than three times that of the supplying river water. A slight rise of a few parts per thousand is actually accounted for by an observed modest increase in the ratio of oxygen-18 to oxygen-16 (−8 to −6 parts per thousand compared with the ratio for Standard Mean Ocean Water) measured on the carbonate mud from the basin floor (6) and on the shells of littoral New Euxine mollusks (*Dreissena rostriformis*) from the continental shelf (*1*). The negative isotopic ratios are strongly diagnostic of fresh to slightly brackish water (6). One also finds a spotty appearance of *Didacna morbunda* Andr. (*7*) in the paleo-shoreline deposits of the drawn-down lake then at more than 100 meters below today's sea level. Its presence has been attributed by a researcher other than ourselves (*2*) to a mild increase in alkalinity and possible "complete isolation." The pore-fluids of the preflood sediments indicate a salinity no higher than 3.5 parts per thousand (*8*), a value still potable for animals and humans. The rate of infilling mentioned by Kerr is no more spectacular than the rate of the draining of Lake Agassiz through the Clearwater spillway (9), around 9900 years ago (uncalibrated).

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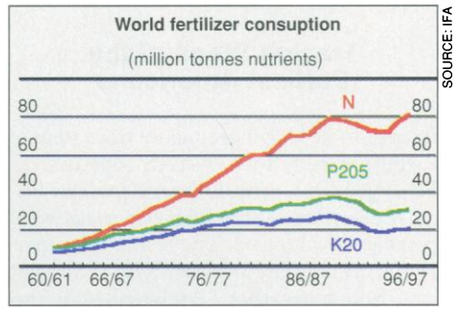
## Fertilizer Use

In her article "Global nitrogen overload problem grows critical" (Research News, 13 Feb., p. 988), Anne Simon Moffat quotes Cornell University biogeochemist Robert Howarth as saying, "In recent years, the worldwide rate of fertilizer applications has risen exponentially...." She also cites Peter Vitousek *et al.* (*1*), who wrote, "[Nitrogen] fertilizer production has grown exponentially since the 1940s."




Data from the International Fertilizer Industry Association (*2*) (above) show that the increase in fertilizer use worldwide has been linear since 1960, peaking at about 80 million metric tons of nitrogen in 1990 and again in 1996-97.

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