

Table S1. The effects of years and cover crop species on cover crop biomass and the effects of cover crop species on cover crop biomass in each year.

Factors	DF ¹	Two-Way ANOVA GC × CC
		Cover Crop Biomass
Year	1	0.0064
Error (a)	3	
CC	2	0.0000
Year × CC	2	0.1422
Error (b)	12	
Total	23	
Factors	DF	One-Way ANOVA for 2018
		Cover Crop Biomass
Between Groups	2	0.0010
Within Groups	9	
Total	11	
Factors	DF	One-Way ANOVA for 2019
		Cover Crop Biomass
Between Groups	2	0.0001
Within Groups	9	
Total	11	

¹ Abbreviations: DF; Degrees of Freedom, GC; CC; Cover Crop, Error (a); Year × Block, Error (b); Block × CC(Year).

Table S2. The effects of sulla growing cycle, row spacing, and cover crop species on *A. sterilis* biomass, broadleaved weed biomass, and total weed biomass in the first year of sulla growth.

Factors	DF ¹	Three-Way ANOVA (GC × RS × CC)								
		<i>A. sterilis</i>			Broadleaf weeds			Total weeds		
		Eval 1	Eval 2	Eval 3	Eval 1	Eval 2	Eval 3	Eval 1	Eval 2	Eval 3
GC	1	0.0206	0.0187	0.0064	0.0034	0.0041	0.0049	0.0058	0.0173	0.0048
Error (a)	3									
RS	3	0.0001	0.0076	0.0002	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
GC × RS	3	0.0161	0.0102	0.0241	0.0011	0.0082	0.0017	0.0020	0.0035	0.0027
Error (b)	18									
CC	3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
GC × CC	9	0.0566	0.0443	0.0098	0.0026	0.0021	0.0035	0.0106	0.0786	0.0055
RS × CC	3	0.9815	0.9896	0.9301	0.9382	0.7991	0.8765	0.9924	0.5820	0.9738
GC × RS × CC	9	0.7157	0.1084	0.3468	0.8432	0.8009	0.7217	0.8232	0.4826	0.6708
Error (c)	72									
Total	127									

¹ Abbreviations: DF; Degrees of Freedom, GC; Growing Cycle, RS; Row Spacing, CC; Cover Crop, Error (a); RS × Block, Error (b); Block × CC(RS), Error (c); Block × CC(RS) × GC, Eval; Evaluation.

Table S3. The effects of sulla growing cycle, row spacing, and cover crop species on *S. arvensis* biomass and total weed biomass in the second year of sulla growth.

Factors	DF ¹	Three-Way ANOVA (GC × RS × CC)					
		<i>S. arvensis</i>			Total weeds		
		Eval 1	Eval 2	Eval 3	Eval 1	Eval 2	Eval 3
GC	1	0.1942	0.2086	0.0857	0.1260	0.1131	0.2112
Error (a)	3						
RS	3	0.0000	0.0000	0.0000	0.0000	0.0003	0.0001
GC × RS	3	0.9981	0.9928	0.8329	0.9531	0.9788	0.7799
Error (b)	18						
CC	3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
GC × CC	9	0.9688	0.7275	0.9367	0.8926	0.9874	0.9015
RS × CC	3	0.5169	0.6703	0.6812	0.9718	0.9045	0.9288
GC × RS × CC	9	0.9825	0.9917	0.9942	0.9846	0.9986	0.9783
Error (c)	72						
Total	127						

¹ Abbreviations: DF; Degrees of Freedom, GC; Growing Cycle, RS; Row Spacing, CC; Cover Crop, Error (a); RS × Block, Error (b); Block × CC(RS), Error (c); Block × CC(RS) × GC, Eval; Evaluation.

Table S4. The effects of sulla growing cycle, row spacing, and cover crop species on sulla plant height, stem DMY, and total DMY in the first year of sulla growth.

Factors	DF ¹	Three-Way ANOVA (GC × RS × CC)					
		Plant Height		Stem DMY		Total DMY	
		Eval 1	Eval 2	Eval 1	Eval 2	Eval 1	Eval 2
GC	1	0.0002	0.0000	0.0218	0.0039	0.0161	0.0026
Error (a)	3						
RS	3	0.0494	0.0000	0.0001	0.0000	0.0002	0.0000
GC × RS	3	0.4119	0.9988	0.4386	0.0786	0.5731	0.2169
Error (b)	18						
CC	3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
GC × CC	9	0.8870	0.9952	0.9583	0.3090	0.7275	0.3817
RS × CC	3	0.2035	0.0049	0.0089	0.0182	0.0292	0.0484
GC × RS × CC	9	0.9942	0.9991	0.2955	0.2195	0.3685	0.5681
Error (c)	72						
Total	127						

¹ Abbreviations: DF; Degrees of Freedom, GC; Growing Cycle, RS; Row Spacing, CC; Cover Crop, Error (a); RS × Block, Error (b); Block × CC(RS), Error (c); Block × CC(RS) × GC, DMY; Dry Matter Yield, Eval; Evaluation.

Table S5. The effects of sulla growing cycle, row spacing, and cover crop species on sulla plant height, stem DMY, and total DMY in the second year of sulla growth.

Factors	DF ¹	Three-Way ANOVA (GC × RS × CC)					
		Plant Height		Stem DMY		Total DMY	
		Eval 1	Eval 2	Eval 1	Eval 2	Eval 1	Eval 2
GC	1	0.8326	0.9433	0.3626	0.4223	0.2743	0.3601
Error (a)	3						
RS	3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0070
GC × RS	3	0.9792	0.9302	0.9990	0.2924	0.9775	0.5017
Error (b)	18						
CC	3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
GC × CC	9	0.9912	0.7901	0.9980	0.4345	0.8984	0.5129
RS × CC	3	0.2007	0.5303	0.0030	0.0678	0.0159	0.0011
GC × RS × CC	9	0.9998	0.9661	0.9714	0.5489	0.9996	0.4544
Error (c)	72						
Total	127						

¹ Abbreviations: DF; Degrees of Freedom, GC; Growing Cycle, RS; Row Spacing, CC; Cover Crop, Error (a); RS × Block, Error (b); Block × CC(RS), Error (c); Block × CC(RS) × GC, DMY; Dry Matter Yield, Eval; Evaluation.

Table S6. The effects of sulla growing cycle, row spacing and cover crop species on sulla cumulative two-year stem DMY and total DMY.

Factors	DF ¹	Three-Way ANOVA (GC × RS × CC)			
		Stem DMY		Total DMY	
		Eval 1	Eval 2	Eval 1	Eval 2
GC	1	0.0139	0.4995	0.0117	0.1735
Error (a)	3				
RS	3	0.0000	0.0000	0.0000	0.0002
GC × RS	3	0.9096	0.1644	0.9645	0.7291
Error (b)	18				
CC	3	0.0000	0.0000	0.0000	0.0000
GC × CC	9	0.9975	0.0069	0.9404	0.5062
RS × CC	3	0.0138	0.2447	0.0517	0.0045
GC × RS × CC	9	0.9894	0.2410	0.9846	0.4997
Error (c)	72				
Total	127				

¹ Abbreviations: DF; Degrees of Freedom, GC; Growing Cycle, RS; Row Spacing, CC; Cover Crop, Error (a); RS × Block, Error (b); Block × CC(RS), Error (c); Block × CC(RS) × GC, DMY; Dry Matter Yield, Eval; Evaluation.