



IPNI
INTERNATIONAL
PLANT NUTRITION
INSTITUTE

TACTICAL PLAN

**Latin America -
Southern Cone**

IPNI Latin America – Southern Cone Tactical Plan

The increasing global demand for food, feed, fiber, and biofuels has driven a strong increase in grain production over the last 25 years in the Southern Cone region, especially for Argentina, Bolivia, Paraguay, and Uruguay. The production increase is mainly related to area expansion and, to yield increases to a lesser extent. This growth resulted in great pressure on land and soil resources due to increasing soybean monoculture, despite the general adoption of conservation practices such as no-tillage.

Nutrient budgets vary between countries and within countries because of differences in soils, crops, management practices, technology adoption, and grain yields, but are still negative in Argentina and Bolivia, and in some cases in Paraguay and Uruguay. This practice translates into unsustainable mining of plant nutrients from the soil.



NEED 1: 4R Nutrient Stewardship must become globally adopted as the scientific basis for sustainability.

IPNI Response:

- Characterize the nutrient deficiencies and responses for the main agricultural systems of the region.
- Develop best management practices (BMPs) for K in Uruguay based on 4R Nutrient Stewardship.
- Make information on 4R Stewardship for K available for the main grain production systems of Uruguay.

NEED 2: Nutrient education is inadequate for current and future agronomists.

IPNI Response:

- Promote wheat as a rotational crop needed for sustainable systems in the region.
- Encourage adoption of 4R Nutrient Stewardship through prominent activities and media outreach.
- Establish continuous interaction with undergraduate and graduate students to support nutrient education.



NEED 3: Better fertilizer recommendations are needed to boost productivity, economic returns, and environmental stewardship.

IPNI Response:

- Update P fertilization recommendations in the grain production area of Argentina.

NEED 4: Yield gaps must be identified and closed to provide a sustainable food supply.

IPNI Response:

- Increase the awareness of relevant information on the contribution of proper plant nutrition in reducing yield gaps.

NEED 5: Agricultural sustainability is only maintained by proper nutrient management.

IPNI Response:

- Provide updated nutrient uptake and removal data for the main field crops for global and regional use.
- Characterize nutrient balances and other performance indicators for the main agricultural systems within the region.
- Collect key information on greenhouse gas emissions for the main agricultural production systems of the region.



Emphasis is on the development of information on 4R Nutrient Stewardship; specifically, on balanced fertilization looking for higher yields and the improvement of nutrient efficiency. Monitoring nutrient budgets, nutrient deficiencies and crop yield responses, and maintaining soil quality have been main issues addressed by our regional program.

Promotion of 4R Nutrient Stewardship occurs through the development of the regional website, the publication of four issues per year of *Informaciones Agronomicas*, the biannual fertility symposia, the release of technical papers and articles, and many meetings and training sessions.

Interaction with a variety of stakeholders related to agriculture, such as universities, research institutions, fertilizer companies, other agricultural companies, farmer's associations, professional associations, and governmental agencies, is key to our success. These partnerships have supported IPNI's leading role in nutrient management for the region.



IPNI develops and promotes scientific information for the responsible management of plant nutrition for the benefit of the human family.



Latin America – Southern Cone Program

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