

Table 1. Average grass, legume, and total forage dry matter production (LS means \pm SE) from different treatments during the 2012 cool-season growing period, Selma, AL, USA.

Treatment	Forage dry matter		
	Grass	Legume	Total
	-----ton ha ⁻¹ -----		
Arrowleaf clover (<i>Trifolium vesiculosum</i>)-Marshall ryegrass (<i>Lolium multiflorum</i>)	0.79 \pm 0.000	0.27 \pm 0.007 ^{†b}	1.12 \pm 0.095 ^b
Berseem clover (<i>Trifolium alexandrinum</i>)-Marshall ryegrass	0.77 \pm 0.000	0.10 \pm 0.005 ^c	0.98 \pm 0.150 ^b
Crimson clover (<i>Trifolium incarnatum</i>)- Marshall ryegrass	0.58 \pm 0.000	0.77 \pm 0.010 ^a	1.69 \pm 0.187 ^a
Winter peas (<i>Pisum sativum</i>)-Marshall ryegrass	0.64 \pm 0.000	0.31 \pm 0.008 ^b	1.25 \pm 0.102 ^b
Marshall ryegrass	0.87 \pm 0.000	0.03 \pm 0.006 ^d	0.99 \pm 0.106 ^b
Hairy vetch (<i>Vicia villosa</i>)-Marshall ryegrass	1.02 \pm 0.001	0.49 \pm 0.007 ^a	1.88 \pm 0.208 ^a

[†]Least-squares means for forage dry matter within a column with different superscripts are different (*P < 0.05).

Table 2. Grass, legume, and total forage dry matter production (LS means \pm SE) from different treatments at three successive samplings during the 2012 cool-season growing period, Selma, AL, USA.

Treatment	Forage dry matter								
	Sampling 1			Sampling 2			Sampling 3		
	Grass	Legume	Total	Grass	Legume	Total	Grass	Legume	Total
	-----ton ha ⁻¹ -----								
ArrowleafRye [†]	0.78 \pm 0.000 ^{‡a}	0.09 \pm 0.014	0.79 \pm 0.151	0.70 \pm 0.000	0.39 \pm 0.014 ^b	1.21 \pm 0.151 ^c	0.89 \pm 0.003	0.39 \pm 0.016 ^c	1.37 \pm 0.189 ^{bc}
BerseemRye	0.95 \pm 0.002	0.02 \pm 0.008	0.85 \pm 0.246	0.61 \pm 0.002	0.22 \pm 0.008 ^b	1.05 \pm 0.246 ^d	0.76 \pm 0.002	0.13 \pm 0.009 ^c	1.03 \pm 0.284 ^c
CrimsonRye	0.78 \pm 0.002	0.06 \pm 0.024	1.05 \pm 0.315	0.42 \pm 0.002	1.36 \pm 0.024 ^a	1.77 \pm 0.315 ^{abcd}	0.57 \pm 0.002	1.50 \pm 0.026 ^a	2.24 \pm 0.340 ^a
PeasRye	0.48 \pm 0.000 ^b	0.04 \pm 0.009	0.58 \pm 0.089	0.61 \pm 0.000	1.03 \pm 0.009 ^a	1.83 \pm 0.089 ^b	0.87 \pm 0.001	0.22 \pm 0.031 ^c	1.34 \pm 0.279 ^{abc}
Marshall ryegrass	0.62 \pm 0.001	0.02 \pm 0.009	0.78 \pm 0.180	1.19 \pm 0.001	0.07 \pm 0.009 ^c	1.31 \pm 0.180 ^{ac}	0.86 \pm 0.001	0.01 \pm 0.010 ^d	0.87 \pm 0.188 ^c
VetchRye	0.99 \pm 0.003	0.10 \pm 0.014	1.43 \pm 0.347	0.84 \pm 0.003	0.90 \pm 0.014 ^a	1.97 \pm 0.347 ^{abc}	1.27 \pm 0.005	0.68 \pm 0.015 ^b	2.26 \pm 0.383 ^{ab}

[†]ArrowleafRye = Arrowleaf clover (*Trifolium vesiculosum*)-Marshall ryegrass (*Lolium multiflorum*)

BerseemRye = Berseem clover (*Trifolium alexandrinum*)-Marshall ryegrass

CrimsonRye = Crimson clover (*Trifolium incarnatum*)-Marshall ryegrass

PeasRye = Winter peas (*Pisum sativum*)-Marshall ryegrass

VetchRye = Hairy vetch (*Vicia villosa*)-Marshall ryegrass

Table 3. Average grass and legume forage height (LS means \pm SE) before and after grazing different treatments during the 2012 cool-season growing period, Selma, AL, USA.

