

Beef Session III

Cow-Calf

Integrated Reproductive Management (IRM)

Dr. William Lovell, *Presiding*

IRM: Then and Now

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“THEN”

IRM originally stood for Integrated Reproduction Management (IRM) and identifies a national trust in budget development, program planning and implementation, program evaluation, experimentation in public and industry partnerships, and program accountability. More pragmatically, IRM has developed as a concerted effort to get agencies, programs and people working toward common goals of problem solving. The first problem attacked was that of reproductive efficiency in food producing animals but early recognition was given to the fact that the concept, and not necessarily the problem was the heart of the IRM effort. Therefore, there has been general endorsement of the change from “Reproductive” to “Resource” Management. IRM has also evolved as a model concept for a broader systems approach to problem solving in Agriculture.

When a concept “catches on” and is broadened to almost mean all things to all people, there is a real danger that it can mean nothing to anyone. Therefore, I will review the history of IRM and briefly scan some of the projects that are in existence. Hopefully, this will stimulate thinking as to where and how the IRM concept can be further applied.

First of all, I think that it is important to tell you about a parent of IRM. The National Extension Industry Beef Resource Committee that sired IRM was a committee developed in the early 1970’s to increase communication between all segments of the industry and Federal and State Extension. This committee had representation from breed associations, the National organizations of cattlemen and livestock feeders who merged to form the National Cattlemen’s Association, State and Federal research and disciplines of veterinary medicine, economics, agronomy, animal science, Beef Improvement Federation and The National Association of Animal Breeders.

One of the first jobs of the resource committee was to prioritize needs of the beef industry. Reproduction ranked high enough to warrant a more in depth look by a

subcommittee. The subcommittee recommended and developed a National Invitational Workshop on Reproduction in Beef, that was held in Oklahoma City in October of 1978. The workshop and proceedings also demonstrated that much can be done to improve reproductive efficiency in beef cattle through an interdisciplinary approach. The Committee recognized that Integrated Pest Management (IPM) had evolved from conditions and needs that appeared to parallel the situation relative to productive efficiency in beef cattle.

The Integrated Pest Management Program provided evidence that an integrated, multidisciplinary approach to problem solving is feasible. Some of the early justification for IPM seems to parallel the needs in livestock reproduction. Klassen (1975) reviewed the development of pest management programs. With reference to the slow rate of application of new knowledge in the area of pest management he quotes Prof. E.H. Smith who identified: “a need for a more effective continuum of effort from basic research to actual practices. The links between the various levels of research going from basic to applied are weak. We can hardly afford research on plant resistance, for instance, that has its goal the establishment of differential susceptibilities without regard to the testing of these findings in practice. This, in turn, requires joint efforts by seedsmen, producers, marketers, and consumers. The components that form the full spectrum of this effort are frequently not assembled and directed to the goal. The results are progress reports, satisfying to the individual but without impact on practices. It is an easy way out of work in compartments of basic and applied research and extension without insuring that bridges are built between them. A team effort that identifies the total spectrum of effort from laboratory to field can overcome this ‘falling between categories.’ Just as interdisciplinary research is required so is there a need for close integration of the various steps from discovery to utility.”

The "National Agricultural Research Extension, and Teaching Policy Act of 1977" designated the Department of Agriculture "as the lead agency of the Federal Government for agricultural research, extension, and teaching." Among the charges given the Secretary are the following:

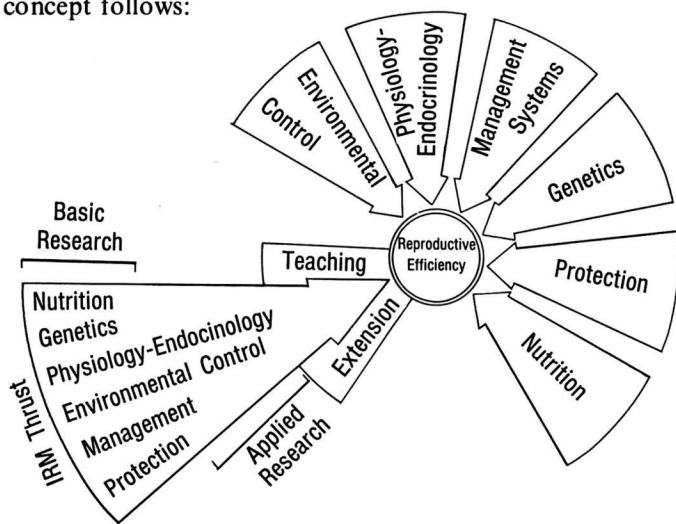
"take the initiative in establishing coordination of State/Federal cooperative agricultural research, extension, and teaching programs" and "establish Federal or cooperative multidisciplinary research teams on major research problems."

