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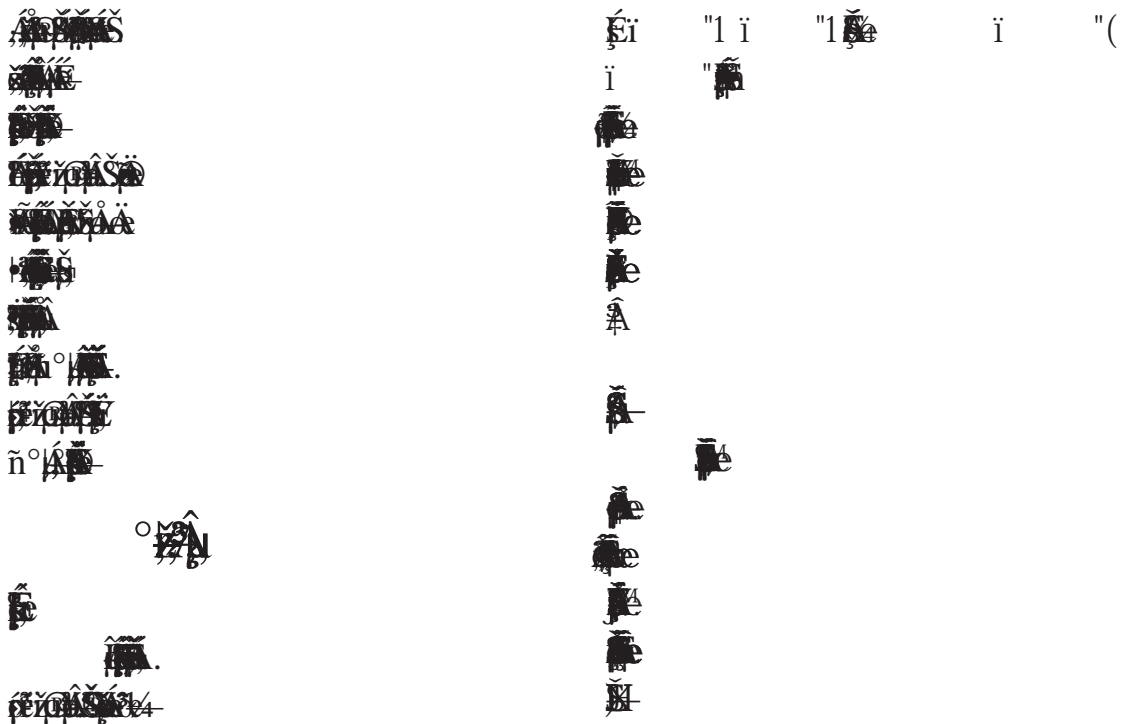
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Astraeus VSS ~~EDDFDOLHUVLW\~~ Astraeus  
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Plot	Year									
	2008	2009	2010	2011	2012	2013	2014	2015	2016	
D1										
D2										
D3										
D4										
D5										
D6										
D7										
D8										
D9										
D10										

- burn plot
- no burn in plot because the high rainfall due to La Niña phenomenon
- no burn in plot

**Figure 1** Forest fire control in different burn frequency history from 2008 to 2016 of ten permanent plots at Huai Kha Khaeng Wildlife Sanctuary







( $\sum$  ... 2558 ... 2) ... ) ... )

), 2561; Food and Agriculture Organization of the United Nations (FAO, 2018) D3, D4, D6 D8

... 2558 (Table 1; Figure 2 (B))

2550-2557 (Table 1; Figure 2 (A))

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100

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(Table 1; Figure 2 (A))

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D2  $\sum$  D6

D6 D8

100 /

... (Figure 6)

