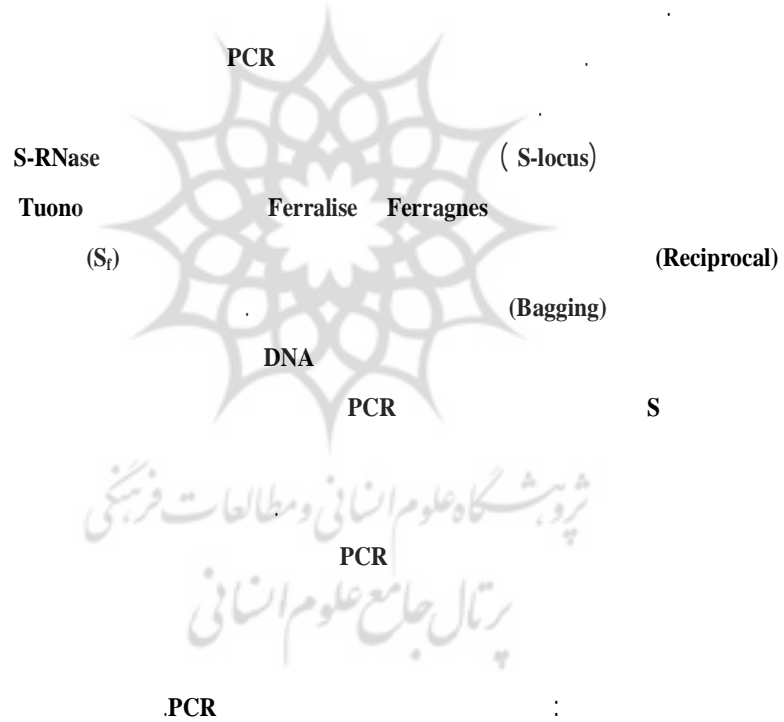


()

(S_f) PCR

*

(// : // :)



(Socias i Company, 1990)

(SSI)
(Ebert et al., 1989) (GSI)

(S-locus)

S-RNase
 S
 (Lopez et al., 2004)
 (Bagging)
 (NEPHGE)
 PCR
 PCR
 (Lopez et al., 2006)
 $S_1, S_2, S_3, \dots, S_{27}$

S_f
 $S_3 S_1$

Boskovic et al.
 (2001) Bale (1997 & 1999)

Felipe
 Ortega Sociasi Company
 $S_1 S_1$
 (Boskovic et al., 1997)

Tufts & (Sociasi Company,
 Tufts Philp
 (Boskovic et al., 2002) .1990)

Tamura et al.
 (2000 & Chanuntapitate & Lopez (1999 & 2003)
 Sociasi Company & Manuel Alonso (2004)
 (2007) Martinez Gomez (2005)
 PCR
 Almedia

(Alonso & Sociasi Company, 2005)
 Tuono
 PCR (S)
 Grassley & Olivier
 Puglia
 (CITA)
 Tuono

(Godini, 2002)

PCR (S_f) :

(2001) Ma & Oliveria

ConF, ConR - S_fF, S_fR - S₃F, S₃R1 -
PCR S₃F, S₃R2 - AS1II, AmyC5R

ConF, ConR, S₃R2: :

PCR ConF, S₃F, ConR

(Reciprocal)

Ferralise (S₁S₃) Ferragnes (S₁S₃)

S₃R2 S₃R1

S₃F

S₃

Tuono (S₁S_f)

(S₃F S₃R1)

()

S₃

S₃R2

(S₃ S_f S₁ S_f)

RC4

Bagging

PCR

DNA

DNA

{(50% S₃ S_f, 50% S_f S_f) (50% S₁ S_f, 50%, S_f S_f)}

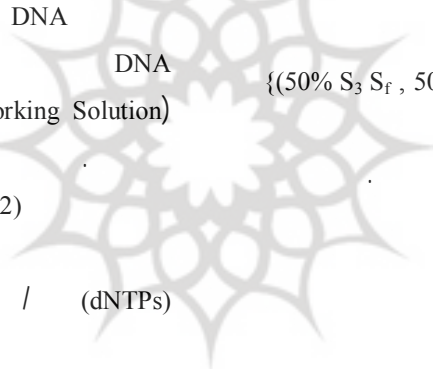
(Working Solution)

PCR

PCR

KCl

Tris-HCl (pH 8.2)



/

MgCl₂

/

(dNTPs)

Taq DNA

DNA

PCR

(Gepts &

DNA

°C

DNA

Clegg, 1989)

°C

°C

PCR

°C

°C

PCR

°C (annealing)

(2000 & 2003) Channuntapitat et al.

