

## PILLS OF WISDOM? OR JUST COMMON SENSE

In 2015 cropping season OXAMYL, one of the most diffuse a.i. to control crop nematodes, was not available on the market, due to problems at the production site, the US manufacturer DuPont's La Porte factory near Houston, Texas. This fact deserves some general observations:

- the increasing trend toward a concentration of R&D for top used agrochemicals may represent a threat for world agriculture, because less a.i. and production sites are available, while resistance and accidental events can occur worldwide;
- the necessity to develop alternative strategies for crop protection, less relying on bottle-neck agrochemicals, is therefore a must, to reduce market and food supply uncertainty.

## BUT THE COPPER IS CONNECTED Alzheimer's?

- J Alzheimers Dis. 2011;24(1):175-85. doi: 10.3233/JAD-2010-101473.
- **Copper in Alzheimer's disease: a meta-analysis of serum, plasma, and cerebrospinal fluid studies.**
- Bucossi S, Ventriglia M, Panetta V, Salustri C, Pasqualetti P, Mariani S, Siotto M, Rossini PM, Squitti R.
- **Abstract**
- There is an ongoing debate on the involvement of systemic copper (Cu) dysfunctions in Alzheimer's disease (AD), and clinical studies comparing Cu levels in serum, plasma, and cerebrospinal fluid (CSF) of AD patients with those of healthy controls have delivered non-univocal and often conflicting results. In an attempt to evaluate whether Cu should be considered a potential marker of AD, we applied meta-analysis to a selection of 26 studies published in the literature. Meta-analysis is a quantitative method that combines the results of independent reports to distinguish between small effects and no effects, random variations, variations in sample used, or in different analytical approaches. The subjects' sample obtained by merging studies was a pooled total of 761 AD subjects and 664 controls for serum Cu studies, 205 AD subjects and 167 controls for plasma Cu, and of 116 AD subjects and 129 controls for CSF Cu. Our meta-analysis of serum data showed that AD patients have higher levels of serum Cu than healthy controls. Plasma data did not allow conclusions, due to their high heterogeneity, but the meta-analysis of the combined serum and plasma studies confirmed higher Cu levels in AD. The analysis of CSF data, instead, revealed no difference between AD patients and controls.