

SAFE-World Project/Initiative Summary

Country: Argentina

Project/Initiative Title: : AAPRESID (Argentinean No Till Farmers Organization)
1989

Scale: National

Nos. farmers: 132,500

Hectares: 9,200,000

Agro-Ecological Zone: III

Improvement types

1x	2	3x	4x	5	6x	7	8	9
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A. Key Impacts

A1 – Productivity

	Before/Without	After/With	% change
Maize	5080 kg/ha	6970 kg/ha	37
Soy bean	2220 kg/ha	2470 kg/ha	11%

A2 – Impacts on natural capital

- ?? More efficient use of energy
- ?? Increased soil fungal activity
- ?? Increased water retention (more effective use of water and diminishing the risk of herbicides, soil nutrients and soils carried into streams etc)
- ?? Soil pH increases
- ?? Increase in soil organic matter (3.6% compared to 2.7-2.9% for conventional tillage)
- ?? Reduced nitrate at 2-8cm soil depth
- ?? Decrease in soil erosion
- ?? Decrease in water quality problems
- ?? Some measurements are showing us that we are increasing the water availability to crops in more than four inches annually. In some extreme cases we are reducing soil erosion from 25 t. per ha. per year to values largely below a ton. Soil fertility (as the ability to produce) is been increased while measured trough the productivity as well as while measured trough the nutrient utilisation efficiency. We were able to measure a noticeable positive correlation between the years under no till the yield and the nutrient utilisation efficiency.
- ?? With direct seeding techniques and cover cropping yields increased.

A3 – Impacts on local community (social capital)

- ?? Reduction in labour demand from \$50-70/ ha to 30/ha (6 fold decline in summer crops)
- ?? We had created more than fifteen regional active No Tillers groups across the country.

A4 – Impacts on households and individuals (human capital)

- ?? Through the action of the institution, the regional groups and the meetings and field days we organise, we are promoting leader farmers as well as promoting several on site experimentation and validation of the No Till System and of different technologies than

make up the system. All of these have contributed to a higher quality of life in the region.

- ?? The economics of direct seeding methods were the main driving force behind farmers adopting.
- ?? Farmers had been suffering from soil erosion problems etc but started to see the benefits of discussing common problems with other farmers.

A5 – Key changes in farm / regional system

- ?? Maize productivity with No Till = 14kg grain/mm of available water
Conventional = 10.6 kg grain / mm available water
- ?? 20 to 30 % yield increase in soybean, corn and some other grain and oil crops
- ?? 1999 – 30% of total cropped area under No Till
- ?? Increase in profits (up approx. \$50/ha to \$250-300/ha for pre NT (1989) to 1998) – reduction in labour costs
- ?? Changes in input use: The system promote a more friendly relationship between the farmer and the environment. Integrated pest management concepts as well as some other environmentally friendly practices are heavily promoted and incentivated.
- ?? Change in local/ regional food security: In the case of the system been applied by peasants or smallholders we do believe we are helping in this respect .In CAAPAS (American Confederation of No Till Farmers Association) were promoting the No Till adoption by small farmer. We were specially successful with this in southern Brazil, Paraguay and also to some extent in the north east part of Argentina

Some Province Governments offers some differential interest rates for loan applied to buy no till planters and drillers as well as reduction on the fixed land taxes when the farm operation is shifted to no till as the production systems. Even these actions did not constitute the main reason or the explanation for the system adoption, it somehow helped to it.

B. Types of Sustainable Agriculture Improvements

- Type 1: Better use of available renewable natural capital
- Type 2: Intensification of single sub -component of farm system
- Type 3: Diversify by adding new productive natural capital and regenerative components
- Type 4: Better use of non-renewable inputs and technologies
- Type 5: Social and participatory processes leading to group action for making better use of natural capital
- Type 6: Human capital building through training-learning programmes
- Type 7: Access to Finance
- Type 8: Add value by processing to reduce losses and increase returns
- Type 9: Add value by direct or organised marketing of produce to consumers

	Yes/No	Narrative
Type 1	x	<ul style="list-style-type: none"> ?? No till, ?? Improved rotation schemes , seed bank dynamics, beneficial insects ?? during the winter in rainfed systems where water is available black oat used to cover the soil and suppress weeds – biological pest control measures,

