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TRANSFER OF TECHNOLOGY AND PARTICIPATORY DECISION MAKING

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Today's farmers often enter an area of decision making where previous technology, experience, and knowledge no longer apply. Extension agencies must be able to help farmers in such situations move quickly through an awareness, interest, evaluation, trial, and action process to adopt new practices. Most get stuck in the first two stages — the information-transfer phases of awareness and interest.

Agriculture has become technology-propelled. At first glance, this statement could be seen as strongly validating the traditional linear extension model of passing knowledge from the researcher through an exchange agent to the adopter (farmer). It has

become apparent over the past decade, though, that this approach fails to reflect what actually happens.

The transfer of technology (TOT) model (missionary approach) casts the researcher in the role of source of new technology and the farmer in the role of passive recipient. There is clear evidence that this has never been the case. Scientists and those commenting on the outcomes of science have overlooked the fact that the majority of innovations in production agriculture have originated with the farmers themselves. Not only did they produce the innovations, but they also managed to extend them. The consistent key to their success was that they did not separate implementation of new technologies from their creation.

Globally, the future sustainability of production agriculture depends on applying a more flexible technology-transfer system. The suggested shift should be to a more diffuse model, one that encompasses a variety of production, allied industry, sociocultural,



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and environmental perspectives. Acronyms or phrases — such as "Farming Systems Research/Extension" (FSR/E), "integrated," "farmer-first," or "co-learner" approaches — are commonly used to describe this transfer process.

Different from the traditional approach of technology transfer, the FSR/E concept makes the major shift of actively involving and eliciting farmer and community participation. Likewise, another shift is made, whereby the scientist becomes a better listener and subsequently responds more directly to both basic and applied research needs as defined by the adopters within the agricultural community. The model extension agent's primary responsibilities would then shift from educator to team member and informational resource/facilitator.

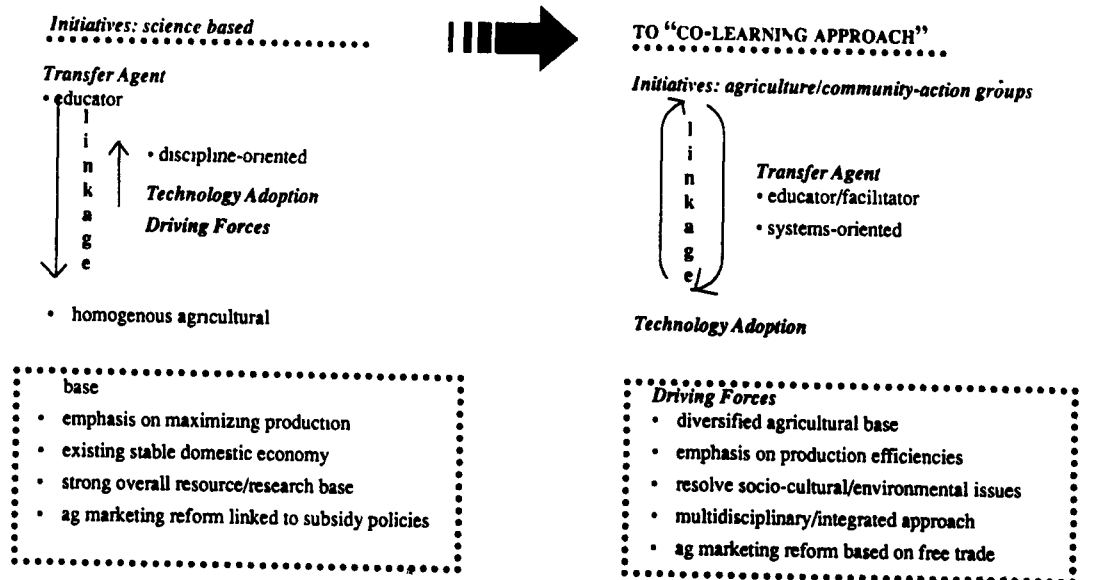
In other words, the FSR/E model builds on participatory teamwork and farmer/community-managed research and development principles. This participation process allows team members to take a more comprehensive approach to contemporary issues as well as strategic needs. Paramount to the overall exchange process, this co-learner approach is

complementary in defining and supporting innovations for the greater well-being of all, and places the forces of society at the heart of the decision-making process. Some argue that extension education needs to move away from its heavy science/technology-transfer orientation to role models in the management of human endeavor.

"The success of technology transfer depends not only on the technology but also on the degree to which both developers and users want to make the transfer succeed. The will to make it succeed is more likely to be present if both sides of the transfer start with the premise that they are co-creating change that will benefit both sides" (Leonard-Barton, 1988).

What can be learned from this thesis is that successful implementation is not the predictable realization of a preprogrammed plan. It is a dynamic process of mutual adaptation between the technology and its environment.

Technology transfer: a paradigm shift FROM "MISSIONARY APPROACH" TO "CO-LEARNING APPROACH"



Lancaster Chamber Sets Ag Financial School

The Lancaster Chamber Ag Committee is sponsoring their second annual Farm Business Financial Management School on January 26, 1995, at the Chambers' facility at 100 S. Queen St. in Lancaster.

This year's facilitators are Dr. Donald Jonovic, founder of Cleveland's Family Business Management Services and author of six books about family business and business management. Also featured at the seminar will be Dr. David Kohl, professor of ag economics at Virginia Polytechnic Institute, who will be speaking about managing family finances.

