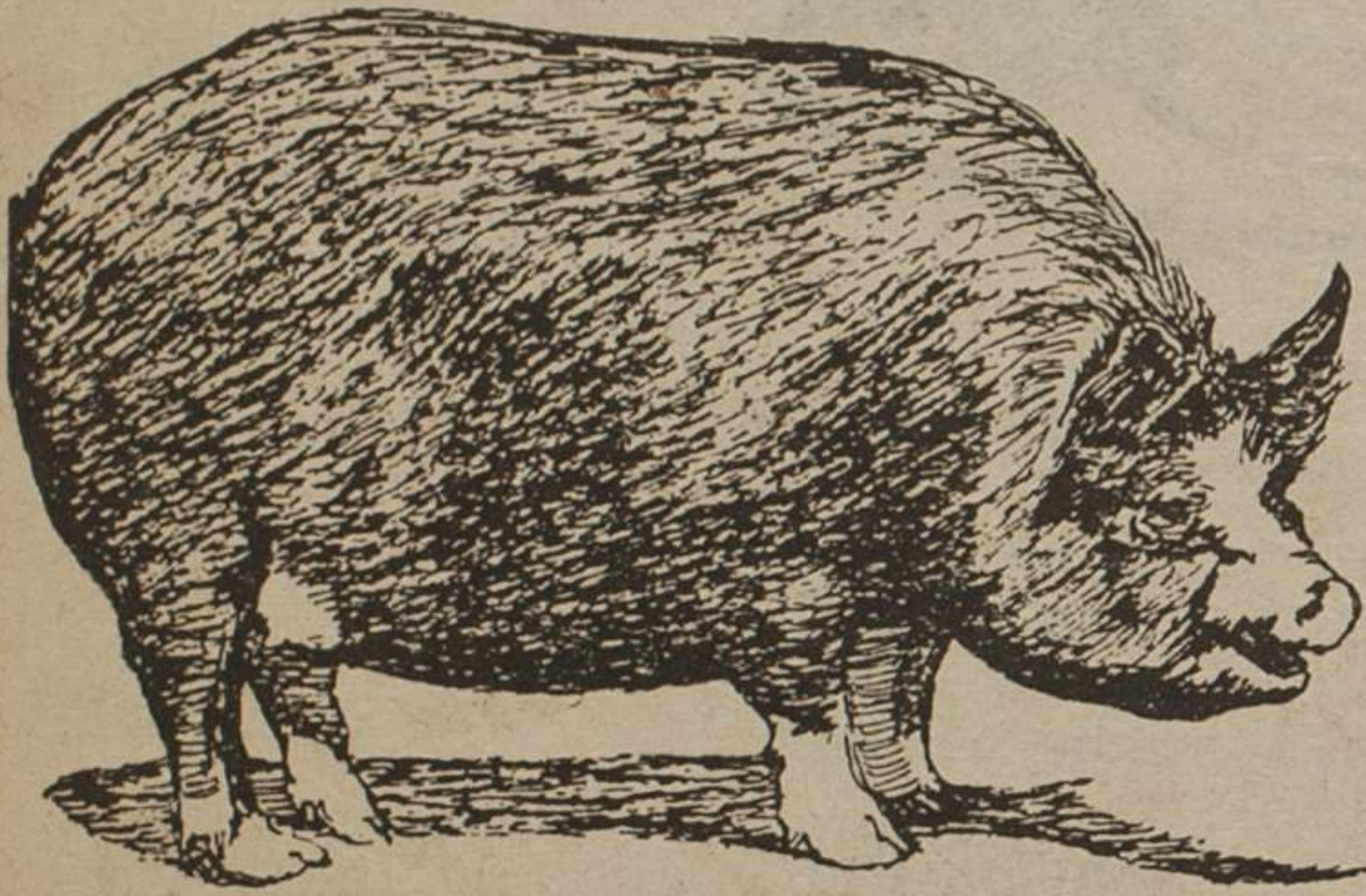


WHY SPOIL THE BACON?

One of the major food concerns recently has focused on the levels of chemical additives in super-market food. Tissue tests of meats have revealed hazardous amounts of growth stimulants, environmental contamination, and processing chemicals.

Sodium nitrate and sodium nitrite are chemical additives that are commonly used in cured and processed meats, such as hot dogs, bacon, ham, and bologna. They are added to slow down the growth of botulinum bacteria, which cause botulism, a deadly disease. And, more importantly for the meat industry, sodium nitrate and nitrite gives meat a pink coloring to make it look fresh, like raw hamburger or steak.

Sodium nitrate (also known as saltpeter) is found in nature with salt. It is one of the substances removed when salt is refined. Sodium nitrite is made chemically from sodium nitrate. Most of the nitrate that enters our bodies is excreted harmlessly. Some of it is eaten by intestinal bacteria and converted to nitrite. It is nitrite that is most dangerous to our bodies and our lives. It is also nitrite that is most often used in meat curing and processing since it speeds up the curing process--and the meat industry, like any other, equates speedier methods with more profits.



