# Evolution of costs structure and micro-economic profitability of food and non food winter oil seed rape production in Belgium.

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## ABSTRACT

This study on profitability of winter OSR is based on yearly surveys in farms from 1990 until now. During these thirteen years, the European agricultural policy has largely modified the support to oilseed crops, from an aid to the limited production, to a transitory reform in 1992, a specific aid since 1993 with CAP-reform and a reduced aid at the area decided in Agenda 2000, sharply declining to the level of cereal aid from 2002.
Results show the evolution of the gross margins from 1990 until now.
Non-food OSR on set-aside land shows a slightly different profitability in comparison to rapeseed for food purpose.
Production costs have evolved. The part of fertilizers has declined. Seed cost has increased in relation with the broad choice in varieties reflecting genetic evolution and hybrid adoption. The part of the protection against slugs has increased in the last years very wet at the beginning of the season.
Prices at harvest are influenced by fluctuations of oil world prices, and have a sharp influence on profitability of rapeseed production for food or non-food.
Technical and genetic advances, climate and its effects on pests have influenced the technical performances of rapeseed. The economic aspects of the market offer an unpredictable character with effects on profitability of production of rapeseed.

**Key words**: oilseed rape - rape – production costs - gross margin – profitability – food – non-food oilseed rape – Belgium

## INTRODUCTION

Changes in European policy from support to prices to an aid for area with a connection to world prices have influenced the profitability of oilseed rape production. Variable prices don't secure stable incomes from production. That's the reason why it's interesting to see the evolution of margins in the last 13 years.

## MATERIALS AND METHODS

Oilseed rape production is mostly concentrated in three regions in the south of the country, Condroz being the main one. Soils are heterogeneous, often shallow and with a high clay content. Nevertheless rapeseed is well-adapted to these conditions. Since 1993, non-food rapeseed has been grown on set-aside. Technical surveys on winter oilseed rape production in Belgium are made each year by the association APPO. Direct production costs (variable costs) and gross margins have been calculated, allowing to compare between growers and to draw historical evolution. Direct production costs have been limited to the "inputs" such as seeds, fertilisers and agrochemicals, excluding mechanisation and all other costs.
Prices at harvest are different for food or non-food. Subsidies are fixed by the CAP and are reduced when European area exceeds the Blair House constraints for oilseeds.
Gross margins have been determined each year and were not adapted for inflation. The gross margin is calculated : ((yield x price at harvest) + subsidy) – variable costs.

## RESULTS

Yields increased in the nineties. In the next years, high disease pressures (sclerotinia in 2000, phoma in 2001 and 2002) decreased yields. In the surveys average yields vary between 3.300 and 4.300 kg/ha, and are higher than regional average yields showing the good technical ability of growers in the sample.

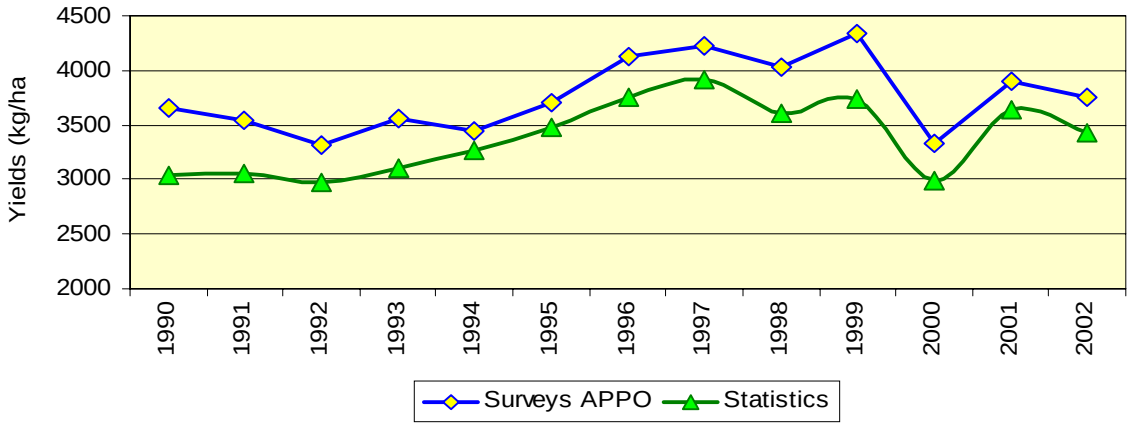


Fig. 1. W.O.S.R. : Evolution of yields since 1990, in Belgium.

Oilseed prices at harvest were supported in 1990 and 1991. Since 1992, prices are largely influenced by world market. Prices paid to growers fluctuated between 139 and 215 €/t for food and between 124 and 198 €/t for non-food seeds.

