

# Survey of Glucosinolate Content in Swiss Rapeseed and Rapeseed Oil Meal

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## Introduction

During the past years, the quality of rapeseed had been improved through a reduction of the levels of anti-nutritious compounds. First, plant breeders were able to cultivate the "0"-varieties, which were essentially free of erucic acid. Recently, the so-called "00"-varieties were introduced; the second "0" being an indication of a lowered glucosinolate content in the seed. In Switzerland, the switch-over from "0"- to "00"-varieties was virtually complete for the latest rape growing season 1991/92.

This study was designed to survey glucosinolate levels of commercialized rapeseed and rapeseed oil meals, in order to estimate the current extent of rape lots, which still originate from left over portions of "0"-varieties.

## Methods

Glucosinolate-analyses. After inactivating the endogeneous enzymes through a heat treatment, the extracted glucosinolates of a 500 mg sample of seeds (or rape oil meal) are hydrolyzed with myrosinase, at pH 7.2. Total glucosinolate content is then estimated, using an enzymatic, colorimetric procedure for the quantitative determination of glucose, according to BOEHRINGER.

## Results

118 samples have been analysed, 99 of them representing seed and 19 oil meal, respectively. Results are summarized in the following table.

Table: Total glucosinolate contents in rapeseed and rapeseed oil meal.  
Contents in mmol/kg sample

	rapeseed	rapeseed oil meal
Number of samples	99	19
Average value	19.5	23.7
Standard deviation	3.1	4.1
Maximum value	28.1	31.0
Minimum value	13.4	17.8

## Conclusions

The results obtained in this study correspond to the expected values for "00"-varieties, glucosinolate contents of "0"-varieties being significantly higher, i.e., more than 100 mmol/kg. We conclude that only "00"-varieties had been sown for the crop of 1992.

To prevent feedstuff industry from using rapeseed oil meal with high amounts of glucosinolates, which might induce problems in animal production, survey analyses will be continued.