The dangers of nitrites are two-fold: they are poisonous when eaten in quantities only a little higher than levels used in food, and they can combine with amines (organic compounds containing nitrogen) in the stomach to form nitrosamines--these are known to be cancer-causing (carcinogenic).

There have been many cases of nitrite poisoning. It is one of the most harmful chemicals in the food we eat--one of the few food additives known to have definitely caused deaths in the U.S.

This is the way that nitrite acts

in our bodies:

"...When absorbed into the bloodstream, nitrite readily converts the hemoglobin in the blood cells to methemoglobin, which cannot carry oxygen. Human blood normally contains about one percent methemoglobin, and 99 percent hemoglobin, and there is no problem. However, if nitrite is present and raises the percentage of methemoglobin to above 10 or 20 percent, the blood's ability to carry oxygen is severely impaired. This condition is known as methemoglobinemia. Victims quickly discolor and have difficulty breathing. Death may result when the methemoglobin level exceeds 70 percent." (Jacobsen, *Eater's Digest*)

Infants under one year of age are the most susceptible to methemoglobinemia. A baby's consumption of nitrates should be carefully controlled, and nitrites should be avoided. After a consumer lawsuit, Gerber and Beech-nut, the baby food giants, stopped using nitrites in their products, although Gerber still uses them in "toddler meals", which are for infants over one year of age. The U.S. Department of Agriculture (U.S.D.A.) is just now proposing a ban on nitrites in baby foods.

Most infant deaths due to methemoglobinemia occur in rural areas, due to contaminated well water. In fact, the biggest dangers from nitrate poisoning is from our water supply and from vegetables grown in fields that have been heavily fertilized with nitrates.

The danger of nitrate and nitrite poisoning--serious as it is--is nothing compared to the danger of nitrosamines.

Nitrosamines were first found to be carcinogenic in 1956. The first evidence that nitrites could convert to nitrosamines in the stomach came in 1963. This touched off a lot of research in this area, which has unearthed these facts:

1. Experimental animals fed nitrites and amines in the amounts that average Americans eat every day developed tumors.
2. Increase in the incidents of stomach cancer in the U.S. is directly related to the increase in the consumption of cured meats.
3. Nitrosamines can also cause cancer in other parts of the body outside the stomach.
4. Nitrosamines can not only be caused by nitrites in cured meats, but have been found in the meats themselves.
5. Sodium ascorbate (Vitamin



photo paul johnson

C) and sodium erythorbate--two preservatives--are somehow able to neutralize nitrates in the stomach while interfering with nitrosation (the chemical binding of nitrites and amines forming nitrosamines).

The nitrosamine level in hot dogs is up to 80 parts per billion (ppb). Beef jerky, ham, and lunch meat have nitrosamines up to 48 ppb. Canned (processed) tuna has up to 26 ppb. Nitrosamines at levels higher than 10 ppb can be cancer causing in humans.

The American Meat Institute (AMI) and the USDA are recommending that either sodium ascorbate or erythorbate be added to bacon, and that the quantity of sodium nitrite in bacon be lowered. Bacon is now the food presenting the worst threat from nitrosamine. But these recommendations would only lower the chance of getting cancer from bacon--they would not eliminate it. And what about the rest of the nitrite-filled meats?

The meat industry opposes the banning of sodium nitrite for three reasons: the risk of botulism would be too high, the cured meats would not taste cured, and the public would be turned off by the natural gray color that the meats would have without sodium nitrite.

First of all, it is questionable whether or not the levels of sodium nitrite that are added to commercially cured and processed meats actually do prevent the growth of bacteria. Besides, there are other ways to preserve meat--nitrite-free frozen sausages are already on the market with no problems of botulism.

Secondly, according to a British study done in 1973, "salt was shown to make a major contribution

to bacon flavor, but sodium nitrite has no detectable taste at concentrations similar to those found in bacon." Sodium nitrite makes little or no contribution to cured flavor.

Finally, in response to charges that the public won't buy meats that aren't pink-colored, it should be noted that meat products like bratwurst and breakfast links are the grayish color of naturally cured meat, and nobody has been outraged over them. If consumers knew the reason for the change in color, it shouldn't take very long before they would prefer meats without nitrites and nitrates. The meat industry chooses to treat consumers as if they were stupid--more into a pink color than healthy meat. In reality, using these chemicals saves them money--and that is what they are most concerned with.

The following common products contain amines, which will react in our bodies with nitrites to form cancer-causing nitrosamines: eggs, fish, cereal, meat, beer, tea, wine, cigarette smoke, antihistamines, anesthetics, tranquilizers, nasal decongestants, oral contraceptives, analgesics. This is just a partial list. If you wanted to stop the formation of nitrosamines in your body, it would be a lot easier to stop eating nitrites than to stop using products containing amines.

Public pressure must be put on the Food and Drug Administration (FDA), the USDA, the AMI, and the meat industry to stop the use of nitrite and nitrate in meat. And until this practice is stopped, avoid meats that contain sodium nitrite, limit your intake of nitrate, and keep the Vitamin C handy.

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