S ₃ S _f S _f S _f	S ₃ S _f X S ₃ S _f	S ₁ S _f X S ₃ S _f	♀ Ferralise(S ₁ S ₃) x ♂ Tuono(S ₁ S _f)
S ₃ S _f S _f S _f	S ₃ S _f X S ₃ S _f	S ₃ S ₁ X S ₃ S _f	♀ Tuono(S ₁ S _f) x ♂ Ferragnes(S ₁ S ₃)
S ₃ S _f S _f S _f	S ₃ S _f X S ₃ S _f	S ₁ S _f X S ₃ S _f	♀ Ferralise(S ₁ S ₃) x ♂ Tuono(S ₁ S _f)
S ₁ S _f S _f S _f	S ₁ S _f X S ₁ S _f	S ₁ S _f X S ₃ S _f	♀ Ferragnes(S ₁ S ₃) x ♂ Tuono(S ₁ S _f)
S ₁ S _f S _f S _f	S ₁ S _f X S ₁ S _f	S ₁ S _f X S ₃ S _f	♀ Ferralise(S ₁ S ₃) x ♂ Tuono(S ₁ S _f)

bp S_f TBE % PCR

(1 μg / ml⁻¹)

ConF-ConR (Gel Doc 2000 UV Transilluminator)

(2001 & 2003) Channuntapitat et al.

S₁, S_f, S₃

S_f () S₃ ()

Tuono(S1Sf)

Ferralise (S₁S₃) Ferragnes(S1S3)

Tuono

S₃ S₁ S_f

AS1II) (2000) Tamura et al. (AmyC5R

(2004) Sanchez-Perez et al. S₁ Tuono

S_f (AmyC5R AS1II) S₃S_f S₁S_f

Tuono S₃S_f S₁S₃

S_f S₃

S₃ S_f S₃ S_f S₁ S_f

DNA ()

S₃ S_f

S₃ S3F-S3R2 S3F-S3R1 S_fS_f

bp bp S₃S_f S₁S_f

(2005) Sociasi Company & Alonso

PCR ConF,ConR,S3R2 ConF,S3F,ConR

SfF-SfR

(2005) Alonso et al.

PCR

(S_f)

:

()

PCR

PCR

- S₃ S_f S₃ S_f

%

%

S₁₁

()

(S₃ S₁)

S_x

PCR

(S₃ S_f S₃ S_f) (S₁ S_f S₁ S_f)

S ₃ S _f X S ₃ S _f	S ₃ S _f	S ₃ S _f X S ₃ S _f	S _f S _f	S ₃ S _f X S ₃ S _f	S ₃ S _f	S ₁ S _f X S ₁ S _f	S _f S _f	S ₁ S _f X S ₁ S _f	S ₁ S _f
1_01	S ₃ S _f	2_01	S _f S _f	3_01	S ₃ S _f	4_01	S ₁ S _f	5_01	S ₁ S _f
1_02	S ₃ S _f	2_02	S ₃ S _f	3_02	S _f S _f	4_02	S _f S _f	5_02	S ₁ S _f
1_03	S ₃ S _f	2_03	S ₃ S _f	3_03	S _f S _f	4_03	S _f S _f	5_03	S ₁ S _f
1_04	S _f S _f	2_04	S ₃ S _f	3_04	S _f S _f	4_04	S _f S _f	5_04	S _f S _f
1_05	S ₃ S _f	2_05	S _f S _f	3_05	S ₃ S _f	4_05	S ₁ S _f	5_05	S ₁ S _f
1_06	S _f S _f	2_06	S _f S _f	3_06	S _f S _f	4_06	S ₁ S _f		
1_07	S _f S _f	2_07	S _f S _f	3_07	S ₃ S _f				
1_08	S _f S _f	2_08	S _f S _f	3_08	S ₃ S _f				
1_09	S ₃ S _f	2_09	S _f S _f	3_09	S ₃ S _f				
1_10	S ₃ S _f	2_10	S ₃ S _f	3_10	S ₃ S _f				
1_11	S _f S _f	2_11	S ₃ S _x	3_11	S ₃ S _f				
1_12	S ₃ S _f	2_12	S ₃ S _f	3_12	S _f S _f				
1_13	S ₃ S _f	2_13	S _f S _f	3_13	S _f S _f				
1_14	S ₃ S _f	2_14	S _f S _f	3_14	S ₃ S _f				
1_15	S _f S _f	2_15	S ₃ S _f	3_15	S _f S _f				
1_16	S _f S _f	2_16	S _f S _f	3_16	S _f S _f				
1_17	S _f S _f			3_17	S _f S _f				
1_18	S _f S _f			3_18	S _f S _f				
1_19	S ₃ S _f			3_19	S _f S _f				
1_20	S ₃ S _f			3_20	S _f S _f				
1_21	S ₃ S _f			3_21	S _f S _f				
				3_22	S _f S _f				
				3_23	S _f S _f				

