

Table S1. Number of samples taken by vegetation types

Stand	Number of Plots
<i>Pinus brutia</i>	11
<i>Cupressus sempervirens</i>	9
<i>Mixed Broadleaves</i>	4
<i>Zelcova carpinifolia</i>	2
<i>Rubus caesius</i>	3
Rang land	7
<i>Punica granatum</i>	8
<i>&Paliurus Spina-Christi</i>	
Agricultural land	5

Table S2. Weather, fuel moisture and topography variables for the study area

Feature	Variable	Min	Mean	Max
Weather	Temperature (°C)	22	34.5	45.3
	Relative Humidity (%)	14	30.8	59
	Wind Speed(m/s)	6	2.75	2
	Rainfall (mm)	0	0	0
Fuel Moisture	1-hr	3	7.9	12
	10-hr	5	9.2	14
	100-hr	5	9.7	15
	Live herb	36	63.2	148
	Live woody	60	97.5	115
Topography	Elevation (m)	240	429	780
	Slope (%)	0	27	138

Table S3. Fire severity classes (Chatto & Tolhurst 2004)

Fire severity class	Fire line intensity (Kw m⁻¹)	Description
Unburned	0	No evidence of vegetation killed by fire. No charring on tree stems.
Low	<500	Surface fuels only are consumed
		No crown scorch
Moderate	500-3000	Most surface fuel consumed
		Moderate to severe canopy scorch
High	>3000	Complete consumption of surface fuel
		Complete crown scorch
		All fuels including crowns are consumed

Supplementary tables to the article “Improved forest fire spread mapping by developing custom fire fuel models in replanted forests in Hyrcanian forests, Iran”, by Mhd. Wathek Alhaj-Khalaf, Shaban Shataee-Jouibary, Roghayeh Jahdi and Valentina Bacciu. Forest Systems Vol. 30 No. 2, August 2021 (<https://doi.org/10.5424/fs/2021302-17980>).

Table S4. Fire parameters values for each fuel model under simulated fire behavior conditions (Mean±SD)

FM Situation	FM number	Flam Length (m)	Fire line Intensity (Kw m ⁻¹)	Rate of Spread (M min ⁻¹)
Custom	15	1.81±0.45	489.38±277.96	11.25±5.89
	16	0.37±0.54	300.06±405.2	2.6±3.48
	17	1.12±0.18	527.11±722	1.59±2.12
	18	0.28±0.15	36.42±58.39	2.02±3.14
	19	4.68±4.73	1874.67±2173.99	4.59±3.22
	20	5.21±0.83	5432.64±2368.93	7.25±3.04
	122	1.57±0.21	302.11±143.05	3.13±1.48
	123	2.36±0.33	769.62±449.89	4.68±2.71
Standard	102	1.37±0.31	262.15±140.32	6.17±3.2
	121	0.22±0.09	27.06±34.75	1.54±1.92
	143	0.68±0.11	95.92±81.17	1.05±0.58
	165	1.63±0.54	680.98±455.87	1.4±0.93
	182	0.17±0.14	43.24±60.27	1.57±2.06
	183	0.21±0.08	65.84±71.14	1.83±1.97
	122	0.0	0.0	0.0
	123	0.0	0.0	0.0

Table S5. Congruence of values for all fire behavior parameters between custom and standard fuel models

Parameters	Kappa coefficient
Flam Length	0.60
Fire line Intensity	0.63
Rate of Spread	0.64
Crown Fire	0.01
Burned area	0.68