

()

(*P. avium* L.)

//

(*P. avium* L.)

(PVPP)

(Dice)

(*Prunus avium* L.) :

.()

.()

.()

()

)

()

.(

()

(Citrate phosphate)

(Phosphate Buffer)

(Isoelectro focusing)

(Borax-Boric Acid)

pH

()
)

()

()

(pH

(EDTA)

(Ascorbic Acid)

(β-mercaptoethanol)

(Dithioerythritol)

(Sodium disulfit)

()

(Phenyl methyl sulfonyl fluoride)

(Triton X100)

)

(

()

pH	/	(pH=)	(/)
pH	/	(pH=)	(/)
/ NaH ₂ PO ₄	/	Na ₂ HPO ₄	(pH=)
(pH=)	NaH ₂ PO ₄	/	pH
pH	/	(pH=)	(/)

()

()

()

()

(Tris-HCl)

(Tris-Glycin)

... :

(RPM)

(Beckman)

.

.()

EPS-7601

()

(Polyacrylamide Gel Electrophoresis)

(*P.mahaleb*)

/

.()

()

pH ()

()

)

(

.()

															PH	
()	()	()	()	()	()	()	()	()	()	()	()	()	()	()	()	()
B	/ ABC	/ BC	/ AB	/ E	/ BC	ABC	/ ABC	/ C	/ CDEF	/ GF	/ BC	/ AB	/ C	/ B	/ CD	/ DE
/ B	/ BC	/ A	/ A	/ ABC	/ D	/ D	/ D	/ A	/ A	BCD	/ AB	/ DE	/ AB	/ C	/ AB	/ EF
/ B	/ ABC	/ AB	/ A	/ D	/ CD	BCD	CD	/ D	/ BC	/ ABC	/ A	/ E	AB	/ E	/ CD	/ EF
B	/ ABC	/ BC	/ AB	/ ABCD	/ BC	/ ABC	BC	/ B	/ B	/ AB	/ BC	/ A	/ A	/ CD	/ AB	/ CD
/ B	/ ABC	/ BC	/ AB	/ ABCD	/ BC	/ AB	/ ABC	/ DEF	/ EF	/ G	/ BC	/ DE	AB	/ C	/ AB	/ C
A	ABC	/ BC	/ AB	/ BCD	/ AB	/ AB	/ AB	/ DE	/ EF	/ BCDE	/ CD	/ ED	/ AB	/ CD	/ AB	/ BC
/ B	/ ABC	/ AB	/ AB	/ A	/ BC	ABC	CD	/ A	/ A	/ A	/ AB	/ CDE	/ A	/ CD	/ AB	/ EF
/ B	/ AB	/ C	/ B	/ ABC	/ BC	AB	/ BCD	/ DE	/ DEF	/ CDEF	/ CD	/ BCD	/ AB	/ CD	/ AB	/ DE
/ B	/ AB	/ AB	/ AB	/ D	/ BC	/ ABC	/ BC	/ G	/ G	/ H	/ D	BCD	/ AB	/ CD	/ AB	/ AB
/ B	/ C	/ AB	/ AB	/ BCD	/ CD	/ CD	/ CD	/ F	/ F	/ EFG	/ CD	/ ABC	/ A	/ DE	/ AB	/ AD
B	ABC	/ BC	/ AB	/ AB	/ BC	ABC	ABC	/ C	/ BCD	CDEFG	/ BC	/ BCD	/ AB	/ CD	/ ABC	/ F
B	ABC	/ BC	/ AB	/ ABCD	/ CD	/ BCD	BCD	/ DE	/ EF	/ CDEF	/ CD	/ BCD	/ AB	/ CD	/ D	/ EF
B	/ ABC	/ AB	/ AB	/ CD	/ BC	/ BCD	ABC	/ C	/ CDE	/ CDEF	/ BCD	/ A	/ C	/ A	/ A	A
/ B	/ A	/ BC	/ AB	/ AB	/ A	/ A	/ AB	/ EF	/ F	/ DEFG	/ CD	/ DE	/ B	/ DE	/ AB	/ C



(Ward)

(Dice)

(spss)

() ()
 () () HCL
 .(()

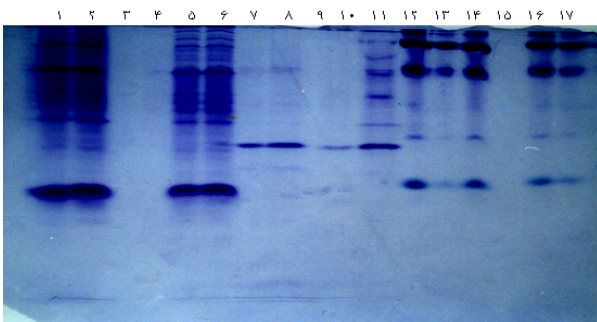
(Polyvinyl polypyrrolidone)

(B-mercaptoethanol)

(Triton X100)

.()

()



.()

...

