

# **2014-2015 South Florida Cool-Season Forage Budgets**

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## **ABSTRACT**

This report contains budgets for selected cool-season annual forage crops used by cattle and forage producers in South Florida. The budgets include the operating and ownership costs (variable and fixed costs) per acre associated with recommended forage management practices.

Key words: Cool-season annual forages, Forage economics, Forage production practices, Management, Production costs per acre

## **ACKNOWLEDGEMENTS**

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## INTRODUCTION

Cool-season forages are commonly planted in Florida to provide winter forage for cattle each year. The cost of establishment and level of forage production are two of the most important factors in determining the profitability of using cool-season forages. The forage crop enterprise budget templates in this report were designed to assist producers in estimating the potential costs associated with the most commonly grown cool-season forages in South Florida. Included in this publication are cool-season annual forage budget templates for cereal rye, annual ryegrass, and a combination of cereal rye and ryegrass. The grazing costs of each forage alternative were calculated based on planting into a prepared seedbed or no-till drilling into existing pasture. A multidisciplinary approach involving researchers and extension personnel was used to determine production practices and input quantities to estimate the costs of production for each forage alternative.

The following cool-season forage enterprise budgets were designed to be used as a management and decision making aid for cattle producers. These budgets represent the typical cost of production for cool-season forages in South Florida, but may be easily modified for an individual's situation. The forage budgets include the variable costs, fixed costs, and hired labor requirements to establish and produce forages on a per-acre basis. However, the budgets do not include the cost of managing cattle on pasture since there are numerous grazing methods.

The two major types of costs incurred by forage production are variable and fixed costs. The sum of variable and fixed costs is equal to total grazing costs. Variable costs are generally easier to estimate. These are the out-of-pocket costs that can be allocated to a specific enterprise such as seed, chemicals, fertilizer, lime, etc. Annual forage production decisions are usually based on variable costs. So, if you can cover these costs in the short-run then you should consider producing the forage crop. Fixed costs include items such as depreciation, interest, land rent, and general farm overhead (insurance, utilities, etc.). Thus, as you can imagine these costs are much more difficult to allocate to a specific enterprise. In

the long-run, the fixed costs must be covered by the total mix of enterprises on the farm.

Variable and fixed machinery cost estimates have been provided in each budget template. Machinery and equipment are estimated based on medium sized sets of equipment for a particular forage crop. In addition, the budgets include land rent for the portion of the year used by the forage crop.

The fertilizer rates used (100-40-40) are based on a medium level of soil fertility. In some cases, fertilizer may be applied in split applications. For example, 50-40-40 is applied at establishment and 50-0-0 is applied after the 1<sup>st</sup> grazing. Although fertilizer levels are included in this publication, producers should fertilize according to their soil test results and production goals. Soil testing is recommended every third year on pasture fields, as well as on individual fields. One soil test involves pulling approximately 20 cores over 10 acres. Cost is about \$7 per soil test sample. These estimates should be used as guides for planning input purchase types and quantities.

There are many factors that can alter forage establishment and production. Production costs are highly variable for any operation and will vary with production size, timing, inputs used, weather, and many other factors. An effort was made to acquire the most accurate input price estimates at the time these budgets were prepared. However, the availability of inputs and input prices vary widely from one location to another along with the differences between individuals operations (management, goals and objectives, soil types, resources, management ability, etc.). The information in this publication can be used as a general guide for an estimate of the costs of establishing and producing cool-season annual forages in South Florida and may be easily modified if needed.

**Table 1. Ryegrass, Prepared Seedbed****Grazing on Existing Pastureland****South Florida, 2014-2015****Estimated Annual Costs Per Acre****Updated: 10/17/2014**