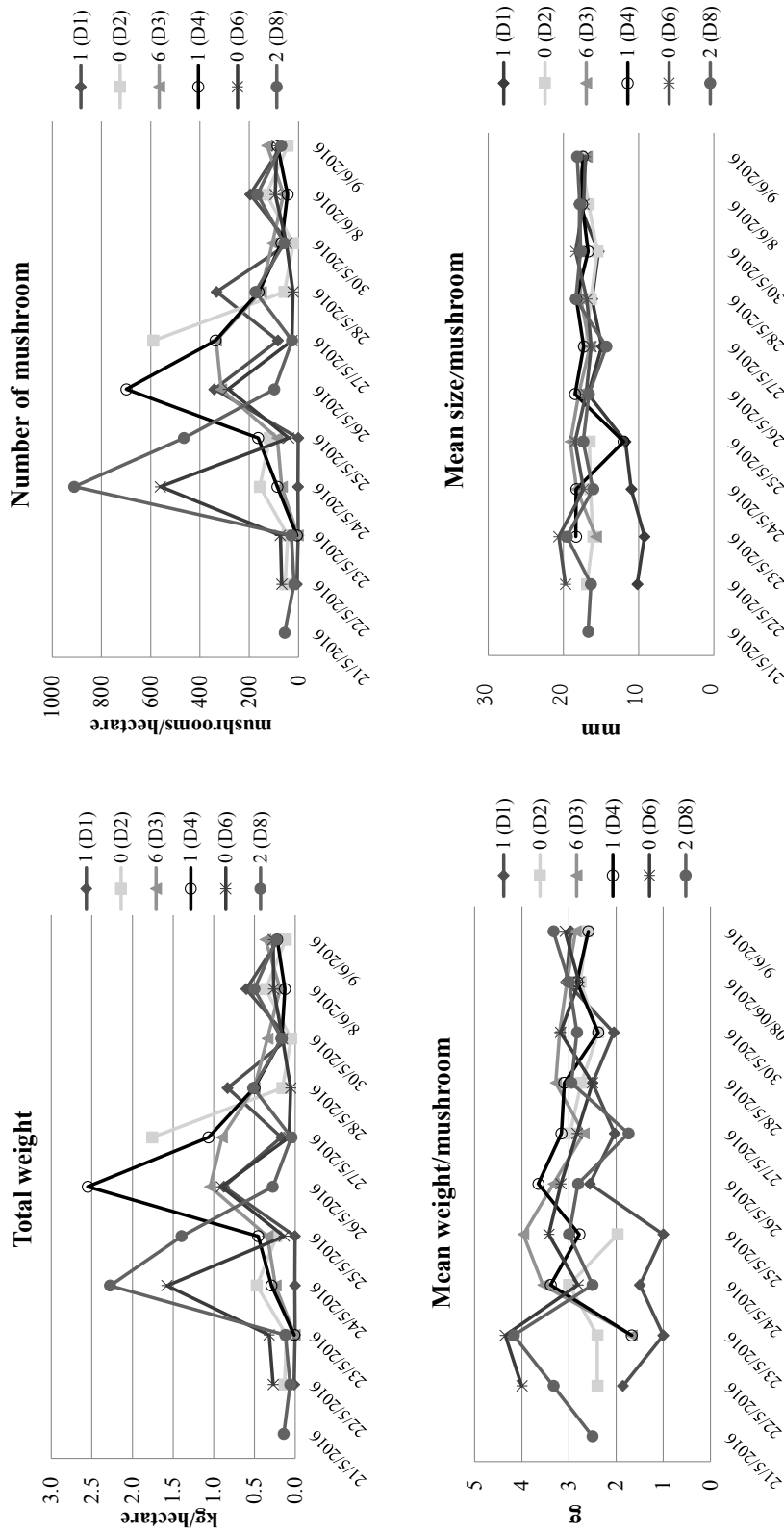
( Table 2

**Table 2** The summary data of barometer earthstar collection in 2016 with different burn frequencies at Huai Kha Khaeng Wildlife Sanctuary.

