

XX International Grassland Congress: Offered papers



edited by:

F.P. O'Mara

R.J. Wilkins

L. 't Mannetje

D.K. Lovett

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The XX International Grassland Congress took place in Ireland and the UK in June-July 2005. The main congress took place in Dublin from 26 June to 2 July and was followed by post congress satellite workshops in Aberystwyth, Belfast, Cork, Glasgow and Oxford. The meeting was hosted by the Irish Grassland Association and the British Grassland Society and was organised by the bodies represented on the Local Organising Committee.

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Section 9: Integrated production systems	375
Integration of forage production in rice-based cropping systems for mitigating forage crisis of ruminant livestock – studies in Bangladesh <i>M.A. Akbar, M.S.U. Bhuiyan and M.S. Islam</i>	377
Evaluating the economic and environmental sustainability of integrated farming systems <i>C.A. Rotz, M.A. Sanderson, M. Wachendorf and F. Taube</i>	378
Simulation of pasture phase options for mixed livestock and cropping enterprises <i>L. Salmon, A.D. Moore and J.F. Angus</i>	379
Overseeding cereal rye and annual ryegrass into soyabean for forage as part of a multifunctional cropping system <i>L.B. Smith and R.L. Kallenbach</i>	380
Previous grass-lucerne mixtures affect barley yield and quality in a semiarid location of the Canadian prairie region <i>P.G. Jefferson, F. Selles, R.P. Zentner and R. Lemke</i>	381
<i>Canavalia brasiliensis</i> : a multipurpose legume for the sub-humid tropics <i>A. Schmidt, M. Peters, L.H. Franco and R. Schultze-Kraft</i>	382
Relative forage yield of intercropped lucerne (<i>Medicago sativa</i> L.) and winter forage cereals <i>T.W. Pereyra, H.R. Pagliaricci and A.E. Ohanian</i>	383
The effectiveness of nitrogen rates on winter wheat and white clover bi-cropping grown for silage <i>J. Sowiński</i>	384
The influence of winter wheat and white clover bi-cropping system on white clover sward parameters <i>J. Sowiński</i>	385
Options for improved biomass production in feeding systems for dairying in high rainfall environments in New Zealand <i>J.M. de Ruiter, D.R. Wilson, S. Maley and S.M. Henton</i>	386
Implications of the use of grazing sheep on kiwi fruit orchard <i>C.H.E.C. Poli, R.C. Gomes, P. Cinel Filho, M.F. Gomes, A. Zborowki, G. Pires and J.L. Rigon</i>	387
Production systems to integrate livestock grazing and grain production in southern Brazil and Midwestern USA <i>R.M. Sulc, A. Moraes, S.J. Alves, A. Pelissari, P.C.F. Carvalho and C.R. Lang</i>	388
Effect of dairy effluent on turnip yields <i>J.L. Jacobs, G.N. Ward and F.R. McKenzie</i>	389
Effect of dairy effluent on turnip nutritive characteristics <i>J.L. Jacobs, G.N. Ward and F.R. McKenzie</i>	390
Implications of land use changes on the yields in dry matter, energy and protein of range and crop fields in Zamfara Reserve, northwestern Nigeria <i>B.S. Malami, P.H.Y. Hiernaux, H.M. Tukur and B. Rischkowsky</i>	391
The suitability for organic cattle beef production of mixed farming systems in the highlands of north east Portugal <i>J.M. Pires, M. Rodrigues, F. Sousa, A. Bernardo, J.C. Pires, J. Cabanas, H. Resendes, M.J. Ferreira, M.I. Silva and N. Moreira</i>	392
Black medick – a beneficial companion crop for use in organic grass production <i>R. Macháč and B. Cagaš</i>	393
Effect of temporary grasslands of different age, composition and management on winter wheat yields in a crop rotation <i>B. Deprez, R. Lambert and A. Peeters</i>	394
Riparian management in intensive grazing systems for improved biodiversity and environmental quality: productive grazing, healthy rivers <i>S.R. Aarons, M. Jones-Lennon, P. Papas, N. Ainsworth, F. Ede and J. Davies</i>	395
Response of guinea grass (<i>Panicum maximum</i> Jacq) to application of cow dung in South West Nigeria <i>O.S. Onifade, J.A. Olanite, A.O. Jolaosho, M.O. Arigbede and N.K. Tijani</i>	396
Nitrogen use efficiency of specialized dairy farms in Flanders: evolution and future goals <i>F. Nevens, I. Verbruggen, M. Meul and D. Reheul</i>	397
Evaluation with simulation of lucerne-based cropping systems to combat dryland salinity in Australia <i>W. Chen, M.J. Robertson and W.D. Bellotti</i>	398
Australian pasture systems: the perennial compromise <i>L.W. Bell and M.A. Ewing</i>	399
Section 10: Industrial products from grassland	401
Grass pellet bioenergy in the Northeastern USA <i>J.H. Cherney and D.J.R. Cherney</i>	403