:

(PAGE)

()

()

()

()

()

Rm\Cv	1	2	3	4	5	6	7	8	9	10	11	12	13	14
0.017	---													
0.023	---													
0.029	---													
0.035	---													
0.047	---													
0.053	---													
0.077	---													
0.083	---													
0.107	---													
0.113	---													
0.119	---													
0.137	---													
0.173	---													
0.203	---													
0.239	---													
0.257	---													
0.263	---													
0.317	---													
0.329	---													
0.443	---													
0.461	---													
0.497	---													
0.502	---													
0.508	---													
0.520	---													
0.538	---													
0.568	---													
0.586	---													
0.958	---													
0.982	---													

()

/

PAGE

/ /

()

/

()

()

()

()

/

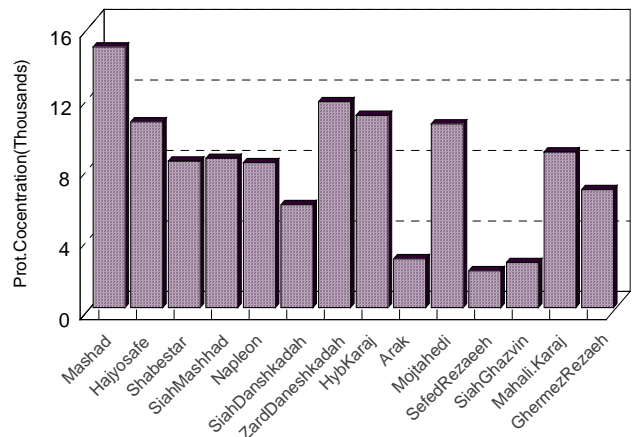
()

/

/

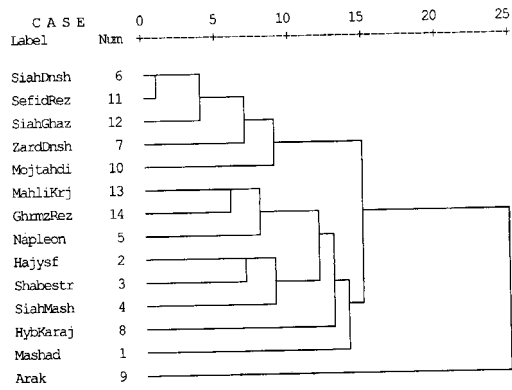
()

()

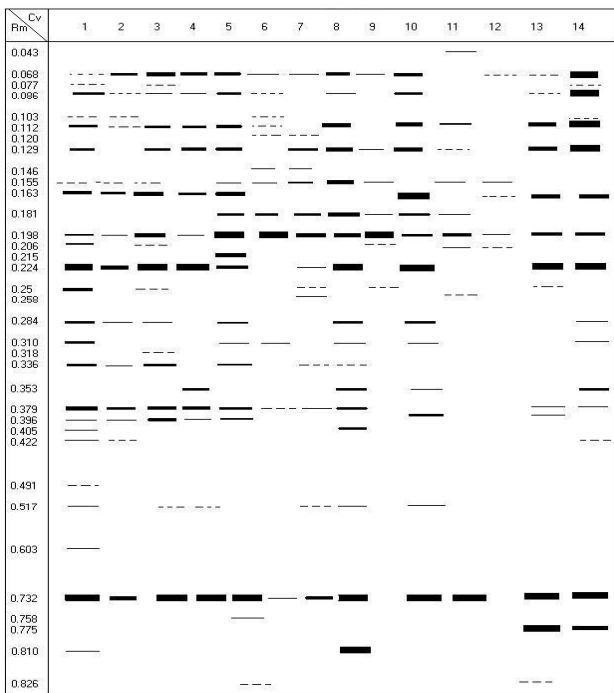


()

Rescaled Distance Cluster Combine



PAGE



SDS-PAGE

() () / /

()

() / /

(Relative Mobility)RM

() ()

/ /

()

(Dice)

/

(SDS-

PAGE)

()

()

()

/ / /

/ RM

() ()

RM

) () /

5. Arzani, K. 1998. The position of cherry culture and breeding in IRAN. Proceeding of International cherry breeding anniversary conference, Budapest, Hungary. Page: 55-69.
6. Arzani, K., & A. Khalighi 1998. Pre-season pollen collection and outdoor hybridization for polinizar determination in sweet cherry *cv* SiahMashhad. *Acta Hort.* 468(1): 575-582.
7. Bradford, M.M. 1976. A rapid and sensitive method for quantitaion of microgram quantities of protein utilizing the principle of protein dye binding. *Anal Biochem.* 72:248-254.
8. Carter, G.E. Jr., & M.M.Brock. 1980. Identification of of peach cultivars through protein analysis. *HortScience.* 15: 292-293.
9. Cerezo, M. & P.Arus.1989. Identification of almond cultivars by pollen isoenzymes. *J.Amer. Soc. Hort. Sci.* 114: 164-169.
10. Granger, A. R., G.R.Clarke, & J.F.Jackson. 1993. Sweet cherry cultivar identification by leaf isozyme polymorphism. *Theor. Appl. Genet.* 86:458-464.
11. Hames, B.D. & Rickwood, D. 1990. Gel Electrophoresis of proteins. A practical approach, Second edition, Oxford university press, NewYork,PP:290.
12. Hammerschlag, F.A. & R.E. Litz. 1992. Biotechnology of perennial fruit crops. C.A.B. International. 105-141 and 277-303.
13. Hancock, A.M. & A.F. Iezzoni. 1988. Malate dehydrogenase isozyme patterns in seven *prunus* species. *Hort Science.* 23:381-383.
14. Mazzola, M. & G.E.Carter. 1988. Peach Rootstock characterization by protein analysis. *Hort Science* 23:119-120.
15. Menendez, R.A., F.E. Larsen, & R. Fritts. 1986. Identification of apple rootstock cultivars by isozyme analysis. *J. Amer. Soc. Hort. Sci.* 111(6):933-937.
16. Mikolos, F. 1996. Origin and dessemination of cherry. *Hort. Rev.* 19: 263-317
17. Schmidt, H., J.V. Christensen, R. Watkins, & R.A. Smith. 1985. Cherry descriptor list. CEC Secretariat, Brussels.
18. Tanksley , S.D. & T.J. Orton. 1989. Isozymes in plant genetics and breeding. Elsevier Science publishing company Inc.1:401-417.
19. Weeden, N.F. & R.C.Lamb. 1985. Identification of apple cultivars by Isozyme phenotypes. *J. Amer. Soc. Hort. Sci.* 110: 509-515.