

Integrated Resource Management—A Review of the Production History of a Nebraska Herd

David N. Rethorst, D.V.M.
Hastings, Nebraska 68901

The herd that I work with on the Integrated Resource Management (IRM) program is one that I had the privilege of working with very closely for several years before the IRM concept was developed. Because of this, the data I will be citing will be a combination of data from my pre-IRM work and the IRM team work.

When I first started working this herd in 1979, it was a herd where we castrated and vaccinated the calves 3-4 weeks post-weaning and did no cow work. Then, in the fall of 1980, we were finding more open cows than usual, so I convinced the owners to pregnancy check their cows. When they were not waiting for 10 cows to calve the first of May, they started asking about what else could be done to increase the performance of their herd.

In early 1981, I was in the process of organizing a group of clients to purchase a portable chute with electronic scales under it so we could weigh calves as we were giving the pre-weaning vaccinations. The Novaks were anxious to get the herd improvement "ball" rolling and were one of the first to commit to this project.

The 1981 calves were the first that the Novaks weighed. These calves were weighed the first part of December, 4 weeks post-weaning when we were doing routine castrating and vaccinating. These calves, about 85% straight Angus and 15% Angus sired out of Simmental cows, weighed 460 lbs.

About 10 days after these calves were worked, a problem showed up that would haunt us for several years. This was a very acute "winter pinkeye" outbreak. In this particular set of calves we treated 123 head out of 141 head. The eyes responded poorly to treatment and the decrease in weight gain was dramatic. Additionally, it became evident that the Simmental cows were not going to work in the crossbreeding program in this particular herd as evidenced by a high percentage of open Simmental cows.

At this point, the decision was made to go straight Angus and phase out the Simmental cows. This created another problem in that the average age of the Angus cows was approximately 9 years, the replacement program consisted of buying 5-8 year old cows from a local purebred breeder and the Novaks had been using the same bulls for approximately 7 years. To start correcting this, the first set of yearling replacement heifers was retained and 3 yearling bulls were purchased for the 1982 breeding season.

In the fall of 1982, we moved to a pre-weaning vaccination program and the calves were weighed at this time (mid-October). We used a BRSV vaccine on half of the calves in

an effort to control the winter pinkeye, as our diagnostic effort the preceding winter had suggested that this virus might be involved. These calves weighed 372 lbs. which was quite a bit lighter than the year before, but we were 45 days earlier working calves, had fewer Simmental cross calves, and had more 10 year old plus cows.

The conception rate dropped in 1982 due to the fact that we were trying to shorten the breeding season and the ten year old plus cows couldn't handle this selection pressure.

The pinkeye problem was less severe, but the negative effect on weight gain was again noticeable.

There were no major management changes made in 1983. However, the calves from the cows weighed 406 lbs., 34 lbs. heavier than in 1982, while the heifer calves weighed 329 lbs. We again used BRSV vaccine on half of the calves as there seemed to be less bad eyes in the vaccinated calves in 1982. We did not see any difference between the treatment groups in 1983.

The conception rate in the cows was low (86%) due to weeding out more of the 10-14 year old cows. Additionally, this was the first year that this owner had calved 2 year old heifers and it showed in the low conception rate (64%) and attrition rate (out of 21 2 year olds calving, only 14 of them were still in the herd that fall) in these heifers.

It was during the winter of 1983-84, that the IRM concept was developed in Nebraska. When it was announced that the University was looking for cooperating producers, I nominated the Novaks for several reasons which included:

1. Sub-optimum winter weight gains in calves. This had been a problem affected by the pinkeye situation as well as trying to formulate a good ration using Sudex silage. Poor winter weight gain affected the cyclic activity at the start of breeding season on the yearling heifers, which in turn affected the weaning weight of their calves.
2. Winter pinkeye problem that had persisted for several years causing lower weight gains and reducing the marketability of the calves.
3. Low conception rate and low weaning weight in 2 year old heifers.

