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Forage Strategies to Overcome Extreme Weather Events in the Humid Subtropical Argentina

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Abstract

Corrientes province located in northeastern of Argentina has 5 million of cattle. Mean annual rainfall is 1300 mm (1890/2004 series) with neither markedly dry or a markedly wet season, and no frosts. Adapted cultivated pastures need these rainfall conditions to grow. In the last five years (2004–2009) total annual rainfall decreased and seasonal distribution was modified falling on late autumn and winter. Long periods of drought affected quantity, quality and distribution of forage supply. The objective of this study was to evaluate forages species adapted to less than 1000 mm rainfall and 100 day length of the growing period to increase supply fodder forage in critical periods of rainfall deficit. The experiment was developed at the Experimental Station INTA Corrientes on a flooded Aquic Argiudol, acidic and poor phosphor contends during a period of negative water balance (December to February). Five different forage species were sown: *Cenchrus ciliaris* cv and cv Bisset, *Panicum colouratum* cv Klein, *Panicum maximum* cv Bambatsi and *Chloris gayana* cv Epica in the two different dates D1 = 18/12/2009 and D2 = 2/03/2010. Several variable were recorded weekly: temperature, soil moisture and as the days pos sowing (DPS) emergency (EM), vegetative state (VS), flowering (Flo) and end of cycle and mature seeds (ECMS).

In this work we present the results of D1. Average temperature (°C) and humidity (%) respectively were in December: 29 °C and 10%, January: 27 °C and 13%; February: 28 °C and 9% and March: 24 °C and 9%. *Cenchrus ciliaris* cv Biloela and *Panicum maximum* cv Bambatsi, showed similar EM = 16 DPS, VS 43 DPS; Flo = 50 DPS and ECMS = 101 and 94 DPS respectively. Preliminary results indicate that *Cenchrus ciliaris* cv Biloela and *Panicum maximum* cv Bambatsi are promising for grazing or hay for periods of shortage rainfall.

Keywords: Argentina, *Cenchrus ciliaris* cv Bisset, extreme weather events, forage strategies, *Panicum maximum*,