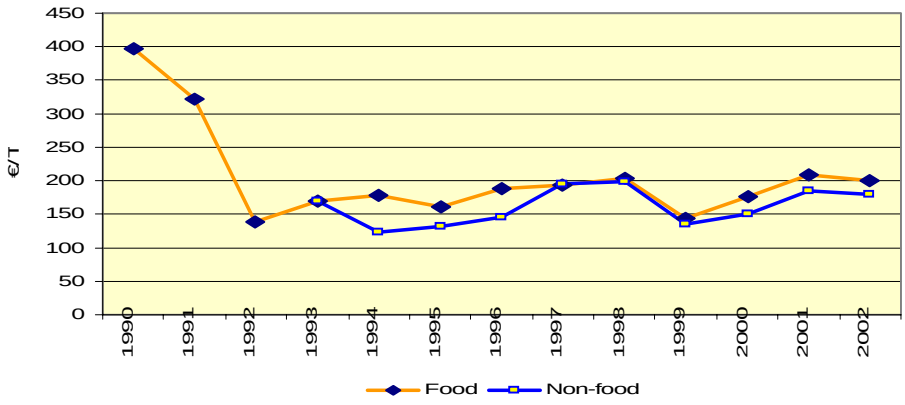


Fig. 2 : W.O.S.R. : Evolution of prices at harvest.

Before 1992, European support was included in rapeseed prices. After 1992, support was given to the area. In Condroz, the reference historical yields are 3,07 t/ha for oilseeds and 6,22 t/ha for cereals. The area payments were adapted by the EEC in function of prices evolution during the first months of the trade campaign. Aids were reduced by 10 % in 1993, 5 % in 1994, 4 % in 1995, 5 % in 1996, 11 % in 1997 and 7 % in 1998. There has been no additional reduction linked to regional reference surfaces which were exceeded in 1999 only, but the European area was not excessive that year.

Since Agenda 2000, area payments for food-oilseeds are strictly reduced in three steps to reach the amount of the area payment for cereals. Non-food rape receives the area payment for set-aside inferior to payment for food oilseeds.From 2002, area payments are identical whatever the crop.

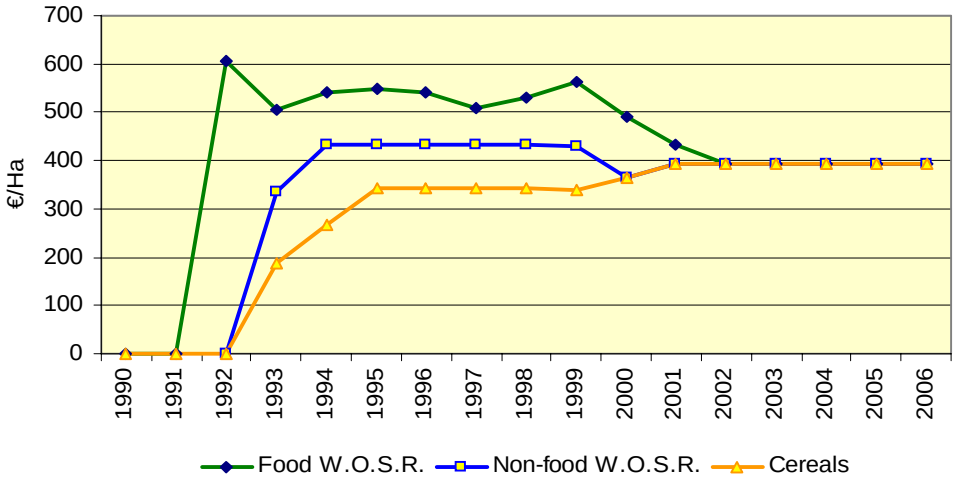


Fig. 3. : Evolution of European support since 1992, in Condroz.

Variable costs have been calculated for each survey. Means and extremes are mentioned. There is no significant difference between food and non-food production costs because they are mostly produced on the same way.
From 1992 when supported prices were replaced by area payment, variable costs have decreased in 3 years by 200 €/ha. Later on they steadily increased each year to reach levels above 500 €/ha.

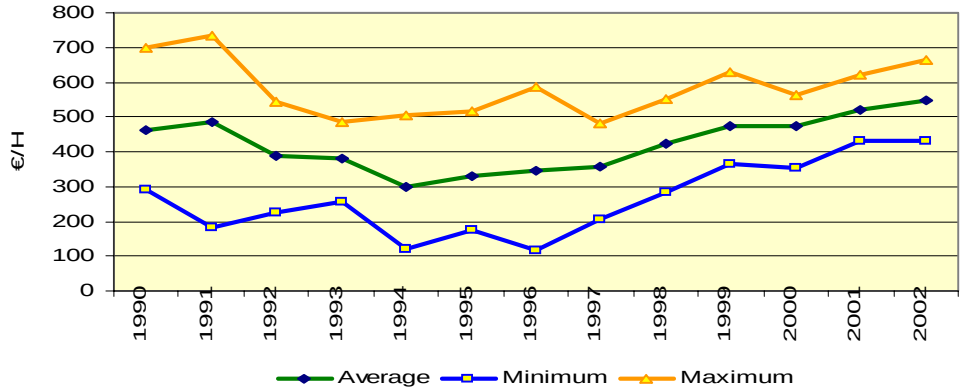


Fig. 4. : W.O.S.R. : Evolution of variable costs (surveys APPO)

About costs structure, fertilisation is the most costly part; it decreased with the first CAP-reform until 2001, when nitrogen cost increased. Seed costs also significantly increased in the last years because of additional cost of genetic evolution from lines to hybrid. Adoption of new varieties has been very rapid. In 1990 pesticides use was already very limited so that substitution for reducing costs has been difficult. From 1999, very wet conditions obliged to use anti-slugs products in one or more applications.

