

Surveys indicate that a number of American Angus Assn. members are engaged in occupations outside the beef cattle industry. Typically, it appears, these members own cattle but devote most of their time to other professions—like Dr. Arthur Ludwig Jr., Matterhorn Farms, Alabaster, Ala. A pathologist associated with a private laboratory in Birmingham, he's three years into the Angus business, runs about 100 cows, has a cow herd manager on the payroll.

The thing that may set him apart from similar Angus association members is that he keeps his cow herd records with the aid of a computer, one that sits in his home.

Dr. Ludwig didn't purchase cows and computer at the same time, however. Cows came first, then the realization that he didn't have enough time for record keeping, then the computer.

Let's start with the cows.

Although now only three years into the cattle business, Dr. Ludwig spent a full two years studying the industry before he raised his hand at an auction. He concentrated on learning the mechanics of the cattle business during that 24-month period and in so doing decided what course he would take with his own cattle. Buying good cows would be his approach; then, primarily through A.I., he would breed those good cows up to even better cows.

Emphasis on Records

Early in his industry study, he realized there were two selection philosophies at work in the purebred sector—one based strictly on numbers, the other on visual appraisal. Dr. Ludwig decided to shoot for the middle of the two but with emphasis on records to insure a measure of objectivity in selection. He concluded, in fact, that success in his venture hinged on records and record keeping.

So in October of 1977 he bought his first cows, picking what he considered to be the tops out of several sales. (The foundation of his herd came primarily from Ed Horton, Madison, and T.A. Bradley, Cave City, Ky., with several head from the Gore Farms herd at Carthage, Tenn.)

The cows took up residence on land south of Birmingham and the enterprise became known as Matterhorn Farms. (Dr.

Ludwig's wife, Alma, is a native of Switzerland.)

Everything was fine. For a while. Then Dr. Ludwig, like many cattlemen involved in another business, found time his limiting factor. Records were the basis of his program, and he didn't have time enough to do them justice.

To make matters worse, his new herd's members had come out of several different management systems. As he describes it, "Here I was with a bunch of cows having calves 12 months a year. I was floundering trying to keep things straight."

And that simply wouldn't do.

Anatomy of Record Keeping

In record keeping, as Dr. Ludwig outlines it, information is subject to four actions. First, it must be obtained; second, it must be stored. Then third, it must be retrieved so, fourth, it can be used.

For most cattlemen, attaining information is basic. But storing that information so it can be easily retrieved, then used, isn't. And information obviously has no value if it's collected, then stored, then never used.

It was storage and retrieval that were taking more time than Dr. Ludwig cared to (or, for that matter, could) spare. And that's how the Matterhorn herd met the computer. Or more specifically, the micro-processor.

Fortunately, the micro-processor was available everywhere. Unfortunately, programs making it useful in cow herd management were not. So Dr. Ludwig enlisted the services of a computer programmer, Jerry Vines, and between them they devised a system geared to the herd.

First they decided what the computer should be able to do for someone in the cattle business, and they boiled it down to three main categories—animal profiles, work requests, management reports.

A Master File

The animal profile portion was actually a master file listing every animal and all basic information on that animal—biographical data such as name, tag and tattoo number, sire and dam as well as the individual's weaning and yearling weights, health record, breeding information, calving history.

Next on their list was a monthly work report. "That," Dr. Ludwig explains, "was

based on how I told the computer I wanted to run the farm. I told it what I wanted to do and when I wanted to do it." This segment, probably of most benefit to the herd manager, was designed to include, among other things, each month's vaccination and insemination lists, weaning orders and a list of cows to be pregnancy checked.

The third category, the management report, includes such information as estimated nitrogen level in the semen tanks, semen inventory, an expected date of calving list, a barren cow report (which includes any cow that doesn't produce a calf in gestation plus 60 days from the last form of insemination) and future health actions.

In the interest of practicality, Dr. Ludwig insisted the program have a number of built-in variables. It's through those variables, for example, that provision was made to accommodate any 15 health actions on any animal in any sequence and in any frequency. And thanks to variables, the computer knows when each cow ought to be wormed and when heifers should get their brucellosis vaccinations. It knows breeding age for heifers, weaning age, number of pasture locations, number of semen tanks, how often they should be filled.

