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Climate resilience of family livestock farmers with silvopastoral system

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Abstract

Resilience is the ability of a system to withstand and recover from adverse conditions. The scientific community attributes three capacities to resilience: the capacity to absorb shocks (absorption), the capacity to adopt new strategies (adaptation), and the capacity to transform (transformation). The work aims to identify the resilience against extreme weather events of family farmers with silvopastoral systems (SPS). Semi-structured interviews were conducted, asking them about their perceptions of climate change and the actions they have taken. Producers perceive longer summers and winters, changes in frost and rainfall patterns, greater solar intensity and an increase in extreme weather events. Drought was mentioned by 72% of the respondents as the main adverse event with the greatest multiplier effect of damage: lack of fodder, low pregnancy rate, reduction in stocks, and sales with economic damage, i.e. the productive capacity of the system is damaged. The most common strategy for coping with drought is to reduce stocking rates, wean cows early and purchase rations and bales. The absorptive capacity of the system in the face of this event is to have water from wells and cutwaters, although this does not solve the loss of feed availability from the natural field, it does reduce productive damage such as loss of environment. Producers with SPS show a lower perception of vulnerability, recover faster after an adverse event, show greater diversification of income within the production system, i.e. they show greater adaptation. The practices implemented by producers with SPS in the face of adverse climatic events are: rotational grazing, subdivision of paddocks, livestock management, improvement of natural fields, and water management. It can be concluded that producers who are more open to the adoption of new technological practices are generally more resilient, particularly in terms of greater absorption and greater adaptation. The resulting conditions cannot be attributed to a single factor, such as the adoption of SPS, but rather to a series of measures adopted by the producer in recent years. The factors that increase the resilience of family farms and allow these producers to remain in the production system should continue to be studied.

Keywords: Adaptation, climate change, drought, rural producers, Uruguay