu
65

```

```

<210> 10
<211> 67
<212> PRT
<213> Lilium longiflorum

```

```

<220>
<221> UNSURE
<222> (39)..(39)
<223> Unknown amino acid

```

```

<400> 10
Met Thr Glu Pro Pro Phe Val Pro Arg Glu Arg Leu Leu Lys Gln Gln
1      5      10      15
Gln Tyr Phe Gln Asn Ile His Lys His Thr Tyr Leu Lys Gly Arg Tyr
      20      25      30
Asp Lys Ile Thr Ser Val Xaa Ile Pro Leu Ala Leu Ala Phe Thr Ser
      35      40      45
Leu Thr Leu Ile Gly Arg Gly Val Tyr Asn Met Ser His Gly Val Gly
      50      55      60
Lys Lys Glu
65

```

```

<210> 11
<211> 60
<212> PRT
<213> Glycine max

```

```

<400> 11
Arg Gly Glu Arg Leu Phe Lys Leu Gln His His Phe Gln Asn Met Thr
1      5      10      15
Lys His Thr Tyr Leu Lys Gly Arg Tyr Asp Val Ile Thr Ser Val Ala
      20      25      30
Ile Pro Leu Ala Leu Ala Ala Ser Ser Met Phe Met Ile Gly Arg Gly
      35      40      45
Val Tyr Asn Met Ser His Gly Ile Gly Lys Lys Glu
      50      55      60

```

```

<210> 12
<211> 67
<212> PRT
<213> Artificial Sequence

```

```

<220>
<223> consensus sequence

```

```

<220>
<221> UNSURE
<222> (15)..(15)
<223> Unknown amino acid

```

PF60828.ST25.txt

<400> 12

```

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

```