The Experiment Station Committee on Organization and Policy (ESCOP) and the Extension Committee on Organization and Policy (ECOP) designated reproduction efficiency as an area of special emphasis. An intense planning effort relative to IRM was initiated on February 12 and 13, 1981 with a combined meeting of administrators, researchers, and extension specialists. This Ad Hoc group developed the basic rationale for the USDA budget document for fiscal year 83 that was presented by the Department of Agriculture to the Office of Management and Budget in the fall of 1981. Other pressing needs took precedence over IRM in Extension and State Research, but some money was allocated to Federal Research in that budget.

Subsequently, IRM has been proposed in various ways, but the message that has come back has been "get involved with IRM, but don't expect much additional funds." More recently, however, Extension Directors have taken an unusual stand on favoring a program that would allow State Extension programs to compete for additional funds to conduct IRM-type projects.

Since the concept has evolved to be the key feature, let us take a closer look at it:

Integrated Reproduction Management (IRM) as a conceptual framework coordinates the integration of multi-subject matter disciplines and State/Federal research, teaching, extension, and industry efforts in order to significantly improve reproductive efficiency in food producing animals. A graphic illustration of the IRM concept follows:



The IRM thrust did not attempt to replace disciplinary approaches to improving reproductive efficiency. On the contrary, IRM intended to build upon and integrate disciplinary approaches. In addition, IRM helps focus disciplinary approaches.

Further refining of the concept has been obtained from producer input through their official organizations. Key components of the industry perception of IRM seem to be:

- IRM is a problem-solving concept which they have supported
- a high degree of visibility and accountability must accompany IRM programs and projects
- IRM must not be an "umbrella" for obtaining funds or an "eye wash" to allow people to continue doing what they are already doing.
- competition for funds rather than cooperation has been too often the pattern of the past, and
- Efficient use of funds is demanded and that is believed to be best achieved through an integrated approach.

Putting IRM into practice requires a little more defining. Three major elements identified for IPM which seem appropriate for IRM are: 1.) Research, 2.) Pilot-Application, and 3.) Impact-Application.

The *Research element* represents the base of knowledge relative to reproduction. Research results must be molded into practice recommendations. Recommendations are refined by additional research, and basic research continuously contributes to broadening the base. New researchable areas are identified in two ways. First, as research, extension and industry people work together to put together base recommendations, research voids will be identified. Then, as pilot and impact-application projects develop, new problems will likely arise. So, concurrently with the application of recommendations, research will refine the knowledge used to make them.

The *Pilot Demonstration element* utilizes a technique that has been the life blood of effective Extension work, on-farm demonstrations. In fact, the Cooperative Extension Service grew out of a demonstration on a cotton farm near Terrell, Texas, that was conducted by Seman A. Knapp, the father of Extension. Many examples of pilot demonstrations exist. Currently, active demonstrations such as the Ohio Fertibull program, Kentucky's Comprehensive Beef Cow Demonstration, Rapid Adjustment Farms cosponsored by T.V.A. in the midsouth and Cow Per Acre Demonstrations from East Texas to Mississippi have successfully demonstrated what can be done if research findings are put into practice. In an Intensified Beef-Forage Production Demonstration on a small farm in Tennessee, reproduction performance was monitored as improved pasture and animal management recommendations were implemented. Using an average of the first two year's results as a base line and the last two year's results as the effect, percent calf crop weaned went from 86% to 95% and weaning weight per cow changed from 369 to 459 pounds. Other demonstrations reveal similarly dramatic results.

