

# AGROCLIMATIC ZONING OF NARROW LEAF LUPIN (*Lupinus angustifolius* L.) IN ARGENTINA

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ILC 2019

# INTRODUCTION

Land suitability assessment is becoming an important prerequisite for rural land-use planning in Argentina.

The goals of agricultural land-use planning and policy are to:

- Identify at regional level the best and most productive agricultural land for lupin
- Provide information on agriculture and food industry development requirements
- Establish land-use opportunities for lupin matched to land capability and provide advice on preserving high quality agricultural land
- Advise on potential impacts from potential urban and rural residential development expansion on high quality agricultural land

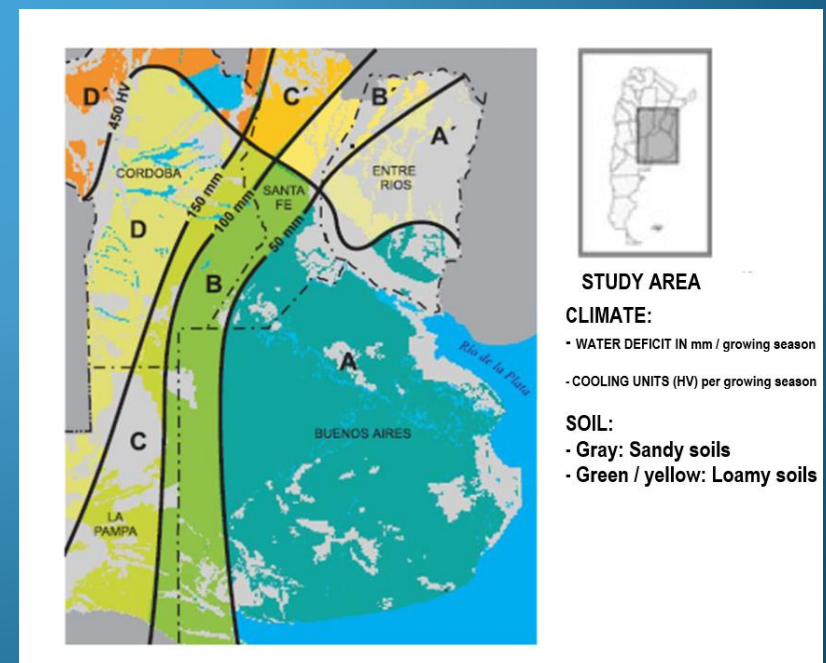
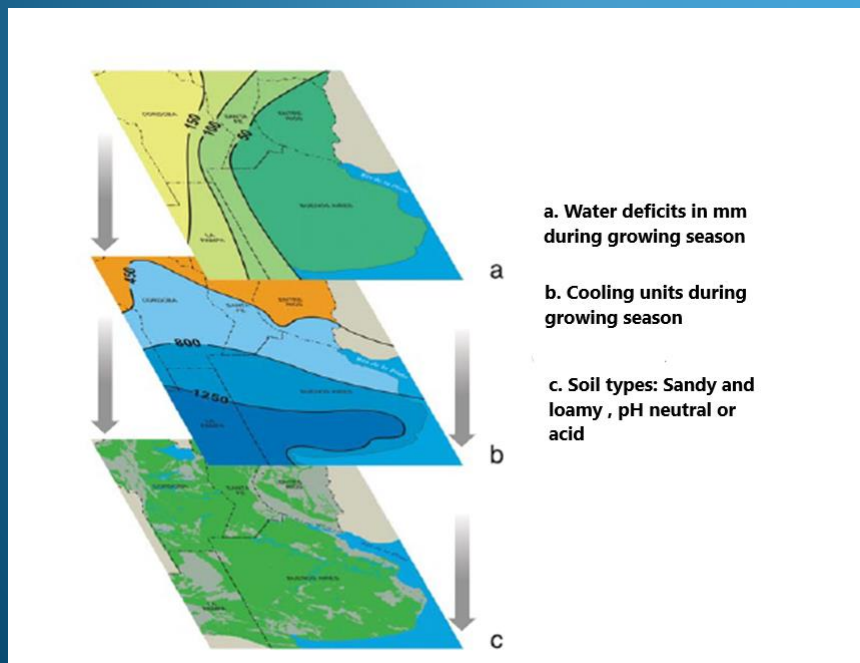
# MATERIAL AND METHOD

The method identifies possible climate, soil and degradation constraints to land use classification. Climate data was used to calculate cooling units and water deficits during the crop cycle. A threshold of 450 or more cooling units was used to establish the regions apt for lupin cooling requirement. The water deficit was obtained from a soil water balance and 50, 100 and 150 mm/year were the deficits established to distinguish non-irrigated, supplemental irrigation and irrigation cropping systems.

