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NEWARK, Del. — From the University of Delaware and the Cooperative Extension Service, dairy producers are being told constantly, "You better change or you won't be in business."

Change is natural, just as winter follows autumn and autumn follows summer. Or, as the good book says, there is a time to sow and a time to harvest.

Right now, it's the time for cold feet and frosty ears. So why should we look forward to change, or to cold feet and frozen ears?

Maybe it's a reminder that we'd better prepare—find our furlined boots, search out our ear muffs, and, if we wait long enough, spring will come again.

The analogy to boots and muffs in the dairy business is preparing for stored feeding with enough silage and hay to last until spring. And with rough marketing times ahead, we'd better have new strategies for producing what the new politics and the new consumer demands.

As for the hay and silage, it's already the stored feed season; the only adjustment can be to get rid of some unprofitable cows, heifers and calves.

And on the marketing strategy side, we haven't even started to think about alternatives.

Some of our colleagues in Europe, however, are already in high gear with new market strategies. Maybe it's because they are under greater pressure from GATT and the new politics of the European Union than we in the

United States are.

One market strategy for dairying is "Tourism and Farming—They Need Each Other."

The latest annual calendar book of the Austrian Tyrol Farmers Association is full of articles describing progress on how to preserve farmland and farming in the Alps.

It seems that alpine hotels, especially those with winter sports and ski lifts, have a strong interest in keeping farmers farming. In particular, they like to see cows, heifers, sheep and goats grazing the slopes and meadows. It's an attractive sight to hiking tourists and provides the openness from bush and tree encroachment that skiers enjoy.

Hotels have a strong voice in the Austrian legislature, a fact that has resulted in many good acts to support and encourage farmers to stay in farming.

The acts are not, for the most part, farmland zoning and farming rights laws as they are here in the United States. They are more often laws to reduce taxes on property and inheritance as well as laws to provide every farmer with affordable health insurance, life insurance and pensions.

There are also laws to promote direct marketing of farm products, bed-and-breakfast lodging on the farm, royalty incomes from ski lifts and extension workers to help with direct marketing.

Making butter, cheese, yogurt, bread, sausage, meats, vegetables, fruit for farm-fresh retail sales seems to have greater demand than supply, which provides welcome cash income to farmers.

Why don't we apply some of these advances to our area? Lancaster County, seems to have mastered many of these ideas, most evident in the tourism related to Amish farming, but we are far from having bed-and-breakfasts or vacations on farms as a side income to strengthen farm preservation.

And what about Delaware? Any strategy to bring tourism and farming together to help each other seems to be lacking totally. Rather, fighting what is inevitable in our future seems more typical.

A farm in Wisconsin on a major highway outside of Madison offers an "Old McDonald Had A Farm" petting farmyard for tourists. This enterprise provides a tidy side income for the farm.

Outside of Heidelberg, Germany, my cousin built a walk-in animal garden populated with deer and wild boars in a forest. Tourists love to stop to feed the pigs and piglets. This also has generated a good little side income.

One of the most popular things that our College of Agriculture has ever done is the annual open house for school children at the college farm for one month. Annually, more than 7,000 youngsters have visited, heard stories about and petted our cows, calves, sheep, goats, pigs, horses and donkeys. Our traveling farm animal program to schools in the area is equally successful.

Tourists are mostly non-farm people anymore and they enjoy seeing attractive farms, staying there over night and eating farm-fresh foods. One reason is that it's a bit nostalgic, but in Europe it is also much cheaper than a formal hotel and restaurant. This is an exciting dormant opportunity for

our farm families and a most powerful way to preserve farmland here as the activity has in Europe.

Another marketing strategy for dairying is to tailor-make more dairy products to the interests of today's consumers. In a subtle way, we have done this during the last 40 years.

I remember in the 1950s Delaware's New Castle County was Guernsey country with a few Jerseys, Ayrshires and Milking Shorthorn mixed in.

Guernseys produced "golden" rich milk, but consumers began to want leaner, low fat milk, which the Holsteins produced to the everlasting joking and teasing, especially by the Jersey breeders.

But soon Holsteins became the predominant dairy breed, and the Guernseys, Ayrshire and Jerseys disappeared from the county and from many other areas in the United States.

Another marketing strategy that has met with success is the emphasis on protein, or solids content, in milk and rewarding farmers for it instead of for fat contents. Yet this is just the beginning in tailoring dairy products for the needs of consumers.

This marketing is just as essential for the future preservation of dairy farming as is grazing to preserve the beauty of the green space around urban and suburban developments.

The Institute of Dairy Research at the University of Kiel in Germany has done some interesting work over the years to find new ways of tailoring dairy products. Three recent research project publications have dealt with the factors that influence variation in

contents of cholesterol, fat types and protein types in milk.

These are topics of considerable interest to today's consumer and, therefore, highly significant to the future of dairying.

