Supplementary materials

Table S1 Data extracted from the beef and lamb survey: area utilization, animal performance, sheep stock and beef stock for the years 2010–2011 and 2011–2012

	Area utilisation/hm^2					
	Effective area	Winter crops	Summer crops	Herb pasture	Hay	
2010–2011	475	4	4	3	11	
2011–2012	486	4	2	6	12	
	Animal performance/%					
	Lambing	Calving				
2010–2011	109	81				
2011–2012	125	74				
	Sheep stock					
	Open	Purchase	Sold	Born	Dead	Close
2010–2011	3248	101	2551	2446	187	3001
2011–2012	3062	165	2565	2832	168	3259
	Beef stock					
	Open	Purchase	Sold	Born	Dead	Close
2010–2011	325	87	142	61	7	327
2011–2012	316	85	130	50	8	308

Table S2 Values of ME ($MJ \cdot kg^{-1}$) found in the literature for Plantain and traditional pasture

Month	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.
Landcorp analysis	12.0 (10st)	12.4 (1st)		11.9 (24th)			10.6 (15th)					
Hayes (2010)		12.2	10.7	11.9	9.8	8.2			10.5			11.9
Pain (2015)			10.0			10.7			12.35	12.6		
Somasiri (2014) year 1			11.1		10.9		10.8		10.8			
Somasiri (2014) year 2			11.1		10.7		10.8			11.6		
Raeside (2014)	12.3 (21st)		11.8 (22nd)	11.1 (27st)		9.8						
Navarrete (2015) year 1						11.7		11.0			12.0	
Navarrete (2015) year 2		11.8				11.0		11.8			12.2	
Values used in the model	12.1	12.0	11.8	11.9	10.9	10.7	11.3	11.3	11.0	11.8	11.7	11.9
Values for traditional pasture from Machado et al., 2005	11.6	11.1	10.8	11.0	10.7	10.8	10.0	10.7	11.3	11.4	11.8	11.9

Table S3 Comparison of calculated pasture supply (kg·hm^{-2} DM), total supply (kg·hm^{-2} DM) and animal demand (kg·hm^{-2} DM) between the Excel and FARMAX models for each scenario

Year (% plantain)	FARMAX supply (pasture)	Excel model supply (pasture)	Farmax supply (tot)	Excel supply (tot)	FARMAX animal demand	Excel animal demand
2010–2011 (base)	7435	7160	7783	7566	7390	7202
2010–2011 (10%)	6668	6477	8000	7954	7730	7681
2010–2011 (20%)	5977	5748	8452	8343	8175	8080
2011–2012 (base)	7311	7100	7594	7560	7640	7633
2011–2012 (10%)	6604	6413	7997	8052	8021	8100
2011–2012 (20%)	5623	5583	8277	8569	8369	8583

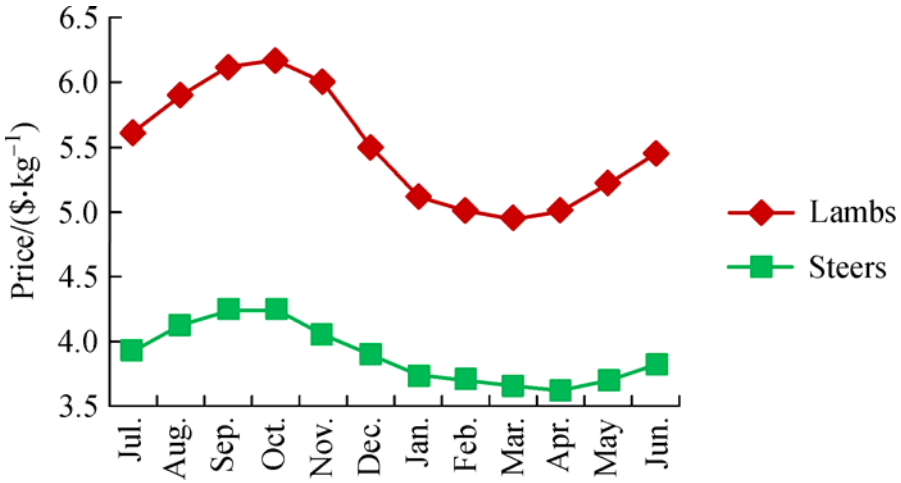

Fig. S1 Seasonal meat schedule prices in $\$\cdot kg^{-1}$ assumed by FARMAX when calculating profitability of modeled farm system configurations

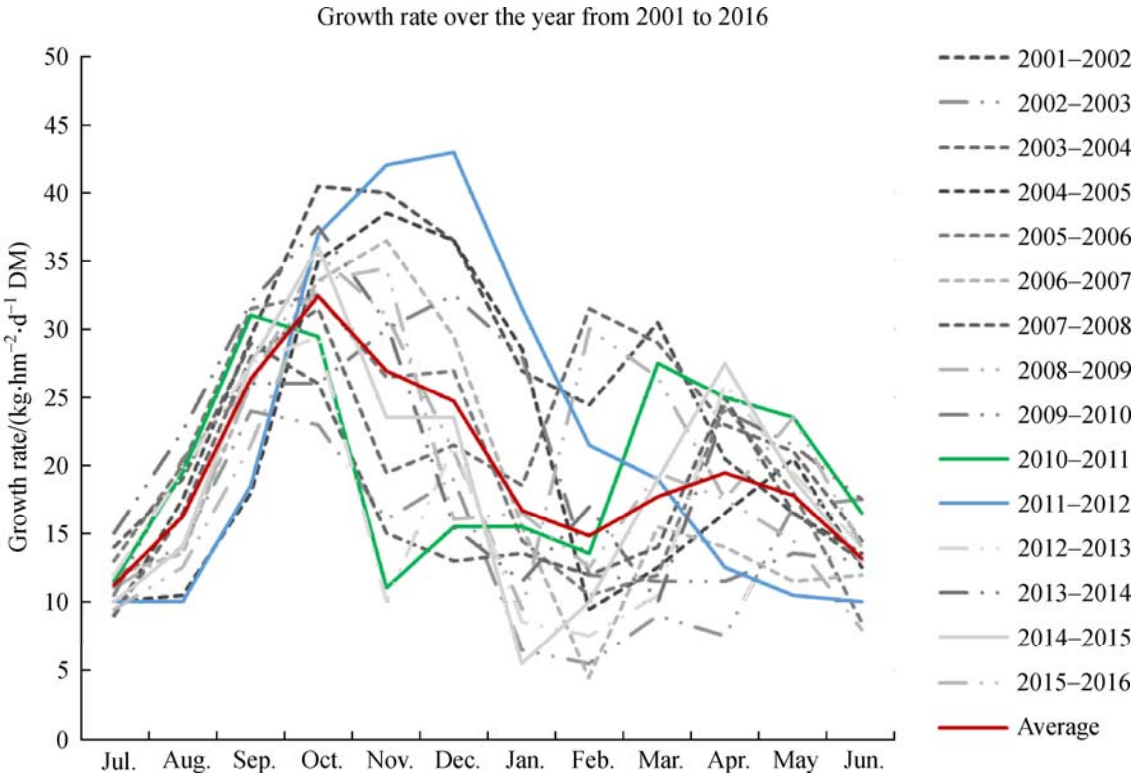

Fig. S2 Monthly herbage accumulation rate simulated in GROW (kg·hm^{-2}·d^{-1} DM) for the years (Jul.–Jun.) from 2001 to 2016