

# The Aldrin and Dieldrin Contents of German Edible Carrots

by H. MAIER-BODE  
*Pharmacological Institute*  
*Rheinischen Friedrich-Wilhelms-Universität, Bonn, Germany*

During the growing season of 1965 one west-German and one south-German marketing associations requested that carrots from their areas be examined for residues of aldrin and dieldrin.

Carrot extracts were subjected to preliminary cleanup and then analyzed using an Aerograph 200 gas chromatograph with electron capture detectors and two columns with different packings.

For the sake of simplicity in the presentation of the results, the contents of both pesticides found in carrots are given in the combined form, aldrin + dieldrin.

West-German samples: A random sampling of carrots from 49 producers among the 162 belonging to this association were used for the analyses. Representative samples of both early carrots delivered to the market in August and late carrots delivered in November were studied.

South-German samples: Similar analyses were performed on carrots offered on the market in September by 10 different producers in south-Germany.

North-German samples: Subsequent to the above study, six carrot samples from north-Germany were received and analyzed. The results of all these analyses are presented in the table.

# Aldrin + Dieldrin Contents of German Carrots Produced in 1965

aldrin + dieldrin  ppm	number of samples with indicated residue				% of all samples
	marketing date				
	August	November	Sepeptmber	-	
	West Germany		South Germany	North Germany	
nil	6	14	4	1	38
0.01	7	5	3	3	26
0.02	1	1	3	1	9
0.03	5	3			12
0.04		1			2
0.05	1				2
0.07		1			2
0.08	2				4
0.09	2				4
0.17				1	2
Totals	24	25	10	6	101%

Of the 65 carrot samples analyzed, 43 ( 66% ) contained either nil or at most 0.01 ppm aldrin + dieldrin. The remaining 22 samples ( 34% ) contained from 0.02 to 0.17 ppm combined residue. Early carrots had a higher average residue than late carrots.

Only one sample ( 0.17 ppm ) exceeded the Dutch and U.S. tolerances for dieldrin. However, five other samples had residues ( 0.07-0.09 ppm ) approaching the Dutch and U.S. values.

The pesticides were used to treat the soil for carrot pests. Even if the use of aldrin and dieldrin were completely eliminated from the production of carrots, small amounts of these substances would appear in the carrots grown in subsequent years, since residues from previous applications would persist in the soil. This factor should be taken into account when establishing tolerances for residues in carrots and other root crops.