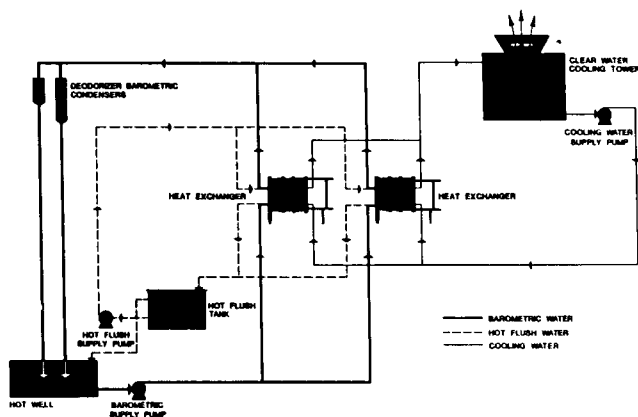


Best SF plant solves odor problem



A newly developed Closed Loop Barometric Cooling System has been installed at the San Francisco plant of Best Foods, a division of CPC International, to prevent the release of strong-smelling distillate vapors from the vegetable oil deodorizing process.

The system uses plate heat exchangers that also allow Best Foods to convert the foul water cooling tower to fresh water service.

Before the heat exchangers were installed, the heated process water was cooled by being sprayed down through one of two wooden towers while a fan drew air through the structure. The oil materials picked up during the process of "steam cleaning" the vegetable oils caused the release of irritating odors and fouled the cooling tower.

With the new system, however, fat-laden water does not enter the cooling tower. It is indirectly cooled with clean water through two heat exchangers in a continuous closed loop. The heat exchangers are designed for optimum heat transfer and cleaning effectiveness.

The heat exchangers do become fouled to a degree, but each can individually handle the whole process load.

Whenever the temperature of the greasy water exceeds a predetermined maximum for use in the vacuum system, the flow automatically is switched to the other heat exchanger. Clean hot water is simultaneously backwashed to scour the fouled heat exchanger. Any congealed fatty residue is flushed to the hot well in the basement where the fat is skimmed off and stored as a salable by-product.

The wooden tower previously used to cool fouled water now provides cool water to the heat exchanger system. In this new mode, the water that comes into contact with the air does not contact the odorants. The clean-in-place capability means the greasy water is never aerated.

"This solution, although simple in principle, represents a significant investment in excess of \$200,000," said Ray Siefert, Best Foods' San Francisco plant manager.

The closed loop system was conceived by AOCS member George Johnson, staff assistant to the vice-president, manufacturing and engineering, at Best Foods. Sullivan Systems, the vegetable oil process engineering and contracting subsidiary of De Laval Separator Co., designed the system.

ACS hears paper on fats and cancer

The American Chemical Society's late summer meeting in Chicago included a paper by Dr. S.P. Yang in which he said unsaturated corn oil increased the potency of a cancer-causing agent in animal studies more than a saturated fat did.

"The effect of corn oil versus tallow on the activity of a well-known mutagen and cancer-causing agent, 2-acetylaminofluorene (AcAF) was tested in rats," a press release on his talk said. "The effects on a liver enzyme system, on a mutal bacterial system (Ames test), and on the formation of tumors were assessed."

"The unsaturated vegetable oil magnified the effect of AcAF compared to the saturated animal fat and was especially pronounced at the highest dietary fat level used — 20 percent, reported Dr. Yang."

Dr. Yang, professor of food and nutrition at Texas Tech University in Lubbock, TX, said his study substantiated that fat is an important component of the diet affecting cancer initiation by chemicals.

"In view of the possible implication of dietary fats on human carcinogenesis, further studies are warranted. In particular, a probable correlation between cancer incidence and some physical and chemical properties of fats, such as the degree of unsaturation, peroxide number, fatty-acid chain length and distribution, position isomerisms of triglycerides, and the nature of chemical additives should be explored."

In other papers at the meeting, Dr. Robert Stipanovic of the USDA National Cotton Pathology Research Laboratory in College Station, TX, reported finding a new class of natural pesticides — heliocides — in significant amounts in 78 of 1,200 cotton varieties examined. The compounds reduce survival and growth rate of cotton pests, while leaving the predators of such pests unaffected, the paper said, indicating a possible two-thirds reduction in pesticide applications.

He has synthesized all the heliocides and determined their molecular structure using a variety of methods.

In awards announced at the meeting, Prof. A.J.P. Martin, a Nobel prize winner in chemistry, was named 1978 winner of the American Chemical Society Award in Chromatography and the \$2,000 accompanying award, sponsored by Supelco Inc. Dr. Harry B. Gray of the California Institute of Technology, was named to receive the ACS Award in Inorganic Chemistry and the accompanying \$2,000 award sponsored by the Monsanto Company. Both awards were announced during the Chicago meeting, but will be presented next March during the ACS' annual meeting in Anaheim, CA.

Journal prices compared

\$ \$

An article on "Prices of Physics and Chemistry Journals" in the July 1977 issue of *Science* said the average price of 171 chemistry journals was \$148.81 per year, the median price was \$99.30. Subscription prices had about tripled since 1967, the article said. Prices of the journals ranged from \$7.50 to \$961.50. *JAOCs* was among the chemistry journals included in the survey. Purpose of the article was to establish that physics and chemistry journals are more expensive than those of other disciplines and to argue for governmental support to libraries that find more and more of their budgets being earmarked for periodical material.