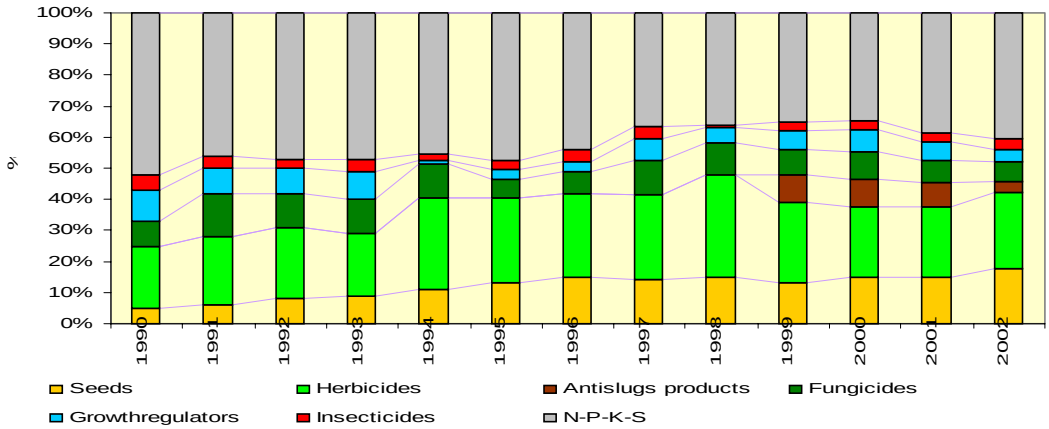


Fig. 5. Costs structure in W.O.S.R. based on surveys APPO

Average gross margins are calculated for the last 13 years for food and from 1993 for non-food. When support was included in production prices, reduced prices reflected in reduced margins. From 1992, differences between maxima and minima decreased but showed the large influence of prices at harvest and area payment. 1999 was the best year for yield but due to very low prices, gross margins were low. 2000 was the year with lowest margins because yields were seriously affected by sclerotinia. Better prices in 2001 and 2002 allowed improved margins not reaching the previous levels because the area aids have gradually decreased from 1999. Currently the mean gross margin level stays between 600 and 800 €/ha with minima lower than 400 €/ha and maxima lower than 1000 €/ha. In the majority of farms, fixed costs and other variable costs not taken into account here are superior to the average gross margin so that oilseed rape profitability is negative.

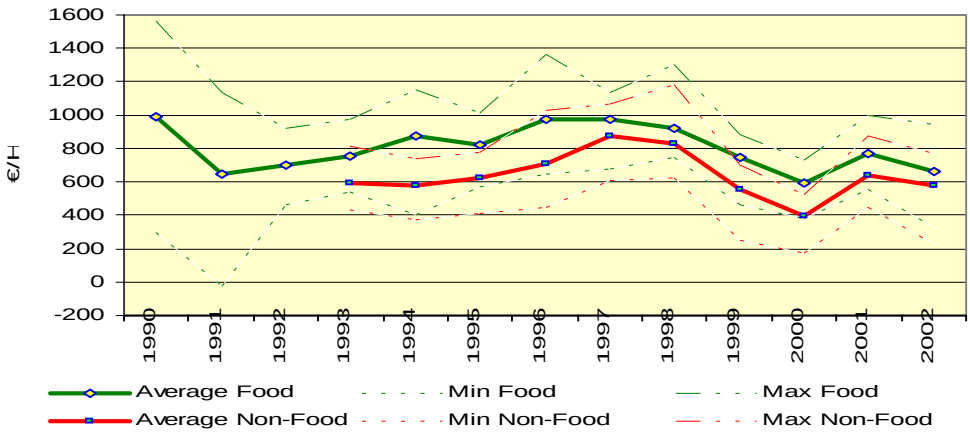


Fig. 6. W.O.S.R. : Evolution of gross margins (surveys APPO)

## DISCUSSION

Despite the genetic advances contributing to yield increases the climatic conditions influence yield mainly through the disease pressure. Change in support policy from price support to area aid has laid growers to reduce direct costs and resulted in greater sensitivity to price volatility. A favourable conjuncture will induce good margins; low prices will have a depressive effect on gross margins despite expected yield increases.

Since the Agenda 2000 no security net protects the oil crops profitability. After a period of high prices in 2001 and 2002 due to a reduced world oilseed availability and to an increasing demand, reduction of prices for the next season may be forecasted resulting in reduction of gross margin which will no more cover the other fixed production costs.

Prices for oilseed from rape will mainly depend on world prices for various other oils.

Until now oilseed prices have been lower for non-food than for food uses but there is no reason that the prices could not become the same for both uses.

## ACKNOWLEDGEMENTS

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