Burn frequency (Plot no.)	Total weight, number, mean weight and mean size of barometer earthstar	Collection date of barometer earthstar												Mean	Total
		21/5/16	22/5/16	23/5/16	24/5/16	25/5/16	26/5/16	27/5/16	28/5/16	30/5/16	8/6/16	9/6/16			
<b>0 (D2)</b> <b>0 = annual burn</b>	Total weight (kg/hectare)	0	0.130	0.105	0.470	0.230	0	1.755	0.155	0.050	0.360	0.115			<b>3,370</b>
	Number of mushroom/ hectare	0	54	44	157	117	0	589	57	21	130	44			<b>1,212</b>
	Mean weight/mushroom (g)	0	2.40	2.40	3.00	1.97	0	2.98	2.74	2.38	2.76	2.62			<b>2.58</b>
	Mean size/mushroom (mm)	0	16.86	16.04	16.40	16.53	0	17.10	16.33	15.48	16.64	17.73			<b>16.57</b>
<b>0 (D6)</b> <b>0 = annual burn</b>	Total weight (kg/hectare)	0	0.270	0.320	1.575	0.135	0.905	0.075	0.055	0.155	0.265	0.270			<b>4,025</b>
	Number of mushroom/ hectare	0	68	74	560	39	285	27	22	49	95	88			<b>1,306</b>
	Mean weight/mushroom (g)	0	4.00	4.35	2.81	3.43	3.17	2.83	2.50	3.18	2.79	3.08			<b>3.21</b>
	Mean size/mushroom (mm)	0	19.71	20.60	17.31	18.43	16.99	16.29	16.87	18.36	17.29	17.06			<b>17.89</b>
<b>1 (D1)</b> <b>1 = 1-year alternate burn</b>	Total weight (kg/hectare)	0	0.013	0.001	0.003	0.001	0.875	0.170	0.830	0.080	0.600	0.205			<b>2,778</b>
	Number of mushroom/ hectare	0	7	1	2	1	342	84	332	39	196	69			<b>1,073</b>
	Mean weight/mushroom (g)	0	1.86	1.00	1.50	1.00	2.56	2.03	2.50	2.05	3.06	2.96			<b>2.05</b>
	Mean size/mushroom (mm)	0	10.16	9.21	10.97	11.74	16.71	14.89	16.17	15.30	17.88	17.41			<b>14.04</b>
<b>1 (D4)</b> <b>1 = 1-year alternate burn</b>	Total weight (kg/hectare)	0	0	0.010	0.290	0.455	2.550	1.065	0.500	0.165	0.125	0.220			<b>5,380</b>
	Number of mushroom/ hectare	0	0	6	86	164	699	337	161	69	44	85			<b>1,651</b>
	Mean weight/mushroom (g)	0	0	1.67	3.39	2.78	3.65	3.16	3.10	2.38	2.83	2.59			<b>2.84</b>
	Mean size/mushroom (mm)	0	0	18.33	18.30	11.99	18.45	17.29	18.28	16.70	17.51	17.41			<b>17.14</b>
<b>2 (D8)</b> <b>2 = biannual burn</b>	Total weight (kg/hectare)	0.140	0.060	0.120	2.275	1.395	0.275	0.045	0.515	0.165	0.500	0.230			<b>5,719</b>
	Number of mushroom/ hectare	56	18	29	910	465	98	26	175	58	167	69			<b>2,070</b>
	Mean weight/mushroom (g)	2.50	3.33	4.17	2.50	3.00	2.81	1.74	2.95	2.83	3.00	3.33			<b>2.92</b>
	Mean size/mushroom (mm)	16.70	16.34	19.54	16.03	17.36	16.61	14.29	18.34	17.71	17.82	18.17			<b>17.17</b>
<b>6 (D3)</b> <b>6 = every 6 years burn</b>	Total weight (kg/hectare)	0	0	0.005	0.240	0.340	1.045	0.900	0.500	0.340	0.185	0.365			<b>3,919</b>
	Number of mushroom/ hectare	0	0	3	68	86	314	335	152	106	61	128			<b>1,252</b>
	Mean weight/mushroom (g)	0	0	1.67	3.55	3.97	3.33	2.69	3.28	3.20	3.04	2.86			<b>3.07</b>
	Mean size/mushroom (mm)	0	0	15.68	18.25	19.05	17.95	16.47	17.67	17.95	17.85	16.90			<b>17.53</b>

