

PROFICIENCY TEST WITH INCURRED RESIDUES OF DITHIOCARBAMATE FUNGICIDES IN DRIED GRAPE LEAVES

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Organization

60 laboratories from different countries participated in this 2nd dithiocarbamate proficiency test:

Austria	2
Estonia	1
Germany	52
Italia	1
Norway	1
Switzerland	2
The Netherlands	1

Organized by:
"The working group on pesticides of the German Society of Food Chemistry"

Preparation and Methods

20 kg of sample material was thoroughly mixed in a tub and filled in 400 subsamples of 50 g each. 5 randomly taken subsamples were sent to the labs, which received the packages within 4 days. The labs should analyse the material within 6 weeks after receipt in triplicate. The choice of the method was free, but a test portion of 20-30 g was recommended.

26 labs used the classic copper complex method (EN 12396-1)

24 used the xanthogenate UV method (EN 12396-3)

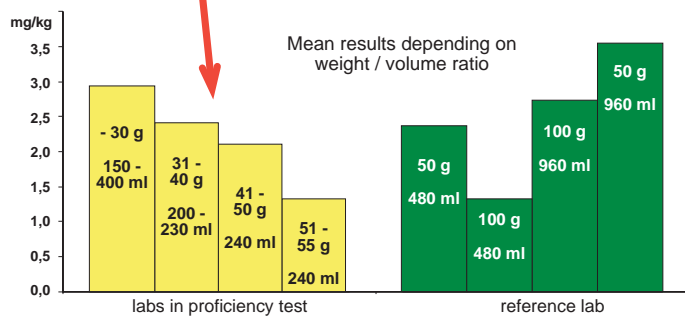
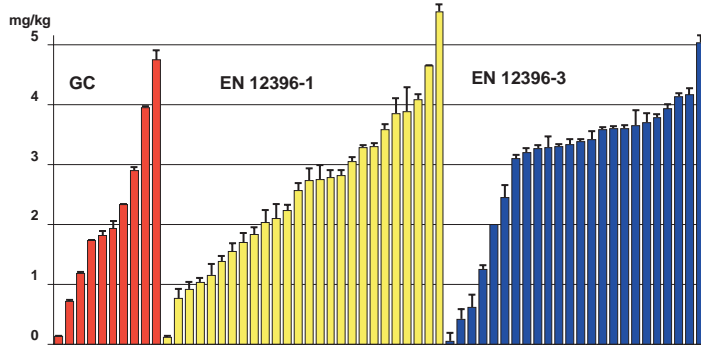
10 used different GC-methods.

Results

	mg/kg
Median:	2,84
Range:	0,04 to 5,61
SDQn:	1,29
RSDQn:	46 %
RSD _{Horwitz} :	14 %

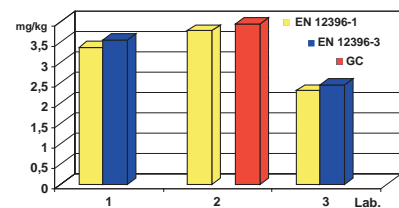
The great variation in the results demonstrates that major problems in determination of dithiocarbamates still exist.

Individual results of the participants by different methods



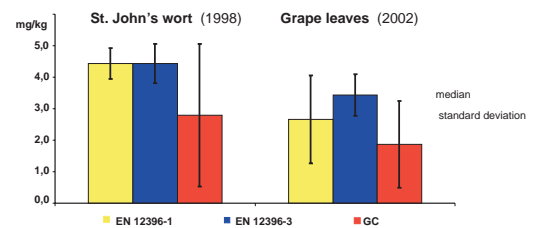
Low results by the copper complex method are obviously caused by an insufficient ratio of aqueous HCl/SnCl₂-sol. to sample weight, as could be demonstrated by the reference lab.

Comparison of methods within single labs



The results from two labs using both spectrometric methods compare very well, as those from a lab using HS-GC and the EN 12396-1

Comparison of methods in 1998 + 2002



GC-methods show a lower median and a larger deviation compared to the spectrometric methods in both proficiency tests

Homogeneity and Stability:

Tests on 16 subsamples, taken at random and analysed in duplicate.

	Homogeneity Test n = 10 * 2	Stability Test n = 6 * 2 during test period
Method:	EN 12396-1	
Carbon disulfide (CS ₂)	mg/kg	
Grand Mean	3,41	3,30
Repeatability SD (S _r)	0,08	0,13
Reproducibility SD (S _R)	0,10	0,15
Horwitz - SD	0,45	0,44

Distribution of the results in homogeneity and stability check

