

**Table S3 Summary of RNA-seq reads mapping to different alfalfa gene sequences**

Variety	Repeat	UniGenes	<i>Medicago truncatula</i>	Alfalfa cv. Xingjiang Daye	Alfalfa cv. ZhongmuNo.1
Algonquin	A1	78.48	76.54	72.67	67.99
	A2	81.69	77.14	73.10	67.20
	A3	81.15	78.11	73.68	68.24
WL168HQ	B1	79.98	75.64	70.51	65.78
	B2	79.07	73.93	69.19	64.13
	B3	79.09	72.36	67.39	63.46
WL319HQ	C1	79.33	75.96	71.59	67.26
	C2	80.25	76.44	72.31	66.72
	C3	78.49	76.12	73.52	68.55
Bara310SC	D1	80.06	76.31	74.09	68.38
	D2	80.46	76.61	73.35	68.19
	D3	81.04	75.36	70.12	65.29
WL440HQ	E1	80.43	74.48	70.57	66.17
	E2	80.70	75.83	72.53	67.51
	E3	78.02	75.89	74.69	70.15
Eureka+	F1	80.56	75.55	71.50	65.58
	F2	78.48	75.45	72.67	68.67
	F3	79.27	75.98	72.85	67.86
WL525HQ	G1	79.42	76.73	74.76	69.79
	G2	79.76	77.00	74.85	69.68
	G3	80.65	75.04	71.41	65.77
WL903HQ	H1	79.02	75.26	71.13	66.10
	H2	80.99	76.95	71.83	66.00
	H3	80.20	76.64	72.95	68.06
Mean		79.86	75.89	72.22	67.19
STD		0.99	1.17	1.82	1.73

Note, Unigenes were obtained in our work, Medicago transcripts were downloaded from Medicago genome from Phytozome site, Xingjiang Daye genes (CDS) were downloaded from alfalfa Xingjiang Daye genome, as ref described., while ZhongmuNo.1 genes (CDS) were downloaded from alfalfa variety ZhongmuNo.1 genome, as ref described.