<b>Item</b>	<b>Description</b>	<b>Unit</b>	<b>Quantity</b>	<b>\$/Unit</b>	<b>\$/Acre</b>
<b>Variable Costs/Acre</b>					
Soil Test	(1 sample per 10 acres)	Acre	0.10	\$7.00	\$0.70
Seed	Ryegrass	Lbs.	25.00	\$0.50	\$12.50
Fertilizer	Nitrogen (N)	Lbs.	100.00	\$0.70	\$70.00
	Phosphorus (P <sub>2</sub> O <sub>5</sub> )	Lbs.	40.00	\$0.32	\$12.80
	Potassium (K <sub>2</sub> O)	Lbs.	40.00	\$0.41	\$16.40
Custom Fertilizer Spread	Fertilizer Application*	Acre	2.00	\$10.00	\$20.00
Lime	(Prorated over 5 years)	Tons	1.00	\$35.00	\$7.00
Custom Lime Spread	(Prorated over 5 years)	Acre	1.00	\$10.00	\$2.00
Weed Control	Chemicals	Acre	1.00	\$20.00	\$20.00
Mach. & Equip.	Maint., Fuel, Oil, Lube, Labor	Acre	1.00	\$23.40	\$23.40
Labor	(Wages & Fringe)	Hours	0.75	\$12.50	\$9.38
Forage Tests	(1 sample per 10 acres)	Acre	0.10	\$7.00	\$0.70
Misc. Expenses		Acre	1.00	\$15.00	\$15.00
Operating Interest		Dollars	\$209.88	5.75%	\$12.07
<b>Total Variable Costs/Acre</b>					<b>\$221.94</b>
<b>Fixed Costs/Acre</b>					
Mach. & Equip.		Acre	1.00	\$8.75	\$8.75
General Overhead		Dollars	\$221.94	8%	\$17.76
Land Rent		Acre	1.00	\$10.00	\$10.00
<b>Total Fixed Costs/Acre</b>					<b>\$36.51</b>
<b>Total Grazing Costs/Acre</b>					<b>\$258.45</b>

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**Table 2. Ryegrass, No-Till Drill  
Grazing on Existing Pastureland  
Estimated Annual Costs Per Acre**

**South Florida, 2014-2015  
Updated: 10/17/2014**

<b>Item</b>	<b>Description</b>	<b>Unit</b>	<b>Quantity</b>	<b>\$/Unit</b>	<b>\$/Acre</b>
<b>Variable Costs/Acre</b>					
Soil Test	(1 sample per 10 acres)	Acre	0.10	\$7.00	\$0.70
Seed	Ryegrass	Lbs.	25.00	\$0.50	\$12.50
Fertilizer	Nitrogen (N)	Lbs.	100.00	\$0.70	\$70.00
	Phosphorus (P <sub>2</sub> O <sub>5</sub> )	Lbs.	40.00	\$0.32	\$12.80
	Potassium (K <sub>2</sub> O)	Lbs.	40.00	\$0.41	\$16.40
Custom Fertilizer Spread	Fertilizer Application	Acre	2.00	\$10.00	\$20.00
Lime	(Prorated over 5 years)	Tons	1.00	\$35.00	\$7.00
Custom Lime Spread	(Prorated over 5 years)	Acre	1.00	\$10.00	\$2.00
Weed Control	Chemicals	Acre	1.00	\$5.00	\$5.00
Mach. & Equip.	Maint., Fuel, Oil, Lube, Labor	Acre	1.00	\$12.71	\$12.71
Labor	(Wages & Fringe)	Hours	0.75	\$12.50	\$9.38
Forage Tests	(1 sample per 10 acres)	Acre	0.10	\$7.00	\$0.70
Misc. Expenses		Acre	1.00	\$15.00	\$15.00
Operating Interest		Dollars	\$184.19	5.75%	\$10.59
<b>Total Variable Costs/Acre</b>					<b>\$194.78</b>
<b>Fixed Costs/Acre</b>					
Mach. & Equip.		Acre	1.00	\$5.65	\$5.65
General Overhead		Dollars	\$194.78	8%	\$15.58
Land Rent		Acre	1.00	\$10.00	\$10.00
<b>Total Fixed Costs/Acre</b>					<b>\$31.23</b>
<b>Total Grazing Costs/Acre</b>					<b>\$226.01</b>

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**Table 3. Rye, Prepared Seedbed  
Grazing on Existing Pastureland  
Estimated Annual Costs Per Acre**

