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<110> 8411824 Canada Inc
 <120> Plants Producing Seeds Which Remove Chlorophyl During Maturation
 Under Stress Conditions
 <130> 08925431WO
 <140> not yet known
 <141> 2014-08-19
 <150> US 61/867,418
 <151> 2013-08-19
 <160> 24
 <170> PatentIn version 3.5
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 <211> 720
 <212> PRT
 <213> Arabidopsis thaliana
 <400> 1

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 35 40 45

Asn Asn His Val His Gly His Gln Asp Asp Asp Leu Ile Val His His
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Asp Pro Ser Ile Phe Tyr Gly Asp Leu Pro Thr Leu Pro Asp Phe Pro
 65 70 75 80

Cys Met Ser Ser Ser Ser Ser Ser Ser Thr Ser Pro Ala Pro Val Asn
 85 90 95

Ala Ile Val Ser Ser Ala Ser Ser Ser Ser Ala Ala Ser Ser Ser Thr
 100 105 110

Ser Ser Ala Ala Ser Trp Ala Ile Leu Arg Ser Asp Gly Glu Asp Pro
 115 120 125

Thr Pro Asn Gln Asn Gln Tyr Ala Ser Gly Asn Cys Asp Asp Ser Ser
 130 135 140

Gly Ala Leu Gln Ser Thr Ala Ser Met Glu Ile Pro Leu Asp Ser Ser
 145 150 155 160

Gln Gly Phe Gly Cys Gly Glu Gly Gly Asp Cys Ile Asp Met Met
 165 170 175

Glu Thr Phe Gly Tyr Met Asp Leu Leu Asp Ser Asn Glu Phe Phe Asp
 180 185 190

Thr Ser Ala Ile Phe Ser Gln Asp Asp Asp Thr Gln Asn Pro Asn Leu
 195 200 205

Met Asp Gln Thr Leu Glu Arg Gln Glu Asp Gln Val Val Val Pro Met
 210 215 220

Met Glu Asn Asn Ser Gly Gly Asp Met Gln Met Met Asn Ser Ser Leu
 225 230 235 240

Glu Gln Asp Asp Asp Leu Ala Ala Val Phe Leu Glu Trp Leu Lys Asn
 245 250 255

Asn Lys Glu Thr Val Ser Ala Glu Asp Leu Arg Lys Val Lys Ile Lys
 260 265 270

Lys Ala Thr Ile Glu Ser Ala Ala Arg Arg Leu Gly Gly Gly Lys Glu
 275 280 285

Ala Met Lys Gln Leu Leu Lys Leu Ile Leu Glu Trp Val Gln Thr Asn
 290 295 300

His Leu Gln Arg Arg Arg Thr Thr Thr Thr Thr Thr Asn Leu Ser Tyr
 305 310 315 320

Gln Gln Ser Phe Gln Gln Asp Pro Phe Gln Asn Pro Asn Pro Asn Asn
 325 330 335

Asn Asn Leu Ile Pro Pro Ser Asp Gln Thr Cys Phe Ser Pro Ser Thr
 340 345 350

Trp Val Pro Pro Pro Pro Gln Gln Gln Ala Phe Val Ser Asp Pro Gly
 355 360 365

Phe Gly Tyr Met Pro Ala Pro Asn Tyr Pro Pro Gln Pro Glu Phe Leu
 370 375 380

Pro Leu Leu Glu Ser Pro Pro Ser Trp Pro Pro Pro Pro Gln Ser Gly
 385 390 395 400

Pro Met Pro His Gln Gln Phe Pro Met Pro Pro Thr Ser Gln Tyr Asn
 405 410 415

Gln Phe Gly Asp Pro Thr Gly Phe Asn Gly Tyr Asn Met Asn Pro Tyr
 420 425 430

Gln Tyr Pro Tyr Val Pro Ala Gly Gln Met Arg Asp Gln Arg Leu Leu
 435 440 445

Arg Leu Cys Ser Ser Ala Thr Lys Glu Ala Arg Lys Lys Arg Met Ala
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Arg Gln Arg Arg Phe Leu Ser His His His Arg His Asn Asn Asn Asn
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Asn Asn Asn Asn Asn Asn Gln Gln Asn Gln Thr Gln Ile Gly Glu Thr
 485 490 495

Cys Ala Ala Val Ala Pro Gln Leu Asn Pro Val Ala Thr Thr Ala Thr
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Gly Gly Thr Trp Met Tyr Trp Pro Asn Val Pro Ala Val Pro Pro Gln
 515 520 525

Leu Pro Pro Val Met Glu Thr Gln Leu Pro Thr Met Asp Arg Ala Gly
 530 535 540

Ser Ala Ser Ala Met Pro Arg Gln Gln Val Val Pro Asp Arg Arg Gln
 545 550 555 560

Gly Trp Lys Pro Glu Lys Asn Leu Arg Phe Leu Leu Gln Lys Val Leu
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Lys Gln Ser Asp Val Gly Asn Leu Gly Arg Ile Val Leu Pro Lys Lys
 580 585 590

