MULTIPURPOSE COMPOUND

Caused by bacteria, bovine mastitis is an inflammation of a cow’s mammary gland that results in loss of milk production and, in extreme cases, death. According to the National Mastitis Council, it is the largest cause of financial loss for the U.S. dairy industry, amounting to about $2 billion annually. The University of Massachusetts Department of Animal Sciences, Amherst, Massachusetts is conducting a year-long test of products that might be the answer to effective treatment and prevention of the disease, specially-formulated derivatives of an unusual basic compound known as Alcide™. Manufactured by Alcide Corporation, Westport, Connecticut, the Alcide compound has killed all tested bacteria, virus and fungi shortly after contact, with minimal toxic effect on humans or animals.

The research effort at the University of Massachusetts’ farm involves test of a teat dip version of the Alcide compound as a prevention measure, and intramammary infusions of a related solution designed to treat mastitis. In the upper photo is the farm’s milking barn where cows being treated first undergo udder cleansing, then milking and finally teat-dipping in the Alcide preparation (opposite page, top). At right below, a graduate student researcher is taking a milk sample from a cow undergoing treatment. The Massachusetts tests have shown Alcide's teat dip to be effective against a wide range of mastitis-causing organisms; the product has also demonstrated that it is non-toxic and does not irritate the udder.

Alcide Corporation credits the existence of the mastitis treatment/prevention products to assistance provided the company by the New England Research Application Center (NERAC), one of NASA’s nine Industrial Application Centers, which provide information retrieval services and technical help to industry and government clients. The story of Alcide Corporation’s genesis and product line development is an example of the type of assistance centers like NERAC can provide.

The exceptional properties of the Alcide compound
were discovered by Howard Alliger of Heat Systems-Ultrasonics, Plainview, New York. It was originally
developed as a fast-acting liquid sterilizer for
disinfecting ultrasonic cleaning tanks. On a day in 1978
when he was bothered by a skin irritation on his hands,
Alliger nonetheless proceeded with a tank disinfecting
job, saturating his hands with Alcide compound. By
day's end, he discovered the skin irritation had
disappeared. Recognizing the potential of a compound
that apparently had uses far beyond tank sterilization,
Alliger performed initial experiments to test its efficacy
against bacteria, virus and fungi. Results were
sufficiently promising that Alliger teamed with fellow
inventor Elliott J. Siff to develop, market and license
the compound; they are, respectively, chairman and
president of the company.

Ready to market certain of their products, Alcide
Company requested NERAC's assistance in identifying
possible applications and the types of businesses that
might use it. NERAC conducted a computer search of
more than a dozen data bases and uncovered scores of
applications, among them treatment of viral, fungal and
bacterial infections in animals; treatment of a variety of
human skin diseases; disinfection and sterilization in
medical facilities; as a sterilant for food production
machinery and food preservation; as a preservative for
cutting oils and paints; and as a deodorant/disinfectant
for carpets, chemical toilets, public conveyances and
meeting places.

Alcide Company developed experimental compounds
for some of these applications and three disinfection
products have already reached the commercial market.
One, called ABQ™ is used to maintain germ-free
conditions in animal breeding quarters. Another—

Incyte™—is a mild non-toxic product used in the plant
tissue culture field for disinfection of plant parts prior
to culturing. The latest product, called LD™, is a
disinfectant for research laboratories that kills all tested
microorganisms on any laboratory surface.

The company is now engaged in research and
development of potential treatments—all based on the
Alcide compound—for herpes, acne and other human
viral/fungal skin afflictions. Animal tests of the herpes
treatment were sufficiently promising to open the way
for human clinical trials, now being initiated in Europe.
Acne clinics have begun in the U.S. at Yale Medical
School. In other research and development activities,
the company is exploring products containing the
Alcide compound for use in extending the shelf life of
fresh fish and poultry.

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