There are several openings still available. For more information or registration brochure, call Roger Rohrer, subcommittee chairman at (717) 291-3707.

Delaware Valley College Names President

HAROLD SHELLY

Northampton Co. Correspondent
 Dr. William L. George has been named president of Delaware Valley College. He will officially assume the post on Feb. 1.

A 1960 DelVal graduate in Horticulture, George has for 10 years been associate dean and director of academic programs in the College of Agriculture at the University of Illinois, Urbana-Champaign. He did his postgraduate work at Rutgers, earning a master's degree in 1962 and a doctorate in 1966.

George is returning to his alma mater as its tenth president as the college prepares for its centennial year in 1996. At Illinois he initiated the Academy Endowment Fund to support faculty in impro-

ving curriculum and teaching and was successful in bringing federal and private grants to the university for curriculum revitalization, faculty development, and student fellowships.

Prior to moving to Illinois, George was a professor in the College of Agriculture at Ohio State University and a geneticist at the Connecticut Ag Experiment Station. He has served on national panels for the USDA and been engaged in educational programs in Japan, China, and Africa.

George was born in New Jersey. He and his wife Marilyn were married after his graduation from DelVal in 1960. They have two children, Jeffrey and Deborah, and will live on the DelVal campus.

Lancaster Farm/Home Dinner

The Lancaster Farm and Home Center Foundation annual dinner meeting is scheduled for Jan. 17, at 6:30 p.m. at the Center. A full-course roast turkey dinner is planned.

Cost for the dinner is \$15.50 and includes a membership in the organization. The featured speaker is Doris Thomas, retired Lancaster extension home economist. Thomas' topic is "Life After Retirement." The Neffsville Handbell Choir will also perform.

Everyone is invited to attend. For reservations call the Farm and Home Center office at (717) 392-4911.

Dairy Expo Called Successful

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joined on the program by independent dairy nutrition and management consultant Dr. Brian Perkins of Dairy Tech Management Services, Inc., of New Haven, Vt. All three rounded out both the morning and afternoon sessions.

A total of five important subjects to dairymen were discussed. At the morning session Heinrichs spoke of "Keeping Yearling Heifers Healthy and Growing," Perkins on "Using Commodities in Feeding Programs," and Graves lectured on "Cow Comfort in Stall Barns."

Following a luncheon break and tour of the exhibitions, the dairy farmers returned to hear talks about "Managing for High and Continued Profits" by Perkins, "Managing Dry Cows for High Production," by Heinrichs, and a final question and answer period.

The "hot topic" in today's dairy medicine is heel warts. Better known as digital dermatitis, there is a lot of misinformation and a general lack of understanding circulating about this problem.

Northampton County extension agent Greg Solt has summarized a presentation made at the 1994 International Symposium on Disorders of the Ruminant Digit held last June in Alberta, Canada.

The disease is known variously as footwarts, strawberry warts, hairy warts, and Mortellaro's Disease. It was first described by Dr. Carlo Mortellaro in Italy in 1974. He discussed the disease at the 1994 symposium from the Italian perspective.

Twenty years after its first description (1974-1994), there is

still no exact known cause for the condition. Spirochete bacteria associated with the lesions have been found in Italy, the United Kingdom, the Netherlands, and the United States.

The disease progresses as hardening and swelling of the skin bordering the area between the claws. This is followed by erosion and ulceration of the foot skin and hoofwall border. The final stage is the appearance of granulating or the "strawberry."

All cows do not go lame with digital dermatitis. Many will lift the affected foot repeatedly because of discomfort or will stand abnormally. Severe lameness usually results when the lesion extends into the horny structures.

Traditional treatment of heel warts has involved cutting out the lesion in conjunction with hoof trimming. Beginning in the early 1980s, the most successful treatment has been topical application of oxytetracycline mixed with gentian violet.

It has been determined of late that gentian violet has not influenced the final outcome of the treatment. For the treatment to work, the affected area must be cleaned and the drug sprayed on for several seconds. It is a known fact that a second application increases the chance of recovery. Persistent or large lesions may require removal.

Even though this treatment appears to work well, management of outbreaks of heel warts is still frustrating. Studies in two widely separated states — Florida and California — reported different

conclusions.

The usefulness of footbaths is still controversial, probably because of improper usage. Individual treatment appears to be the preferred way to go.

In the California study, researchers described the different appearances of heel warts. They found that the differences were probably due to the length of time the lesions, or the "infection," had been present.

Heel warts are prevalent in 90 percent of southern California's herds with spring and summer months being the worst time of year. They are most common in first-calf heifers and young cows a few months after they enter the milking herd.

In Florida a spray solution of oxytetracycline and glycerine and water showed visible improvement in lesions on the rear feet of 89 cows. The lesions appeared to regress after five days. Investigators also tested urine and milk for anti-biotics and could find none.

A Slovenian study described one-half to one inch heel warts as "raspberry red." It noted that they (the warts) caused lameness in affected cows, were apparently not painful, and did not respond to topical tetracyclines.

Investigators also identified spirochetes associated with the lesions, failed to find viruses, and couldn't reproduce the disease with the spirochetes they found.

In Israel, an investigator claimed that three outbreaks of digital dermatitis were associated with excessive dietary protein intake by the cattle herds.