Glu Ala Glu Thr His Leu Pro Glu Leu Glu Ala Arg Asp Gly Ile Ser
 595 600 605

Leu Ala Met Glu Asp Ile Gly Thr Ser Arg Val Trp Asn Met Arg Tyr
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Arg Phe Trp Pro Asn Asn Lys Ser Arg Met Tyr Leu Leu Glu Asn Thr
 625 630 635 640

Gly Asp Phe Val Lys Thr Asn Gly Leu Gln Glu Gly Asp Phe Ile Val
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Ile Tyr Ser Asp Val Lys Cys Gly Lys Tyr Leu Ile Arg Gly Val Lys
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Val Arg Gln Pro Ser Gly Gln Lys Pro Glu Ala Pro Pro Ser Ser Ala
 675 680 685

Ala Thr Lys Arg Gln Asn Lys Ser Gln Arg Asn Ile Asn Asn Asn Ser
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Phe Asn Asn Arg Arg Ser Lys Lys Lys Asn Gln Ser Ile Val Pro Val
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Ala Arg Leu Phe Gly Pro Ala Ile Phe Glu Ser Ser Lys Leu Lys Val
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Leu Phe Leu Gly Val Asp Glu Lys Lys His Pro Ser Thr Leu Pro Arg
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Thr Tyr Thr Leu Thr His Ser Asp Ile Thr Ala Lys Leu Thr Leu Ala
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Ile Ser Gln Ser Ile Asn Asn Ser Gln Leu Gln Gly Trp Ala Asn Arg
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Leu Tyr Arg Asp Glu Val Val Ala Glu Trp Lys Lys Val Lys Gly Lys
115 120 125

Met Ser Leu His Val His Cys His Ile Ser Gly Gly His Phe Leu Leu
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Asp Leu Phe Ala Lys Phe Arg Tyr Phe Ile Phe Cys Lys Glu Leu Pro
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Val Val Leu Lys Ala Phe Val His Gly Asp Gly Asn Leu Leu Asn Asn
165 170 175

Tyr Pro Glu Leu Gln Glu Ala Leu Val Trp Val Tyr Phe His Ser Asn
180 185 190

Val Asn Glu Phe Asn Lys Val Glu Cys Trp Gly Pro Leu Trp Glu Ala
195 200 205

Val Ser Pro Asp Gly His Lys Thr Glu Thr Leu Pro Glu Ala Arg Cys
210 215 220

Ala Asp Glu Cys Ser Cys Cys Phe Pro Thr Val Ser Ser Ile Pro Trp
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 <213> Arabidopsis thaliana

<400> 5

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Arg Ser Lys Met Lys Asn Arg Ser Ile Val Pro Val Ala Arg Leu Phe
 35 40 45

Gly Pro Ala Ile Phe Glu Ala Ser Lys Leu Lys Val Leu Phe Leu Gly
 50 55 60

Val Asp Glu Lys Lys His Pro Ala Lys Leu Pro Arg Thr Tyr Thr Leu
 65 70 75 80

Thr His Ser Asp Ile Thr Ala Lys Leu Thr Leu Ala Ile Ser Gln Ser
 85 90 95

Ile Asn Asn Ser Gln Leu Gln Gly Trp Ala Asn Lys Leu Phe Arg Asp
 100 105 110

Glu Val Val Gly Glu Trp Lys Lys Val Lys Gly Lys Met Ser Leu His
 115 120 125

Val His Cys His Ile Ser Gly Gly His Phe Phe Leu Asn Leu Ile Ala
 130 135 140

Lys Leu Arg Tyr Tyr Ile Phe Cys Lys Glu Leu Pro Val Val Leu Glu
 145 150 155 160

Ala Phe Ala His Gly Asp Glu Tyr Leu Leu Asn Asn His Pro Glu Leu
 165 170 175

Gln Glu Ser Pro Val Trp Val Tyr Phe His Ser Asn Ile Pro Glu Tyr
 180 185 190

Asn Lys Val Glu Cys Trp Gly Pro Leu Trp Glu Ala Met Ser Gln His
 195 200 205

Gln His Asp Gly Arg Thr His Lys Lys Ser Glu Thr Leu Pro Glu Leu
 210 215 220

Pro Cys Pro Asp Glu Cys Lys Cys Cys Phe Pro Thr Val Ser Thr Ile
 225 230 235 240

Pro Trp Ser His Arg His Tyr Gln His Thr Ala Ala Asp Glu Asn Val
 245 250 255

Ala Asp Gly Leu Leu Glu Ile Pro Asn Pro Gly Lys Ser Lys Gly
 260 265 270

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<212> PRT
<213> Brassica napus

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              20              25              30

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Ile Gly Asp Val Gly Arg Glu Ile Trp Leu Asp Asp His Gly Gly Asp
35              40              45

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His Gly His Gly His Arg Glu Glu Asp Asp Ile Ile Val His His Asp
50              55              60