The suitability for organic cattle beef production of mixed farming systems in the highlands of north east Portugal

J.M. Pires¹, M. Rodrigues¹, F. Sousa¹, A. Bernardo², J.C. Pires¹, J. Cabanas¹, H. Resendes¹, M.J. Ferreira¹, M.I. Silva¹ and N. Moreira³

¹Mountain Research Center, Escola Superior Agrária, 5301-855 Bragança, Portugal, Email: jaime@ipb.pt, ²Direcção Regional de Agricultura de Trás-os-Montes, Montalegre, 5470 Montalegre, Portugal, ³Crop Science Department, Universidade de Trás-os-Montes e Alto Douro 5001-911 Vila Real, Portugal

Keywords: agricultural systems, land use, ranching, meadow, organic cattle feeding stuffs

Introduction The EC Reg. 1804/99 takes account of animal production in organic farming. However, these specifications may limit implementation and expansion of organic animal production, due to environmental and system constraints. Mixed farming, as defined by Spedding (1988) and Grigg (1996), is commonly practiced in the NE highlands of Portugal. Two farms were studied in this region in order to evaluate their suitability for organic cattle beef production, taking account of the technical specifications of the EC regulation.

Materials and methods Two farms were monitored for a year (autumn 2002-03); one located near Montalegre (F1) (41° 36' N, 7° 55' W and 950 m asl) and the other near Vinhais (F2) (41° 53' N, 6° 58' W and 700 m asl). The long-term annual rainfall is 1531 and 741 mm and the annual mean temperature 9.6 and 12 °C, respectively. The farms, F1 and F2, produce beef cattle from the “Barrosã” and “Mirandesa” breeds, respectively. Farm activities and components such as inputs, outputs, yield and flows between state variables were recorded.

Results Legumes are present in meadows, although with low mean values, i.e. 7 % (F1) and 15 % (F2). Farm F1 has a larger area of grassland and other forage crops than F2 (96.4 % compared to 40.6 %), less cropland based on cereals and crucifers (11.5 % compared to 40.6 %), 7-8 times less off-farm nitrogen (inorganic-N fertilisers) and grazing accounts for a higher proportion of the cattle diets (67.3 % compared to 51.9 %). Considering these as criteria for suitability for organic farming, F1 is better suited for organic beef production.

Table 1 Characteristics of farms F1 and F2 (total annual values from autumn 2002 to autumn 2003)

	Montalegre farm (F1)				Vinhais farm (F2)			
	Area		Feedingstuffs		Area		Feedingstuffs	
Land use	(ha)	(%)	(DM, t/yr)	(%)	(ha)	(%)	(DM, t/yr)	(%)
Meadow	22.6	63.1	120.1 ^G + 69.0 ^H	68.6	16.2	29.1	88.2 ^G + 52.9 ^H	76.2
Turnip + beetroot					1.5 ¹	2.7	3.1 ^F	1.7
Maize (regional)	3.9 ¹		21.1 ^F	7.7	0.2 ¹		0.4 ^F	0.2
Fallow ²					9.6	17.2		
Wheat (grain) ²					0.3	0.5		
Rye (grain) ²					6.3	11.3		
Rye (forage)	4.1 ¹	11.5	11.2 ^G	4.1	0.4 ¹		2.1 ^F	1.1
Oat (forage) ²					1.4	2.5	34.2 ^H	18.5
Vegetable-garden	0.2 ¹				0.2 ¹			
Long-term fallow ²					3.5	6.3	4.3 ^G	2.3
Shrubs and forest	7.8	21.8	54.0 ^G	19.6	7.2	12.9		
Chestnut	1.3	3.6			9.7	17.4		
Total	35.8	100.0	275.4	100.0	55.7	100.0	185.2	100.0

Other data per farm, F1 and F2, respectively: concentrates 5,120 and 1,280 kg; feedingstuffs area 34.5 ha and 22.6 ha; stocking rate (livestock units/ha of feedingstuffs area) 0.58 and 0.35; livestock weight 8,942 and 7,467 kg; deadweight 615 and 249 kg; off-farm N 10 and 75 kg.

¹Double crop; ²Cereal-fallow rotation; ^GGrazing; ^HHay; ^FGreen forage

Conclusions The simpler mixed farming system practised in F1, located in a more mountainous humid region, is approaching a ranching system, as defined by Grigg (1996). This farm, using only seven state variables, five of which are directly related to cattle, seems to better fulfil the specifications for organic animal production.

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