Cow's milk has between 10 to 15 milligram cholesterol per 100 milliliter milk, goat's milk slightly less at around 12 milligram and human milk more between 15 to 25 milligram. About 85 percent of all cholesterol is in the fat portion of milk. From 5,500 samples, it was determined that different cows had different milk cholesterol contents, which indicates inheritance and the possibility of changes through selection.

Stage of lactation, age of cow, season and feeding method also influenced milk cholesterol contents. Feeding for softer milk fat and butter resulted in lower milk cholesterol contents.

The type of fat in milk usually receives attention only when it comes to soft or hard butter, and this trait goes unnoticed by today's consumer in his/her stiff-cold refrigerated butter.

These differences can be influenced greatly by feeding. Pasture makes softer butter, meaning more oil and shorter chain fatty acids, which is of great interest to today's diet-conscious consumer; hay and corn silage make harder butter, but fat addition from plant oilmeals can produce soft butter.

Research on influencing protein types in milk by genetic selection has been my long-standing research interest and has been confirmed by recent exciting Canadian research.

QUALITY USED EQUIPMENT IN STOCK

USED COMBINES

- MF 550 Combine, 4R Wide Cornhead, 13' Platform (U9184)
- JD 7720 Combine 1980 Yr., 2276 Hrs., w/ 218 PF, 643 CH, Just Traded (U8995)
- IH 1480 Combine, 1980 Yr., 4 WD, 4049 Hrs. (U9130)
- IH 1460 Combine, 1979 Yr., Just Traded (U9036)
- ACM Combine, 1975, strawchopper, 15' platform, 4 row corn head (U8425)
- CIH 1620 Combine, 1986 1301 hrs., 23.1x26 tires, AHHC, feeder reverser (U8953)
- CIH 1660 Combine, 1988, 2440 hrs., spec. rotor, deluxe seat (U8741)
- CIH 1680 Combine, 1989, 1229 hrs., spec. rotor, 30.5x32 tires (U7550)
- CIH 1680 Cobine 1987, 2357 hrs., G.L. Monitor, AHHC (U8533)
- IH 1440 Combine mechanics special, as is (U9141)
- IH 1460 Combine, 1981, 4200 hrs., G.L. Monitor, feeder rev. (U9199)
- IH 1480 Combine 1983, 3265 hrs., (U8113)
- IH 303 Combine w/2 Row Cornhead, 10' platform (U8334)
- IH 715 Combine, Gear, 23.1x26 front tires (U9182)
- IH 915 Combine, Hydro, 1976 (U7477)
- JD 6620 Combine 1981, 3187 hr., hydro, sidehill, 28Lx26 tires (U7343)
- JD 7720 Combine, 1985, 3660, hrs., 4 WD, rock trap, G.L. monitor (U9148)
- JD 9500 Combine, 1991, w/918 p.f., 643 c.h., 960 eng. hrs., 705 sep. hrs. (U8972)
- MF 510 Combine, w/13' platform, 4 row cornhead (U9126)
- NH TR70 Combine, 2900 hrs., 1978, 2/6 row c.h., 15' p.f. (U9078)

USED CHISEL PLOWS

- Ford Chisel Plow 22' (T8010)
- IH 14 Subsoiler, 9 shank, Dual Gauge Wheels (T8267)
- IH 55 Chisel, 10 Tooth, 10" Spacing, C Shank, Spring Trip (T7329)
- Glenco 9 Shank SoilSaver Chisel Plow (T9281)
- Krause 9 shank Landking Chisel Plow (T9168)

USED PLOWS

- IH 710 Plow 6-18", Auto Reset, Semi-Mounted (T6813)
- IH 720 5-18' w/Dtl. Hitch (T8769)
- IH 710 Auto, R.S. Plow, 6x18", OTL Hitch (T8549)
- JD 2800 plow (T9080)

USED DISCS

- Krause 4926 Disc, Rockflex, w/Scrapers, 9" Spacing (T7653)
- Krause 2413, 23' Cut, Ne. Blades (T8292)
- Krause 1924 Rockflex Disc, 20" Spacing, Blades Front, 20" Rear 18.5" (T8766)
- JD 235 Disc, 20' Cut, Single Fold, New Blades (T8709)
- Krause 1577 Rockflex Disc 9 1/8" Spacing, Blades - 18" Front & 18.75" Rear (T8458)

- Krause 1966 Disc, 31' Cut, "Rockflex", New 22 1/4" Notched Blades (T7234)
- Krause 4912 Disc, 18'7" Cut, Rigid Bearing Arm, 21" Blades (T9138)
- IH 780 disk (T8777)
- IH 510 disk, 16'k, 22" blades, 10" spacing (T7542)
- Krause 1587 disc, (T8843)
- Krause 2442 disc, (T9079)
- Krause 1927 disc, 25' rock flex, rear rake (T7966)
- Krause 1927 disc, new blades, (T8222)
- Krause 2416 disc, (T8588) consignment
- Krause 4924 Disc (T7661)
- Amco 12.5' Rock Flex Discs, Scraper, Blades Front: 17" Rear: 19" (T9348)