χ²

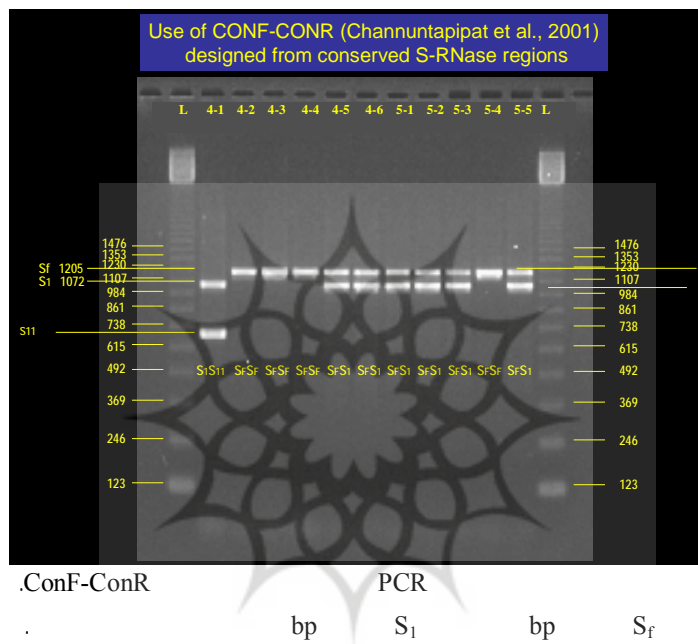
PCR

χ²

(S ₃ S _f)	♀ FERRALISE x ♂ TUONO	S ₃ S _f S _f S _f	/ ns
(S ₃ S _f)	♀ TUONO x ♂ FERRAGNES	S ₃ S _f S _f S _f	/ ns
(S ₃ S _f)	♀ FERRALISE x ♂ TUONO	S ₃ S _f S _f S _f	/ ns
(S ₁ S _f)	♀ FERRAGNES x ♂ TUONO	S ₁ S _f S _f S _f	/.. ns
(S ₁ S _f)	♀ FERRALISE x ♂ TUONO	S ₁ S _f S _f S _f	/ ns

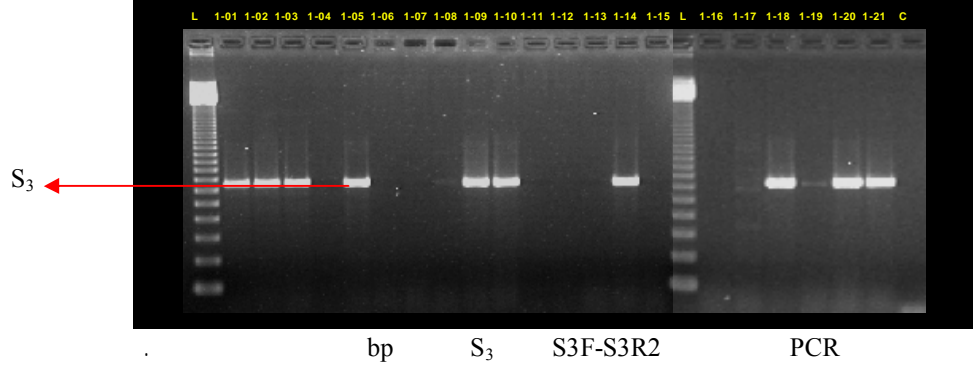
S3 Sf S1 Sf

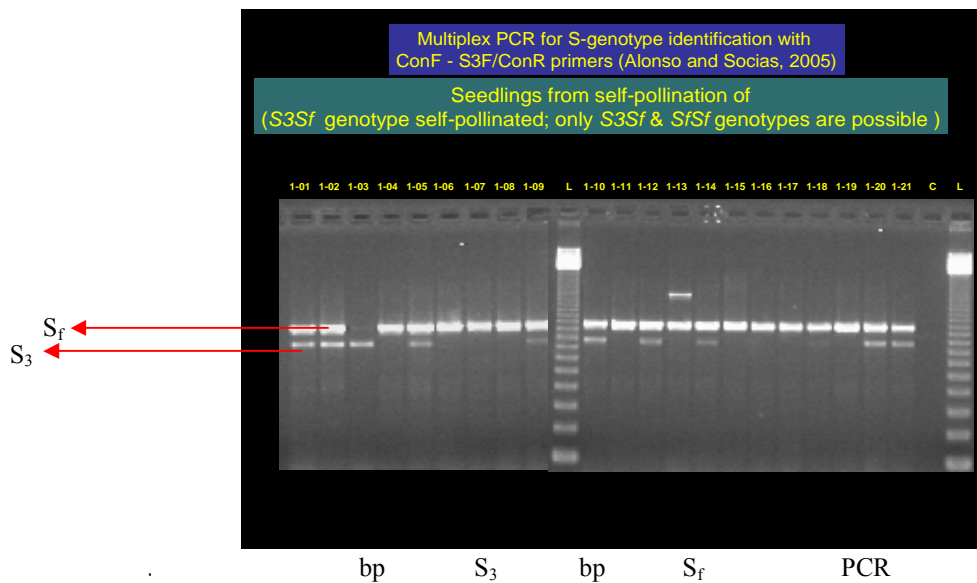
			χ^2
S ₃ S _f	S ₃ S _f S _f S _f	/	/ ns
S ₁ S _f	S ₁ S _f S _f S _f	/	/
S _x S _f	S _x S _f S _f S _f	/	/ ns
		: ns S _f	S _x :



Specific PCR for S3 identification with S3F - S3R2 primers (Alonso and Socias, 2005)

Seedlings from self-pollination of (S₃S_f genotype self-pollinated; only S₃S_f & S_fS_f genotypes are possible)





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