		?? cover cropping, selected legumes for N fixation
Type 2		
Type 3	x	
Type 4	x	
Type 5		<p>?? Farmer to Farmer communication. – farmers have been working together without bureaucratic or industrial intervention and this has led to a successful group. Farm research Co-ops are prevalent.</p> <p>?? The institutional shape was and keeps being AAPRESID and the conceptual work was a net among leading farmers.</p> <p>?? All other efforts coming from the private, official and educational institution were welcome and were looked to more for consultative input. AAPRESID made all the possible efforts to sum up and look for partnerships aiming for the same target. Sustainability, high productivity and improved profitability.</p> <p>?? Farmer initiatives</p>
Type 6	x	<p>?? The institution AAPRESID has an educational branch named IC (Capacitation Institute), that offers short two days courses moving his instructors to the site where the courses are demanded and organised.</p> <p>?? Education Field days are presented</p> <p>?? Also the institution AAPRESID, signed up capacitation agreements with different Province Governments to offer courses partially supported by province funds.</p>
Type 7		
Type 8		
Type 9		

C. Key Lessons: Success, Spread and Constraints

C1 – Key Lessons Learned

- ?? That sometimes necessity is the mother and origin of many changes. This seems to be the case on the Argentinean and some other American farmers.
- ?? Key success: The strong adoption of an entire new system of farming production.
- ?? Farmer to farmer communication helped resolve common problems faster. The networking and coalition farmers were critical to the groups' successes.

C2 – Aspects of local/national context contributing to success

- ?? Probably the farmers necessity to find a different way to farm in order to be able to keep on business.
- ?? Economics of changing to direct seeding techniques was a driving factor

C3 – Limitations preventing spread

- ?? A better understanding and scientific and technological support from the official and educational institutions.

C4 – Policy issues

- ?? The tax policy that our governments applied for almost fifty years prevented the farmers to quickly adopt new technologies. It is not conducive to incentives for conservation, however one province does provide some tax incentives
- ?? AAPRESID has been active in providing the Ministers of the Environment with data on the benefits of direct seeding

C5 – Scaling-up

- ?? Economic and human resources to either carry out more research and extension work.
- ?? Financial and tax incentives should be promoted more
- ?? Stewardship payments to No Till farmers
- ?? Better informed general public as well as education of government officials in No Till.
- ?? Technology transfer to consumers and policy makers

D. Contact Point for Project/Initiative

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Argentina: No or Zero-till farming

Zero- or No-Till is a farming system that replaces traditional inversion ploughing. After harvest, the crop residues are left on the field as protection against soil erosion. At planting, the seed (and fertilizer, if required) is slotted into a groove cut into the surface of the soil. Weeds are often, but not always, controlled with herbicides. This means that the soil surface is always covered, and the soil itself never inverted. Farmers use a range of IPM, rotational and precision methods for pest and nutrient management. For example, black oats are now commonly used in the rotation during winter for both soil cover and weed suppression. Other legume cover crops are used to improve nitrogen supplies.

In Argentina, ZT was first tested by farmers in the late 1980s, and by 1990, there were about 100,000 ha of ZT. The 1990s, however, saw remarkable growth in the technology – rising to some 7.3 million hectares in 1999, and covering 30% of all Argentinian arable land. ZT has also spread rapidly in Paraguay and southern Brazil over the same period.

There are several reasons for this rapid spread:

- i) significant private benefits for farmers – yields of maize have grown 37% from 2 to 3.5-4 t/ha with ZT, and soya 11% to 2.47 t/ha. Costs have fallen through reduced energy use, more efficient use of inputs, reduced demand for labour (from \$50-70 to \$30 per ha), and improved farm assets through increased organic matter content in soils, better pest control and improved water retention;
- ii) significant public environmental benefits, through reduced soil erosion and water pollution (of pesticides and nitrate), and increased carbon sequestration in soils;
- iii) direct support and promotion by farmers organisations themselves, in particular AAPRESID (the Argentinian No Till farmers' organisation) – as Roberto Peiretti puts it: *“the adoption of NT in Argentinian and neighbouring countries was a farmer-led movement... [and] attributed to the common sense of farmers and their ability to detect new economic, physical and other advantages of the system.”* Local ZT farmer research and extension groups have been formed, and these linked to regional and national groups. Such coalitions of farmers have been critical in the continued development, adaptation and spread of ZT technology.

Sources: Roberto Peiretti, Don Reicosky; Peiretti, 2000

AAPRESID is a national organisation with regional groups and local groups that include individual farmers. This organisation provides for networking and information exchange through the local clubs to the national group. AAPRESID was one of the leaders in developing the international group CAAPAS (Confederation of American Association for Sustainable Agriculture Production). CAAPAS has members that include all of Latin America, North America (US and Canada), Australia New Zealand and Spain. The group forms a coalition of groups at the international level for supporting SA. The cultural passion for conservation has contributed to the success of AAPRESID and CAAPAS.