**Remark:** In May 31-June 7, 2016, there were no barometer earthstar collecting due to a few of mushroom.





Level of burn frequency: 0 = annual burn, 1 = 1-year alternate burn, 2 = biannual burn, 6 = every 6 years burn

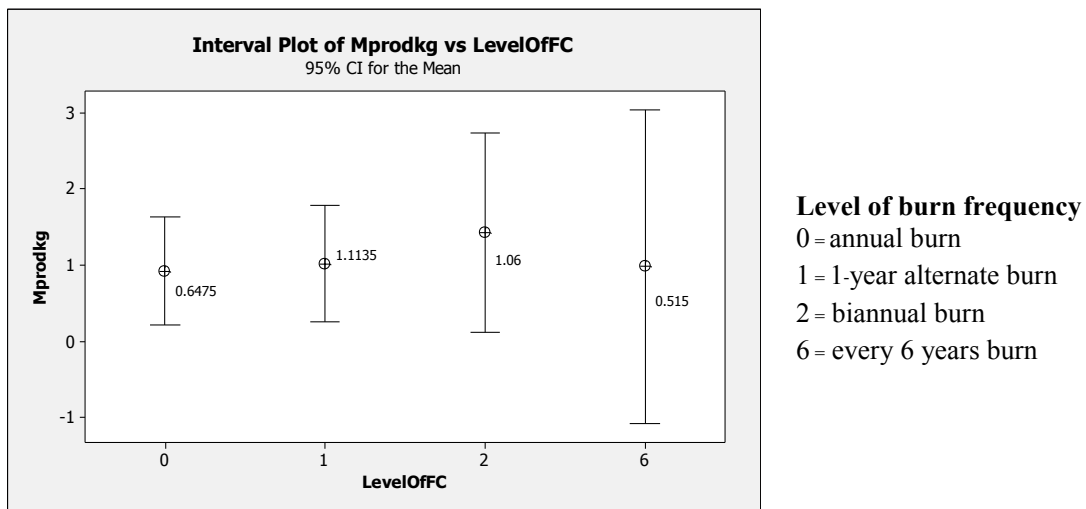
**Figure 3** Trend of total weight kg hectare, number of mushroom hectare, mean of mushroom weight g and mean of mushroom size mm per day of different burn frequency plot in 2016 at Huai Kha Khaeng Wildlife Sanctuary.



**Table 3** Mean weight of mushrooms in 50m × 50m plot of different burn frequencies in 2016 at Huai Kha Khaeng Wildlife Sanctuary.

Burn frequency (plot no.)	Mean of weight in each sub-plots, separated by coordinated of x, y (meter)				Mean±SD
	I	II	III	IV	
	(x≤50, y≤50)	(x≤50, y>50)	(x>50, y≤50)	(x>50, y>50)	
No burn (D5, D7, D9, D10)	0	0	0	0	0a
Annual burn (D2)	2.075	0.605	0	0.690	0.924±0.844b
Annual burn (D6)	0.505	2.390	0.380	0.750	
1-year Alternate burn (D1)	0.035	1.257	0.145	1.341	1.020±0.909b
1-year Alternate burn (D4)	0.970	0	2.070	2.340	
Biannual burn (D8)	1.150	2.655	0.970	0.945	1.430±0.822b
Every 6 years burn (D3)	0.090	2.825	0.065	0.940	0.980±1.295b
<b>F-test</b>					<b>5.55*</b>

**Remarks:** Mean values within a column followed by the same letter are not significantly different at the 95% level of confidence by Fisher’s Least Significant Difference (LSD) Test;  
 \* = Significantly different (p < 0.05)



**Figure 4** Confidence Interval Plot of mushroom weight of 50×50-Sq.m. plot in different burn frequency in 2016 at Huai Kha Khaeng Wildlife Sanctuary.

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