

Table 1. Calculated fermentation kinetics for alfalfa, pomegranate husk and grape pomace

Treatment (% ratio)	A ¹	B ²	C ³	k ⁴
Alfalfa (100:0)	18.6 ± 3.33 ^a	46.1 ± 7.65	35.3 ± 6.21 ^a	4.91 ± 3.29
Shiraz⁵ (100:0)	14.1 ± 3.33 ^a	11.9 ± 7.65	74.1 ± 6.21 ^b	7.14 ± 3.29
Cabernet Sauvignon⁵ (100:0)	9.8 ± 3.33 ^a	14.9 ± 7.65	75.4 ± 6.21 ^b	18.1 ± 4.65
Parifanka⁶ (100:0)	46.8 ± 4.71 ^b	32.0 ± 7.65	41.2 ± 8.78 ^a	3.00 ± 3.29
Desertnyi⁶ (100:0)	40.9 ± 3.33 ^b	19.7 ± 7.65	39.4 ± 6.21 ^a	5.50 ± 4.65
Alfalfa: Shiraz (25:75)	17.6 ± 3.33 ^a	16.8 ± 7.65	65.6 ± 6.21 ^b	6.14 ± 3.29
Alfalfa: Cabernet Sauvignon (25:75)	12.3 ± 3.33 ^a	23.5 ± 7.65	64.2 ± 6.21 ^b	5.50 ± 3.29
Alfalfa: Parifanka (25:75)	39.8 ± 3.33 ^b	34.1 ± 7.65	26.1 ± 6.21 ^a	2.03 ± 3.29
Alfalfa: Desertnyi (25:75)	45.7 ± 3.33 ^b	20.4 ± 7.65	33.9 ± 6.21 ^a	1.67 ± 3.29
Alfalfa: Shiraz (50:50)	24.5 ± 3.33 ^{a,c}	18.4 ± 7.65	57.1 ± 6.21 ^b	4.24 ± 3.29
Alfalfa: Cabernet Sauvignon (50:50)	18.3 ± 3.33 ^a	22.3 ± 7.65	59.4 ± 6.21 ^b	6.00 ± 4.65
Alfalfa: Parifanka (50:50)	13.9 ± 3.33 ^a	21.9 ± 7.65	64.3 ± 6.21 ^b	6.05 ± 3.29
Alfalfa: Desertnyi (50:50)	37.2 ± 3.33 ^b	16.6 ± 7.65	46.3 ± 6.21 ^a	10.9 ± 4.65
Alfalfa: Shiraz (75:25)	19.2 ± 3.33 ^a	26.6 ± 7.65	54.2 ± 6.21 ^c	11.1 ± 4.65
Alfalfa: Cabernet Sauvignon (75:25)	18.9 ± 3.33 ^{a,c}	29.0 ± 7.65	52.0 ± 6.21 ^{a,c}	7.37 ± 3.29
Alfalfa: Parifanka (75:25)	27.3 ± 3.33 ^{a,c}	27.7 ± 7.65	45.1 ± 6.21 ^{a,c}	14.5 ± 3.29
Alfalfa: Desertnyi (75:25)	24.7 ± 3.33 ^{a,c}	25.2 ± 7.65	50.1 ± 6.21 ^{a,c}	8.92 ± 3.29

¹A is the readily digestible portion

²B is the potentially digestible portion

³C is the undegradable portion

⁴k is the rate of degradation in %/h

⁵Grape pomace variety

⁶Pomegranate husk variety

^{a, b, c} Data within a column is considered significantly different ($P < 0.05$)

Table 2. Effect of grape pomace and pomegranate husk extracts on activity (% active) of L₃ *O. ostetagia*

Extract ¹ (mg/ml)	Active (%)			
	0 h	2 h	4 h	24 h
Shiraz				
6.25	69.2 ± 0.02 ^a	54.8 ± 0.04 ^a	38.2 ± 0.03 ^a	35.3 ± 0.04 ^a
12.5	75.9 ± 0.02 ^b	56.5 ± 0.04 ^a	38.5 ± 0.03 ^a	34.5 ± 0.04 ^a
Cabernet Sauvignon				
6.25	76.7 ± 0.02 ^b	46.7 ± 0.04 ^{a,b}	27.5 ± 0.03 ^b	37.3 ± 0.04 ^a
12.5	73.5 ± 0.02 ^{a,b}	45.9 ± 0.04 ^a	25.2 ± 0.03 ^b	35.4 ± 0.04 ^a
Wonderful				
12.5	67.1 ± 0.02 ^{a,c}	42.1 ± 0.04 ^{b,c}	27.8 ± 0.03 ^b	29.9 ± 0.04 ^a
25.0	68.0 ± 0.02 ^{a,c}	32.6 ± 0.04 ^c	23.0 ± 0.03 ^b	22.2 ± 0.04 ^b
50.0	66.6 ± 0.02 ^{a,c}	29.7 ± 0.04 ^d	16.8 ± 0.03 ^c	18.0 ± 0.04 ^b
Sogidana				
12.5	68.5 ± 0.02 ^a	40.6 ± 0.04 ^{b,d}	27.8 ± 0.03 ^b	36.8 ± 0.04 ^a
25.0	67.4 ± 0.02 ^{a,c}	36.0 ± 0.04 ^{b,d}	20.9 ± 0.03 ^{b,c}	27.2 ± 0.04 ^a
50.0	63.2 ± 0.02 ^d	29.9 ± 0.04 ^d	17.3 ± 0.03 ^c	21.6 ± 0.04 ^b
PBS (+)²	74.3 ± 0.02 ^{a,b,c}	65.9 ± 0.04 ^e	64.7 ± 0.03 ^d	57.7 ± 0.04 ^c

¹ Shiraz and Cabernet Sauvignon – Grape pomace extracts, Wonderful and Sogidana – Pomegranate husk extracts

² PBS(+) – Phosphate Buffered Saline, 0.05M NaCl, and 5% DMSO to increase solubility of dried extracts

^{a,b,c,d,e} Data in a column within a time point are significant ($P < 0.05$)