**South Florida, 2014-2015  
Updated: 10/17/2014**

<b>Item</b>	<b>Description</b>	<b>Unit</b>	<b>Quantity</b>	<b>\$/Unit</b>	<b>\$/Acre</b>
<b>Variable Costs/Acre</b>					
Soil Test	(1 sample per 10 acres)	Acre	0.10	\$7.00	\$0.70
Seed	Rye	Lbs.	100.00	\$0.40	\$40.00
Fertilizer	Nitrogen (N)	Lbs.	100.00	\$0.70	\$70.00
	Phosphorus (P <sub>2</sub> O <sub>5</sub> )	Lbs.	40.00	\$0.32	\$12.80
	Potassium (K <sub>2</sub> O)	Lbs.	40.00	\$0.41	\$16.40
Custom Fertilizer Spread	Fertilizer Application	Acre	2.00	\$10.00	\$20.00
Lime	(Prorated over 5 years)	Tons	1.00	\$35.00	\$7.00
Custom Lime Spread	(Prorated over 5 years)	Acre	1.00	\$10.00	\$2.00
Weed Control	Chemicals	Acre	1.00	\$20.00	\$20.00
Mach. & Equip.	Maint., Fuel, Oil, Lube, Labor	Acre	1.00	\$23.40	\$23.40
Labor	(Wages & Fringe)	Hours	0.75	\$12.50	\$9.38
Forage Tests	(1 sample per 10 acres)	Acre	0.10	\$7.00	\$0.70
Misc. Expenses		Acre	1.00	\$15.00	\$15.00
Operating Interest		Dollars	\$237.38	5.75%	\$13.65
<b>Total Variable Costs/Acre</b>					<b>\$251.02</b>
<b>Fixed Costs/Acre</b>					
Mach. & Equip.		Acre	1.00	\$8.75	\$8.75
General Overhead		Dollars	\$251.02	8%	\$20.08
Land Rent		Acre	1.00	\$10.00	\$10.00
<b>Total Fixed Costs/Acre</b>					<b>\$38.83</b>
<b>Total Grazing Costs/Acre</b>					<b>\$289.86</b>

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**Table 4. Rye, No-Till Drill****Grazing on Existing Pastureland****South Florida, 2014-2015****Estimated Annual Costs Per Acre****Updated: 10/17/2014**

<b>Item</b>	<b>Description</b>	<b>Unit</b>	<b>Quantity</b>	<b>\$/Unit</b>	<b>\$/Acre</b>
<b>Variable Costs/Acre</b>					
Soil Test	(1 sample per 10 acres)	Acre	0.10	\$7.00	\$0.70
Seed	Rye	Lbs.	100.00	\$0.40	\$40.00
Fertilizer	Nitrogen (N)	Lbs.	100.00	\$0.70	\$70.00
	Phosphorus (P <sub>2</sub> O <sub>5</sub> )	Lbs.	40.00	\$0.32	\$12.80
	Potassium (K <sub>2</sub> O)	Lbs.	40.00	\$0.41	\$16.40
Custom Fertilizer Spread	Fertilizer Application	Acre	2.00	\$10.00	\$20.00
Lime	(Prorated over 5 years)	Tons	1.00	\$35.00	\$7.00
Custom Lime Spread	(Prorated over 5 years)	Acre	1.00	\$10.00	\$2.00
Weed Control	Chemicals	Acre	1.00	\$5.00	\$5.00
Mach. & Equip.	Maint., Fuel, Oil, Lube, Labor	Acre	1.00	\$12.71	\$12.71
Labor	(Wages & Fringe)	Hours	0.75	\$12.50	\$9.38
Forage Tests	(1 sample per 10 acres)	Acre	0.10	\$7.00	\$0.70
Misc. Expenses		Acre	1.00	\$15.00	\$15.00
Operating Interest		Dollars	\$211.69	5.75%	\$12.17
<b>Total Variable Costs/Acre</b>					<b>\$223.86</b>
<b>Fixed Costs/Acre</b>					
Mach. & Equip.		Acre	1.00	\$5.65	\$5.65
General Overhead		Dollars	\$223.86	8%	\$17.91
Land Rent		Acre	1.00	\$10.00	\$10.00
<b>Total Fixed Costs/Acre</b>					<b>\$33.56</b>
<b>Total Grazing Costs/Acre</b>					<b>\$257.42</b>

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**Table 5. Rye/Ryegrass, Prepared Seedbed****Grazing on Existing Pastureland****South Florida, 2014-2015****Estimated Annual Costs Per Acre****Updated: 10/17/2014**

