



*(Photo: NH<sub>3</sub> Tank—an icon of North American corn country)*

## Towards a more rational agriculture

*The simplest and most powerful of all possible tests  
is the test of doing without.*

Anhydrous ammonia (NH<sub>3</sub>), made up of one part nitrogen (N) and three parts hydrogen (H<sub>3</sub>), is one of the most widely used sources of nitrogen applied to keep crops green and prevent them from withering in the heat. Because NH<sub>3</sub> contains no water— anhydrous = "without water"— and is therefore hydroscopic, it seeks moisture from the nearest source, including the human body. In its pressurized, liquid ammonia form, NH<sub>3</sub> is injected about 15 cm under the soil's surface to prevent the liquid from vaporizing. The machinery used for this is complicated, hard to use and expensive. NH<sub>3</sub> has a distinctly noxious ammonia smell which can easily be detected at distances of up to half a kilometer or more. (Humans can detect NH<sub>3</sub> in concentrations as small as 5 parts per million (ppm); exposure to concentrations of 2,500 to 6,500 ppm can result in death.) Partly made from crude oil, NH<sub>3</sub> has risen in price to about \$30 an acre, or about the profit that can be expected from the same acre of corn at current market prices. In addition to its agricultural applications, NH<sub>3</sub> is widely stolen for the production of methamphetamine, known as "meth", a popular illegal street drug which affects the central nervous system and is strongly addictive.

(Sources of data: Personal field observations; Groliers Encyclopedia (1996);  
<http://www.cdc.gov/niosh/nasd/docs2/as63100.html>; <http://www.ae.iastate.edu/safety/pm1518d.txt>; <http://www.cpha.net/theft.htm>)