The *Impact-Application Element (Impact added)* is the next progression beyond the pilot demonstration. While information is spread from a pilot demonstration in a ripple fashion to neighboring farms, the *Impact-Application* element attempts to seek ways that the ripples can be turned into small waves. The idea of the *Impact-Application* project is to demonstrate practices on a group of farms, simultaneously. Examples of this step exist in the Allegheny Highlands Project (AHP) in West Virginia and the Pegram Project in Idaho. The AHP took improved practices to both sheep and cattle producers in a nine-county area around Elkins, W. Va. The Pegram project (named after the community Pegram, Idaho) attacked the problem of heavy calf losses on three ranches in the Southeastern corner of the State. This project serves as a model in that it attacked a specific problem relating to reproductive efficiency and that it integrated subject matter relative to nutrition, management and health, as well as the forces of research and extension from the Land Grant University and the Idaho Beef Council. The final report presents the information that calf loss averaged 19% in approximately 1,300 cows during the three years prior to implementation of the project. Death loss was reduced to 2.7% during the last three years of the project. Such dramatic results cannot be attributed to any one factor but to a total beef management program. This was a demonstration of an interdisciplinary approach to solving a specific problem by a combined research-extension and industry effort.

“NOW”

First of all, I'll share with you some of the ways we've integrated in Kentucky.

Kentucky's Comprehensive Cow-Calf Management Program began with a pilot demonstration started by Dr. Duane Miksch, U.K. Extension Veterinarian, Dr. Ron Parker, Extension Beef Specialist now of New Mexico State University and Dr. Garry Lacefield, U.K. Extension Forage Specialist. This original demonstration has now served about 10 years as a show place for applied technology for State, National and International visitors.

CCCM demonstrations have been conducted in approximately 10% of Kentucky's 120 counties with an impact zone radiating out from these demonstrations covering most of the state.

Three counties now have impact application projects in comprehensive cow-calf management. The largest is in Washington County where 25 herds are a part of a massive demonstration effort. At this point, the project has served mostly to identify problems, but the problem solving process is well underway.

As an Integrated *Resources* Management effort, *Graze-More-Beef* has been developed as a demonstration of how the pasture resources can be most effectively utilized. To date, 28 demonstrations have been conducted with several projects producing more than 700 pounds of live weight gain per acre.

I only start with Kentucky because I know it first hand. A list of other states that have IRM type activities follows. Being on this list doesn't mean that they have any distinction other than that I know about them and that they serve as examples of the variety that exists in early IRM efforts.

Pennsylvania and *Vermont* have conducted total dairy herd management demonstrations.

Florida has emphasized male soundness evaluation by producing films and video tapes.

Georgia has conducted an intensive extension educational campaign.

Kansas is developing *Beef-pro* which is an attempt at networking or tying computer programs together that can help influence management decisions.

Texas has put together a Total Ranch Management approach with emphasis being placed on developing an accurate profile of the industry as well as demonstration efforts.

Idaho and *West Virginia* were mentioned earlier as having examples of *Impact-application* projects. Idaho led the way with developing the “little red books,” field record books that allow workers to gain further insight into field problems.

Colorado has developed computer models and research-verification farms.

This partial listing is sufficient to establish that IRM projects are not all the same. This has evoked some criticism. But, I contend that the **process** of integrating people and ideas is equally as important as the products of IRM efforts. It is clear; information must be integrated, people must be integrated, and both people and information must be packaged to help solve problems of producers if their support of both the public and private sector is to continue. The bovine practitioner can play a key role in this integration.

¹Dr. Absher served as an Interim program leader on the U.S. Department of Agriculture's Joint Planning and Evaluation Staff during 1980 and 1981. He also served as leader of the USDA-IRM Coordinating Group. Current position is Animal Science Project Leader for the Kentucky Cooperative Extension Service and the Department of Animal Sciences. Presentation made at the Nineteenth Annual Conference of the American Association of Bovine Practitioners, Louisville, Kentucky, November 21, 1986.