Treatment	Forage height			
	Grass		Legume	
	Before	After	Before	After
	-----cm-----			
ArrowleafRye [†]	19.7 \pm 0.99 ^{†b} _x	8.7 \pm 1.55 ^b _y	13.7 \pm 1.78 ^c _x	6.6 \pm 2.78 ^c _y
BerseemRye	18.4 \pm 1.07 ^b _x	9.9 \pm 1.55 ^b _y	19.6 \pm 1.91 ^b _x	6.7 \pm 2.78 ^c _y
CrimsonRye	19.6 \pm 1.03 ^b _x	10.7 \pm 1.55 ^{bc} _y	24.7 \pm 1.85 ^b _x	12.5 \pm 2.78 ^{bc} _y
PeasRye	20.5 \pm 1.07 ^b _x	13.8 \pm 1.27 ^a _y	36.9 \pm 1.91 ^a _x	23.0 \pm 2.28 ^a _y
Marshall ryegrass	19.4 \pm 0.92 ^b _x	8.7 \pm 1.55 ^b _y	-	-
VetchRye	23.9 \pm 0.03 ^a _x	12.8 \pm 1.55 ^{bc} _y	36.9 \pm 1.85 ^a _x	16.9 \pm 2.78 ^{ab} _y

[†] ArrowleafRye = Arrowleaf clover (*Trifolium vesiculosum*)-Marshall ryegrass (*Lolium multiflorum*)

BerseemRye = Berseem clover (*Trifolium alexandrinum*)-Marshall ryegrass

CrimsonRye = Crimson clover (*Trifolium incarnatum*)-Marshall ryegrass

PeasRye = Winter peas (*Pisum sativum*)-Marshall ryegrass

VetchRye = Hairy vetch (*Vicia villosa*)-Marshall ryegrass

[‡] Least-squares means for forage height within a column with different superscripts, and within a row under grass or legume category with different subscripts are different (P < 0.05).

Table 4. Average forage height (LS means \pm SE) before and after grazing different treatments during the 2012 cool-season growing period, Phenix City, AL, USA.

Treatment	Forage height	
	Before	After
	-----cm-----	
Arrowleaf clover (<i>Trifolium vesiculosum</i>)-Marshall ryegrass (<i>Lolium multiflorum</i>)	23.3 \pm 5.01 ^{†a}	12.2 \pm 5.06 ^b
Berseem clover (<i>Trifolium alexandrinum</i>)-Marshall ryegrass	29.8 \pm 5.01 ^a	12.5 \pm 5.05 ^b
Crimson clover (<i>Trifolium incarnatum</i>)-Marshall ryegrass	28.7 \pm 5.01 ^a	12.6 \pm 5.06 ^b
Winter peas (<i>Pisum sativum</i>)-Marshall ryegrass	27.5 \pm 5.01 ^a	15.1 \pm 5.06 ^b
Marshall ryegrass	29.0 \pm 5.01 ^a	11.6 \pm 5.07 ^b
Hairy vetch (<i>Vicia villosa</i>)-Marshall ryegrass	25.4 \pm 5.00 ^a	13.5 \pm 5.06 ^b

[‡] Least-squares means for forage height within a column with different superscripts, and within a row under grass or legume category with different subscripts are different (P < 0.05).

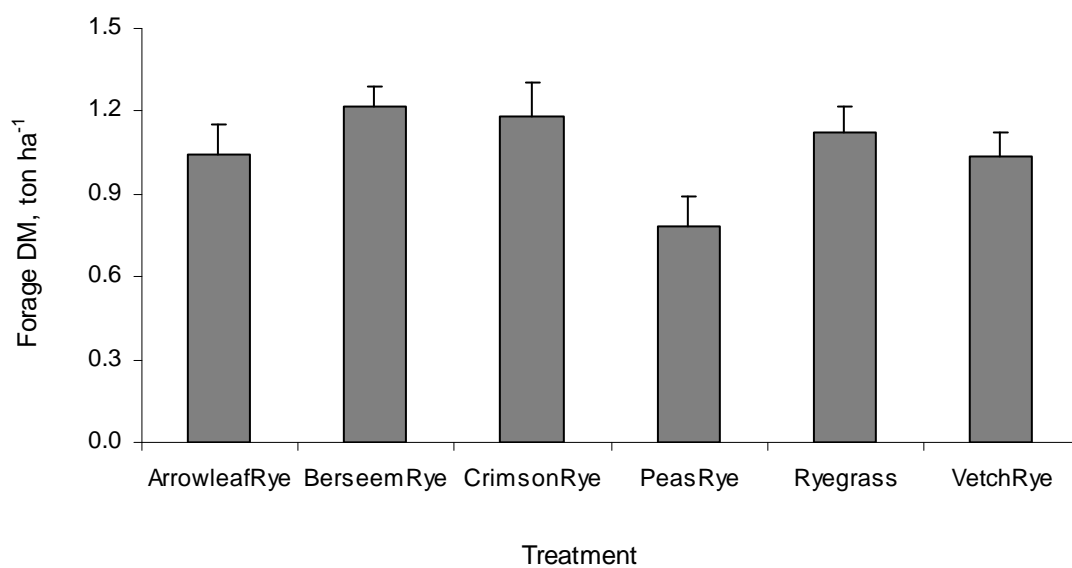


Figure 1. Average forage dry matter (DM) production (LS means \pm SE) from different treatments during the 2012 cool-season growing period, Phenix City, AL, USA.