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Pro Ser Met Phe Tyr Gly Asp Leu Pro Thr Leu Pro Asp Phe Pro Cys
65              70              75              80

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Met Ser Ser Ser Ser Ser Ser Ser Thr Ser Pro Ala Pro Val Asn Ala
85              90              95

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Ile Val Ser Ser Ala Ser Ser Ser Ser Ala Ala Ser Ser Ser Thr Ser
100              105              110

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Ser Ala Ala Ser Trp Ala Ile Leu Lys Ser Asp Gly Glu Asp Pro Thr
115              120              125

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Thr Gln Asn Gln Asn Gln Tyr Ala Ser Gly Asn Cys Asp Val Glu Ser
130              135              140

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Ser Ala Ala Leu Gln Ser Thr Ala Ser Met Glu Ile Gln Leu Asp Asn
145 150 155 160

Thr Gln Gly Phe Gly Cys Gly Glu Gly Gly Gly Asp Cys Ile Asp Met
165 170 175

Met Glu Thr Phe Gly Tyr Met Asp Leu Leu Asp Ser Asn Glu Phe Phe
180 185 190

Asp Thr Ser Ala Ile Phe Asn Gln Asp Glu Asp Thr Gln Asn Pro Asn
195 200 205

Leu Met Asp Gln Thr Leu Glu Arg Gln Asp Gln Ile Val Val Pro Met
210 215 220

Leu Glu Asn Asn Asn Asn Asn Ser Gly Gly Asp Met Gln Val Met Asn
225 230 235 240

His Ser Leu Glu Gln Glu Asp Asp Leu Ala Ala Val Phe Leu Glu Trp
245 250 255

Leu Lys Asn Asn Lys Glu Thr Val Ser Ala Asp Asp Leu Arg Lys Val
260 265 270

Lys Ile Lys Lys Ala Thr Ile Glu Ser Ala Ala Lys Arg Leu Gly Gly
275 280 285

Gly Lys Glu Ala Met Lys Gln Leu Leu Lys Leu Ile Leu Glu Trp Val
290 295 300

Gln Thr Asn His Leu Gln Arg Arg Arg Thr Asn Asn Asn Asn Leu Ser
305 310 315 320

Tyr Gln Gln Asp Pro Phe Gln Asn Pro Asn Leu Ile Pro Pro Ser Asp
325 330 335

Gln Thr Cys Phe Ser Pro Ser Thr Trp Val Pro Pro Pro Pro Gln Pro
340 345 350

Pro Pro Pro Gln Gln Pro Ala Phe Val Ser Asp Pro Gly Tyr Gly Tyr
355 360 365

Met Pro Ala Pro Asn Tyr Pro Pro Gln Glu Tyr Leu Pro Leu Leu Glu
 370 375 380

Ser Pro Pro Thr Trp Pro Pro Pro Gln Ser Gly Pro Met Pro Leu Gln
 385 390 395 400

Gln Phe Thr Met Pro Asn Pro Gln Tyr Thr Pro Phe Gln Asp Pro Gly
 405 410 415

Gly Gly Phe Thr Gly Tyr Asn Met Asn Pro Tyr Gln Tyr Pro Tyr Leu
 420 425 430

Pro Ser Ser Gly Gln Met Arg Asp Gln Gly Leu Leu Arg Leu Cys Ser
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Ser Ala Thr Lys Glu Ala Arg Lys Lys Arg Met Ala Arg Gln Arg Arg
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Phe Leu Ser His His His Arg His Asn Asn Asn Gln Gln Asn Gln Thr
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Gln Ile Gly Glu Val Cys Gly Ala Val Asp Pro Gln Leu Asn His Val
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Pro Thr Thr Ala Thr Gly Gly Thr Trp Met Tyr Trp Pro Asn Val Pro
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Ala Met Pro Pro Pro Val Ser Ser Gln Leu Pro Ala Met Glu Thr Gln
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Leu Pro Thr Met Asp Arg Ala Gly Ser Ser Ser Val Met Pro Arg Gln
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Gln Val Val Pro Asp Arg Arg Gln Gly Trp Lys Pro Glu Lys Asn Leu
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Arg Phe Leu Leu Gln Lys Val Leu Lys Gln Ser Asp Val Gly Asn Leu
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Gly Arg Ile Val Leu Pro Lys Lys Glu Ala Glu Thr His Leu Pro Glu
 580 585 590

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Arg Met Tyr Leu Leu Glu Asn Thr Gly Asp Phe Val Lys Thr Asn Gly
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Leu Gln Glu Gly Asp Phe Ile Val Ile Tyr Ser Asp Val Lys Cys Gly
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Lys Tyr Leu Ile Arg Gly Val Lys Val Arg Gln Pro Ala Gly Gln Lys
 660 665 670

Pro Glu Ala Ser Ser Ser Ala Ala Val Thr Lys Arg Gln Ser Lys Ser
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Pro Thr Ser Gln Ala Val Lys
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 <213> Brassica napus

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