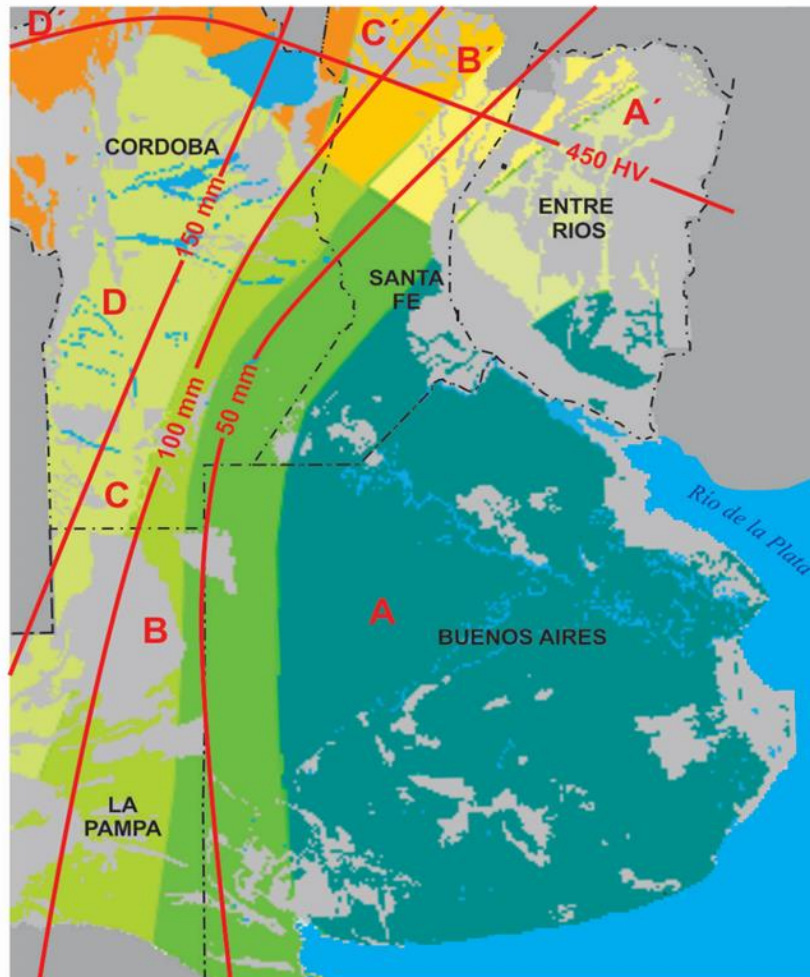
The soil characteristics were obtained from a soil atlas. Loam, silt-loam and sandy-loam texture were extracted as soils apt for the crop, and soils with other textures were grouped as non-apt soils.

The blue lupin cultivars considered were Boregine, Boruta, Haags Blaue, Mirabor and Probor which climate and soil requirements are provided by the producer, a German seed company.

In 1999 an agroclimatic zoning was developed for white lupin (*L. albus* L.) in the Argentine pampas to identify those zones with best climate and soil conditions for growing the crop.



# AGROCLIMATIC ZONING OF NARROW LEAF LUPIN (*Lupinus angustifolios* L.) in the Argentine Pampas



Study area

## CLIMATE:

- WATER DEFICIT IN mm/growing season
- COOLING UNITS (HV) per growing season

## SOIL:

- Gray: Sandy soils
- Green/yellow: Loamy

Using a geographic information system, eight cropping areas were classified as potentially suitable for narrow leaf lupin in different degrees of suitability. It was identified the lupin crop limiting factors such as soil water shortages and non appropriate temperature regime.

Recommendations on varieties with different precocity characteristics are made for the region.

**THANK YOU**  
**MUCHAS GRACIAS**