<b>Item</b>	<b>Description</b>	<b>Unit</b>	<b>Quantity</b>	<b>\$/Unit</b>	<b>\$/Acre</b>
<b>Variable Costs/Acre</b>					
Soil Test	(1 sample per 10 acres)	Acre	0.10	\$7.00	\$0.70
Seed	Rye	Lbs.	80.00	\$0.40	\$32.00
	Ryegrass	Lbs.	20.00	\$0.50	\$10.00
Fertilizer	Nitrogen (N)	Lbs.	100.00	\$0.70	\$70.00
	Phosphorus (P <sub>2</sub> O <sub>5</sub> )	Lbs.	40.00	\$0.32	\$12.80
	Potassium (K <sub>2</sub> O)	Lbs.	40.00	\$0.41	\$16.40
Custom Fertilizer Spread	Fertilizer Application	Acre	2.00	\$10.00	\$20.00
Lime	(Prorated over 5 years)	Tons	1.00	\$35.00	\$7.00
Custom Lime Spread	(Prorated over 5 years)	Acre	1.00	\$10.00	\$2.00
Weed Control	Chemicals	Acre	1.00	\$20.00	\$20.00
Mach. & Equip.	Maint., Fuel, Oil, Lube, Labor	Acre	1.00	\$23.40	\$23.40
Labor	(Wages & Fringe)	Hours	0.75	\$12.50	\$9.38
Forage Tests	(1 sample per 10 acres)	Acre	0.10	\$7.00	\$0.70
Misc. Expenses		Acre	1.00	\$15.00	\$15.00
Operating Interest		Dollars	\$239.38	5.75%	\$13.76
<b>Total Variable Costs/Acre</b>					<b>\$253.14</b>
<b>Fixed Costs/Acre</b>					
Mach. & Equip.		Acre	1.00	\$8.75	\$8.75
General Overhead		Dollars	\$253.14	8%	\$20.25
Land Rent		Acre	1.00	\$10.00	\$10.00
<b>Total Fixed Costs/Acre</b>					<b>\$39.00</b>
<b>Total Grazing Costs/Acre</b>					<b>\$292.14</b>

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**Table 6. Rye/Ryegrass, No-Till Drill****Grazing on Existing Pastureland****South Florida, 2014-2015****Estimated Annual Costs Per Acre****Updated: 10/17/2014**

<b>Item</b>	<b>Description</b>	<b>Unit</b>	<b>Quantity</b>	<b>\$/Unit</b>	<b>\$/Acre</b>
<b>Variable Costs/Acre</b>					
Soil Test	(1 sample per 10 acres)	Acre	0.10	\$7.00	\$0.70
Seed	Rye	Lbs.	80.00	\$0.40	\$32.00
	Ryegrass	Lbs.	20.00	\$0.50	\$10.00
Fertilizer	Nitrogen (N)	Lbs.	100.00	\$0.70	\$70.00
	Phosphorus (P <sub>2</sub> O <sub>5</sub> )	Lbs.	40.00	\$0.32	\$12.80
	Potassium (K <sub>2</sub> O)	Lbs.	40.00	\$0.41	\$16.40
Custom Fertilizer Spread	Fertilizer Application	Acre	2.00	\$10.00	\$20.00
Lime	(Prorated over 5 years)	Tons	1.00	\$35.00	\$7.00
Custom Lime Spread	(Prorated over 5 years)	Acre	1.00	\$10.00	\$2.00
Weed Control	Chemicals	Acre	1.00	\$5.00	\$5.00
Mach. & Equip.	Maint., Fuel, Oil, Lube, Labor	Acre	1.00	\$12.71	\$12.71
Labor	(Wages & Fringe)	Hours	0.75	\$12.50	\$9.38
Forage Tests	(1 sample per 10 acres)	Acre	0.10	\$7.00	\$0.70
Misc. Expenses		Acre	1.00	\$15.00	\$15.00
Operating Interest		Dollars	\$213.69	5.75%	\$12.29
<b>Total Variable Costs/Acre</b>					<b>\$225.97</b>
<b>Fixed Costs/Acre</b>					
Mach. & Equip.		Acre	1.00	\$5.65	\$5.65
General Overhead		Dollars	\$225.97	8%	\$18.08
Land Rent		Acre	1.00	\$10.00	\$10.00
<b>Total Fixed Costs/Acre</b>					<b>\$33.73</b>
<b>Total Grazing Costs/Acre</b>					<b>\$259.70</b>

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