After selections had been made, the committee working with the Novaks met and formulated several recommendations:

1. UNL Extension personnel were to develop a winter ration for the calves.
2. Continue the diagnostic effort on the pinkeye problem. We decided to use BRSV vaccine one more time. This would be used on all the calves.

3. 2 year old heifers were run on set aside acres that were planted to wheat for cover. In addition, they were bunk fed the silage/alfalfa ration the cows received.
4. Cross-fencing of some pastures to allow better utilization of cool season grasses present.
5. Early fertilization of the warm season grasses.

When the fall of 1984 arrived, we found that most of these recommendations had paid off nicely.

The calves from the 2 year olds weighed 377 lbs., an increase of 48 lbs., and the 2 year old conception rate jumped from 86% to 96%.

Pinkeye continued to be a problem. We revaccinated the calves with IBR and this helped for 10-14 days. Culturing these eyes had been less than rewarding in the past, but we tried again as a last ditch effort. *Moraxella bovis* was isolated from 2 out of 10 affected eyes, while *Mycoplasma bovovulus* was isolated from all 10 of the eyes.

After much soul searching, reading and telephone time, we decided to use a mineral containing chlortetracycline in an effort to control the eye problem. This mineral was used on the 1985 calf crop. It was used as a sole mineral on the cows and calves from the first of July until weaning and continued on the calves post-weaning until they were sold. This regimen drastically reduced the incidence of "winter pinkeye" and is still being used today.

In 1985, the 2 year olds weaned calves weighing 434 lbs., a 5 lb. increase from 1984, while the cows weaned calves that were 6 lbs heavier, weighing 438 lbs. Conception rates dropped in 1985, with the 2 year olds at 78% and the cows at 92%.

Probably more important than what we have done with weaning weight is what has been done with the pounds of marketable calf and the date of sale. In 1981, the calves were sold in April (no heifers retained) and they averaged 508 lbs., while in 1986, the calves (heifers retained) weighed 577 lbs. when sold the first part of January. That's 69 lbs. more

marketable calf on 90 days less feed.

I believe this herd history depicts what can be done through a team effort such as the IRM, however there are some drawbacks to the program.

There were times during the last three years when I felt I was left out of the decision making/recommendation process. There were recommendations made that were impractical and/or would not work in our area. I believe that local input (veterinarian, county agent, etc.) is critical to the success of the program.

Another area I felt second-guessed on was the herd health management. I found myself constantly defending such things as which pour-on to use. This one that I use costs 30 cents more per cow but kills lice as well as grubs, so I had to defend the 30 cents cost factor as well as why I use a grubicide on mature cows.

Differing opinions also surfaced on the subject of deworming the cows. I will concede that this is a controversial subject in Nebraska, however the herd owners and I felt that it was doing some good, so why should we constantly have to defend it?

One other thing that needs pointing out is that the IRM is not a cure-all. In the spring of 1986, the Novaks sold down to about 60 cows. Their machinery sale was in August, and at this time, it is not known if they can keep the remaining cows. I think this points out the fact that we cannot straighten out the financial picture for an entire farm just by straightening it out for the cow herd.

In conclusion, I would like to say that I feel the IRM concept is good and is desperately needed. The extension personnel and the veterinarians need to work together to make it work. I'm sure that there will be some differences of opinion along the way such as what I've experienced, but if we communicate and try to work together, we can get it done.

Conception Rate Summary

	Exposed	Open	Conception	Exposed	Open	Conception	Exposed	Open	Conception
1980							152	10	94%
1981							139	9	94%
1982	24	3	88%				135	20	85%
1983	29	2	93%	14	5	64%	119	17	86%
1984	20	2	90%	23	2	91%	96	4	96%
1985	22	2	91%	18	4	78%	106	9	92%

Sale Weight Summary

Weaning Weight			Year calves born	Date sold	Number Sold	Average Weight sold
	Heifers	Cows				
1981		460	1980	4/7/81	156	508
1982		372	1981	3/23/82	110	510
1983	329	406	1982	3/15/83	99	510
1984	377	432	1983	3/7/86	106	501
1985	434	438	1984	1/23/85	90	479
			1985	1/11/86	99	577