

## Application examples for the new 743 Rancimat

### Determination of the oxidative stability of oils and fats based on the international standard AOCs Cd 12b-92

We have investigated seven different vegetable oils as well as a cooking butter with the new 743 Rancimat. Each sample was subjected to a double determination at four different temperatures (100 °C, 110 °C, 120 °C and 130 °C). With the aid of the 743 PC software the following quantities were then calculated automatically:

- Induction times at the different temperatures as a measure of the oxidative stability of the sample.
- Standard factor, i.e. the exact temperature dependence of the induction time for the particular sample.

The standard factor is ca. 2, i.e. the induction time is approximately halved if the temperature is increased by 10 °C.

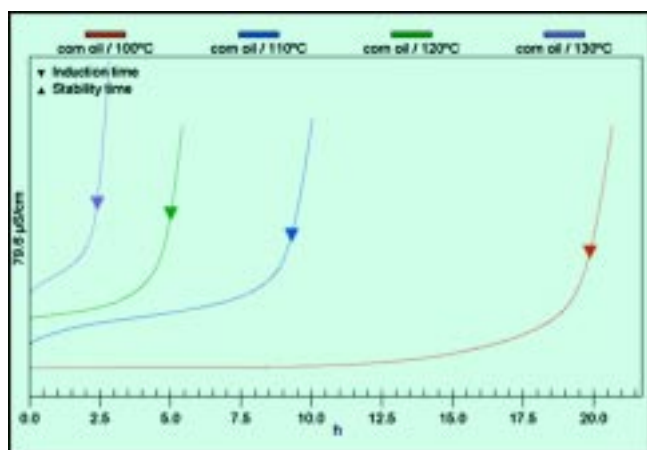
- Storage stability at 0 °C and 4 °C by extrapolation from the measured data.

#### Experimental conditions

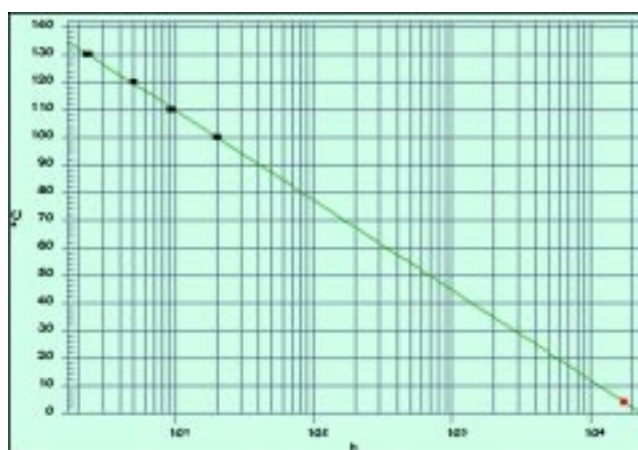
Sample weight: 3 g  
Air flow: 20 L/h  
Absorption solution: 60 mL dist. water

#### Results of the investigation of seven different vegetable oils and a cooking butter

Product	Induction time / h				Standard factor	Storage stability / years	
	100 °C	110 °C	120 °C	130 °C		0 °C	4 °C
Olive oil	17.4	8.1	3.7	1.9	2.096	3.2	2.4
Olive oil «extra vèrgine»	53.1	22.8	10.2	4.3	2.279	22.5	16.2
Rapeseed oil	18.4	9.2	5.2	2.5	1.948	1.6	1.3
Corn oil	20.2	9.3	5.0	2.4	2.029	2.6	2.0
Safflower oil	7.6	3.6	2.4	1.0	1.940	0.6	0.5
Sunflower oil	10.3	4.5	2.4	1.2	2.052	1.5	1.1
Peanut oil	15.4	6.4	4.0	1.7	2.036	2.0	1.5
Cooking butter	49.8	23.6	11.3	5.6	2.066	8.0	6.0



Measuring curves (conductivity as a function of time) obtained for the investigated corn oil. In each case the determined induction time is marked in the curve.



Extrapolation: Determination of the standard factor of the corn oil as well as the storage stability at 4 °C.