

much concern has been expressed over the confusion on product identity, primarily because of nutritional implications.

Since milk is consumed on a regular basis and constitutes a major part of the diet for infants, children, adults and persons with special disabilities, and since milk and its products provide 77% of the calcium, 45% of the riboflavin, 24% of the protein, 12% of the Vitamin A, 10% of the thiamin and significant quantities of B₆, B₁₂ pantothenic acid, folic acid and essential trace minerals in the Nation's diet, it is believed that a product labeled "Imitation Milk" should meet the same nutritional excellence as milk, since the word "milk" used with the word "imitation" would imply nutritional equivalence in the consumer's mind. If they are not nutritionally equivalent, however, the general acceptance of simulated milk could have a deleterious effect on the Nation's diet.

On May 18, 1968, The Commissioner of the Food & Drug Administration (3) published proposed standards for imitation milk and other fluid imitation products listing minimum levels for fat content, protein content (and protein quality equivalent to Casein), calcium, phosphorus, vitamin A, and riboflavin, and made addition of vitamin D optional at the 100 USP units/8 oz level. It also provides that if the product is below standard with respect to any of these, it should be so stated on the label, "low in protein," etc.

Reactions to this proposal have been varied. A large segment of the industry opposes the adoption of standards for imitation milks and creams on the basis that until evidence of nutritional equivalence of these simulated products can be demonstrated, the best interests of the public would be served by dissociating the name of these products from milk and its products. Many feel that there may be a place in the market for these products but that they should be identified by name, color, flavor, package design in such a way that they cannot be mistaken for milk. The name "Imitation Milk" should be reserved for those products with demonstrated nutritional equivalence.

In addition to the proposed Standards, if one is to call the product "Imitation Milk," suggestions have been made that the type of fat be specified, for fat modified diets, a fat containing 25% linoleic acid be considered, methods

should be specified for determining the biological value of the protein, amounts of B₆, B₁₂, niacin, folic acid, pantothenic acid, Vitamins E and C comparable to levels in milk be included and that amounts of sodium and potassium be limited to the amounts present in milk. Also included in the suggestions has been the proposal to include optional addition of trace metals such as copper, iron magnesium, manganese and zinc.

The California Legislature has a bill pending (No. 1459) which would make the addition of at least 8.5% milk solids not fat mandatory for products labeled imitation milk (4).

It would appear that the technology is fast approaching the point where a good flavored vegetable-based simulated milk product can be produced, and produced economically; under these conditions there should be a future for such a product. Nutritional implications and present activities would seem to indicate that the labeling may be something other than imitation milk, something dissociated from milk until nutritional equivalence can be proven. Specially formulated complete vegetable based beverage products with good flavor, free of toxic materials, produced under sanitary health regulations with good nutritional value even labeled by some other name should meet considerable acceptance. Among certain religious groups where meat and milk cannot be consumed in the same meal and for vegetarians such products are sought. In view of the publicity given to the possible lactase deficiency in Orientals and Negroes, a product with little or no lactose may have a place in the market.

Looking into the future and considering all we hear about population trends and the world's food supply, it would seem that development of these vegetable based food beverages should be actively encouraged. However, much nutritional research needs to be done on formulated foods which purport to simulate the natural food products and the results of these studies should serve as a guide to promote and label these products. Products of this nature should be sold on the basis of their own merits.

REFERENCES

1. Milk Industry Foundation, "The Impact of Filled and Non-Dairy Products," 1968.
2. USDA—Economic Research Service, "Dairy Situation," 1968.
3. Federal Register, May 18, 1968.
4. Cheese Reporter 92(1), August 23 (1968).

• *New Products*

A converter that makes it possible to use a pH meter as a volt-ohmmeter is now available from ORION RESEARCH INC., Cambridge, Mass. 02139. The new Digital Volt-Ohmmeter Converter Model 615 makes it possible to adapt any pH meter having a full-scale range of one volt or less for voltage or resistance measurement. The Model 615 similarly converts the Orion Digital pH/mv Meter Model 801 for dual service, thereby introducing to the chemical laboratory at an exceedingly modest cost capability for high-precision, digital display readout of electrical as well as specific ion and pH values. Setting of a single control on the Model 615 determines the reading mode of the pH meter.

The ATKINS TECHNICAL INC. dewpoint probe is the world's most miniaturized and inexpensive version of an established technique: thermal nulling using hygroscopic salts. As the salt is only the heating element for the 0.06" × 0.045" thermistor sensor, minor contamination and salt thickness variations affect dewpoint response time but not final readings significantly. The Atkins 32H65 indicator displays air dewpoint directly on the meter, and with a turn of the knob reads air temperature on the same meter. Among other major application areas for the new Atkins equipment are food storage, agriculture, air pollution, constant-temperature rooms for computers, research and testing. For further information write to Atkins Technical Inc., University of Florida Station, Gainesville, Fla. 32603.

A new low-priced, but very powerful magnetic stirrer is now available for general laboratory use. Called Dylastir, the product is marketed by WILL SCIENTIFIC, and is a companion appliance to the firm's economical Dylatherm hot plate. Dylastir's powerful induction motor is capable of turbulent mixing in even the most viscous liquids—stirs 800 ml of 99% glycerine without difficulty. Convection cooling gives a low 2 F temperature rise in prolonged use, ideal for mixing temperature sensitive preparations.

The MICRO-TOL ENGINEERING CORP. has introduced the Micro-Tol Model RM-6 resolution multiplier, a convolution-deconvolution device which can analyze continuous curves and spectra. In the automatic deconvolution mode, the unit functions as a resolution enhancement device by resolving a curve into its component parts. In this mode it can be used as a quantitative instrument for major constituents as an adjunct to a basic piece of analytical equipment. It can multiply the resolution of mass spectrometers, gas chromatographs, and other types of continuous spectra producing devices. It is a specialized analog computer designed specifically for the analyst who desires increased resolution performance above that which his basic analytical instrument can provide. The resolution multiplier is automatic and simple to operate and the results produced are independent of operator interpretation. For more information contact: Micro-Tol Engineering Corporation, P.O. Box 154, State College, Pa. 16801.