- RodaxAgro is a small consultancy company specializing in environment and quality in primary agriculture. We got involved in the moderation of 3 PCRs, extra virgin olive oil, fruite & nuts and -due to be published- table olives. We also assisted in two EPDs, one for olive oil and one for Kiwi fruit.
- We invite groups of farmers to explore ways to promote their products in the market, on the basis of their envirnmental quality.
- After a success story with olive oil and EMAS (farmers were candidate for EU EMAS prize for 2008), we got interested in EPD as it is directly related to the product. Until now, we have seen no other activity in EPD in Greece.
- So far, farmers are excited to pioneer in environmentaly friendly agriculture, but market reaction is still negligible. Farmers have no resources for proper promotional activity.
- We are hopeful that the lag phase for market penetration will not last long.

The two greek EPDs

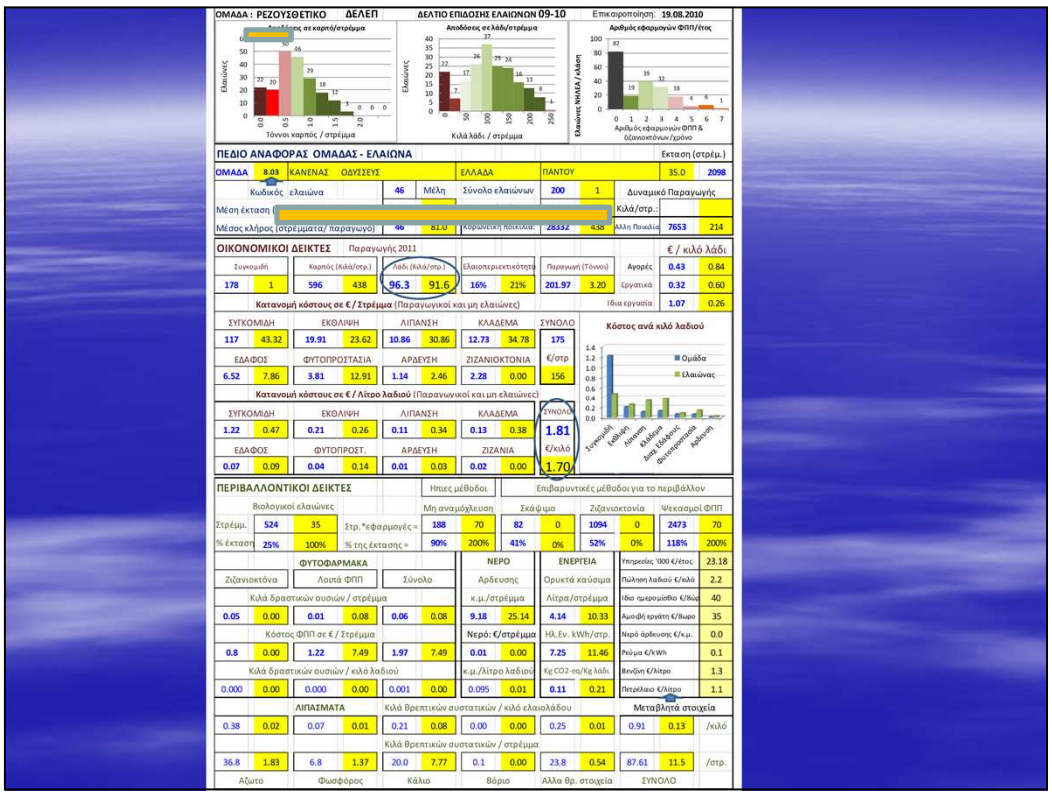
Extra virgin olive oil corresponding to the declared performance is packed in numbered bottles, so full traceability is attained. A special logo was designed.

Kiwi fruits: It was requested by ZEUS group of farmers in northern Greece (right under Mt. Olympus) with a history in environmental certification and an active export policy. The request was raised as their customers were aware of the EPD and considered it very credible.

Implementing LCA in primary agriculture in areas of the world characterized by small holdings is a real challenge due to high variability, especially of yields of product per hectare. This is very importants, as yield is the denominator in transforming the environmental impacts from a per hectare expression to an expresiion per functional unit of the product. Thus, variability in yield may render large differences in performance indicators, making the function of comparisons less usefull for EPDs.

Variability stems from various sources, not only spatial and temporal, like anything in nature, but also to differing practices established for the same crop in different areas. This is more intense for grops grown for avery long time (centuries). Newer crops like kiwi fruit show less variability.

Several solutions have been attempted to deal with variability. We consider safer to avoid sampling, i.e. to get primary data from the whole population of the crop contributing to the product under EPD. Since this is a very expensive approach, a golden rule is seeked. A menu of other approaches is found in the Fruits & Nuts PCR.



High variability is observed in about 2000 olive groves that we follow during the last decade, as shown in the example above (translated version can be found in www.rodaxagro.gr → products → PPS → IAP Worksheet).

This is a typical Parcel Performance Sheet, where the values of the indicators for a single parcel (yellow cells) are compared to the average of the group of parcels in the same area. The distribution graphs on top show the variability in yields of olive fruit (top left) and of olive oil (top middle) both in Kg per 0.1Ha.

The problem of variability has led to the proposal that for agricultural products whenever the contribution of the field phase in the final impact figures is high, to employ a double expression, i.e. beyond the expression per functional unit, the expression per hectare should also be declared.

	Upstream Kg CO2-eq	Upstream Kg CO2-eq	Hence,... Lit Olive oil
	Per litre	Per Ha	Per hectare
1	2.34	1790	76
2	0.71		--
3	1.75	760	43
4	3.33	5860	176
5	2.42	96970	4010
6	2.30	41200	1788
7	2.68	76380	2853
8	1.87		--

When the double expression is used i.e. both per hectare and per functional unit, one can easily deduct the underlying yield per hectare for each product.

By doing this deduction from the published EPDs on extra virgin olive oil, it was obvious (last column, blue letters) that yields differ so wildly, that any comparison between products on the basis e.g. of their carbon footprint would not be wise at all.