USED TRACTORS

- IH 186, Hydro Tractor, 1978 Yr., 4528 Hrs., 18.4 x 34 Tires, 2 Hyd. Valves (W8679)
- Case 2670 4WD Tractor (W9320)
- Case 1370 Tractor (8947)
- Case 2290, 1979, 4058 Hrs., PS, Dual PTO, 18.4x38 Rear, Cab w/AC, Radio (W8268)
- IH 186 Hydro Tractor, 1977 Yr., 6000 Hrs., (W8830)
- MF 2705 Tractor 23.1x34 Tires, 2 Hyd. Valves, 540/1000 PTO (W8870)
- IH 1566 Tractor, 1976 Yr., 1000 PTO, 3 Pt. Hitch, 20.8x38 Rops, (W9045)
- Hesston 60-66 2WD, WFE, 540 PTO, 3 Cyl., 16.9x30 Rear Tires, Canopy (W8350)
- IH 1566, 6000 Hrs., Diesel, 2 WD, Cab (W8757)
- IH F806, 7718 Hrs., Diesel, Top Link (W8751)
- JD 2355 MFD Tractor, 1987, 2295 Hrs., Diesel (W9325)
- JD 4650, 1987, 7100 Hrs., 4 WD, Tires: 20.8x38 w/Duals (W8517)
- CIH 885 tractor 4 WD, cab, w/heat, 18.4x30 tires 2034 hrs. (W9177)
- IH 1086, 1976 yr., 4514 hrs., 20.8x38 tires dual wheels, 2 remotes (W9190)
- IH 5488 tractor, 2 WD 1982, 5355 hrs., 20.8x30 duals, engt. rebuilt 5000 hrs. (W9229)
- IH 1206 tractor, steel wheels (rear), 9700 hrs. 3 pt. hitch, 125 hp. (W9020)
- Farmall M tractor, Narrow front end. (W8398)

USED PLANTERS & DRILLS

- Tye Drill 13' NT (V8441)
- JD 7240 Vacuum Planter, 11 Row, Frame MTD Coulters (V9303)
- Great Plains 10' EWNT Drill, Wt. Bracket, 2x13 Press Wheels (V9301)
- IH 5100 Drill, 24x6, 3 yrs. old (V9290)
- JD 7000 Planter w/ Dry Fert. Insecticide, N.T. Coulters (V8639)

- Great Plains 14' No-Till Drill w/ CP Hitch (V8362)
- JD 750 Drill, 15', No-Till, 7 1/2" Spacing, Plateless (V7640)
- Great Plains 14' Drill, No-Till, 7" Spacing w/Wt. Brackets, No-Till Hitch (V7978)
- JD 750 NT Drill 15' Width, Extra WT, Bracket, 2 Yr. Old (V9085)
- Haybuster 10' No-til drill (V9217)
- CIH 5400 drill, new DD openers, 3 pt. hitch (V8852)
- IH 5100 drill hitch, PA (V7859)
- Great plains, 26x7 3 pt. drill, 4" press wheels (V8486)
- Great Plains 30' drill, (V8224)
- IH 510 drill, (V7959)
- JD 515 Folding drill, 30', 14' transport (V8748)
- JD 750 drill, (V9084)
- JD 530 drill, 14' transport, 2x13 press wheels (V7892)
- JD 7000 planter, 6 row dry fert., insecticide (V8954)

USED FIELD CULTIVATORS

- Heiniker 23' Field Cultivator, Hyd. Fold, 12' Transport, 6" Spacing, Cushioned C-Shanks (T7311)
- AC 18' field cultivator, w/rakes, (T8979)
- JD 12' field cultivator, 2 row tine harrow, (T7825)
- Krause 4133 field cult., K-tines (T6863)
- Krause 4612 F3, 12 row folding cultivator (T8297)
- White Field cultivator, (T8614)
- Krause 3118 Landsmen, 18' cut, 5 bar spike (T8477)
- IH 45 Vibra Harrow, 12', Hyd Cyl. (T8706)

USED MISC. UTILITY

- IH 315 cultimulcher, 14 ft., new paint (T7841)
- DMI Crumbler, 18 ft. (T8375)

USED HAY & STORAGE

- JD 1508 Batwing, 15' Cut Mower (V8509)
- JD 1470 Mower Conditioner, Rubber Conditioning Rolls (U9369)
- NH 499 Haybine, 12 Ft. Cut Hydro Swing, 3" Knife with Guards (U7899)
- Hesston 4600 baler U 8893
- Hesston 4900 Big Baler (V9214)

USED MISCELLANEOUS

- Schulte Rock Picker, Hyd. Drive, Pivoting Hitch, 3.2 Cu. Yd. Hopper (V9088)
- IH 2255 loader, w/bucket, manure fork (W9178)
- Woods 120 mower 10' offswet, (U6970)

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