

The Yellow Tree Tale: The Pollution of Soils and Groundwater in a Green Pastoralic Town (Ramat Hasharon, Israel)

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Ramat Hasharon is a small, green tranquille and pastoralic town situated north of Tel Aviv, not far from the Mediterranean coast line, and pumping its drinking water from 8 local drill-holes.

The town founded in 1920 is built on a soft hilly area in the height of about 40-80m above the Mediterranean Sea level whereas the level of the groundwater is around +3 –5m with a clear gradient from east to west showing the flowage westwards to the Mediterranean Sea. A large industrial plant (working with nitrates and heavy metals) has been built in the fifties east of the town.

35 to 40 years after the foundation of the plant groundwater and soils have been deteriorated where nitrates and heavy metals (especially chromium) reached dangerous levels. In one spot a tree has changed its green leaves into yellow (chromium?). Table 1 shows the pollution which spread slowly and continuously in the area. Rate of penetration in the unsaturated zone calculated to be around 1.5-2 m/y and in the groundwater much faster 100m/y approximately.

Well	20/08/80	28/10/83	03/06/86	15/04/91	09/05/93	30/05/95
1	12	14	13	60	67	71
2	14	14	17	79	75	80
3	17	25	24	169	104	101
4	18	19	19	85	84	78
5	12	8	11	58	68	56
6	17	12	13	56	80	67
7	19	12	14	82	55	62
8	20	7	7			

Table 1: Nitrate concentration change (mg/l) in Ramat Hasharon wells