Many Handy Features

While they were at it, Dr. Ludwig and Vines included a variety of handy features.

The system can use insemination data it's been given previously to compute breeding dates either by artificial insemination or through pasture exposure. It will automatically indicate a calf's sire, also by using previous insemination information. It will automatically put a cow on the insemination list the second month after she calves.

It will automatically call for a pregnancy check the second month after insemination, and if the female is not confirmed pregnant, it will put her on the next month's insemination sheet.

It will automatically check for duplication of numbers on new calves. It will print all sorts of lists—lists of active herd members, of animals that have been sold, animals that have died. It will list animals that are for sale, commercial animals, unclassified animals.

And the first thing that will appear on the screen—without fail, because Dr. Ludwig wanted it so programmed—is the expected duration of nitrogen in the semen tanks, an efficient important reminder.

Information can be accessed in a number of different ways, another feature Dr. Ludwig wanted built into the program. For example, the operator can call to the screen a list of all first-calf heifers or all cattle in a

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MATTERHORN FARMS:

The Cow Herd Meets

particular pasture or all first-calf heifers in a particular pasture. The semen tank inventory, too, can be accessed any number of ways—by bull, by tank or even by compartment within the tank.

That's the Hard Part

Building that information and those features into the program is the hard part. But that's up to the programmer. The rest is up to the person keeping the records. And the rest is easy.

First, each individual must be entered on the system, a process that Dr. Ludwig estimates takes 10 minutes per animal (but only has to be done once).

Then in day-to-day operation, a flip of a switch and a touch of the keyboard (which is similar to that of a typewriter) brings information to the screen. Another key pressed and that information will be printed, in duplicate, quickly, on a continuous sheet of paper designed to fold into 11x15-inch pages.

No one need be apprehensive about using the computer. A set of back-up discs (costing about \$4.50 each) eliminates worry about erasures. And while in operation, the computer simply won't let the operator make a mistake; it is programmed so the operator always faces instructions and a choice of what to do next.

And the computer not only efficiently stores information and makes it easily retrievable, when properly programmed it leaves little to chance.

Calving Information

Take calving information, for example. When a cow calves, the manager turns in the pertinent information—the calf's tag number, its weight and sex, and the cow's tag number. When this information enters the computer, four things are programmed to happen: (1) The cow's pregnancy status is erased and she automatically will appear on the insemination list two months later, (2) the calf is added to the calving history on the cow's individual profile, (3) a new profile that will follow the animal through its entire life in the herd is generated on the calf and (4) the calf is entered into the work-health sequence. In addition, the computer automatically checks prior information it's been given to see if it was possible for that cow to have that calf, a refinement that helps eliminate errors in breeding or calving records. Also based on prior information, the computer will indicate the new calf's sire—whether he's the bull used A.I. or for clean-up.

Profiles, whether on individuals or on all herd members, monthly work and management sheets are there for the asking. And all these records and all this easily retrievable information costs Dr. Ludwig one hour a month. The computer works

longer than that, of course; but based on 100 cows, entering each month's new data and generating each month's work reports take the person responsible for record keeping about one hour.

The Management End

Not only do things run smoothly (and quickly) in the office, the computer has advantages when it comes to management. The first part of every month Willie Ashe, manager of the Matterhorn herd, receives a list of all animals and everything that needs to be done with them. During the month he fills out the appropriate sections on the work and management reports, then returns them to Dr. Ludwig, who enters the new information on the system. So Ashe not only has a work guide, he is relieved of virtually all record-keeping duties. He likes the system.

And because each animal is listed on the print-outs every month and because the animal profiles are so complete, Dr. Ludwig says the system gives him something someone in his position doesn't always have—familiarity with his animals and their performance.

The print-outs prove useful in merchandising as well. Matterhorn buyers get profiles on their purchases. They receive, on that 11x15-inch sheet of paper, the history of their acquisition from birth date to most recent vaccination; and there will be even more information when AHIR records become a part of the program, something Dr. Ludwig and Vines are working on now in cooperation with the American Angus Assn.

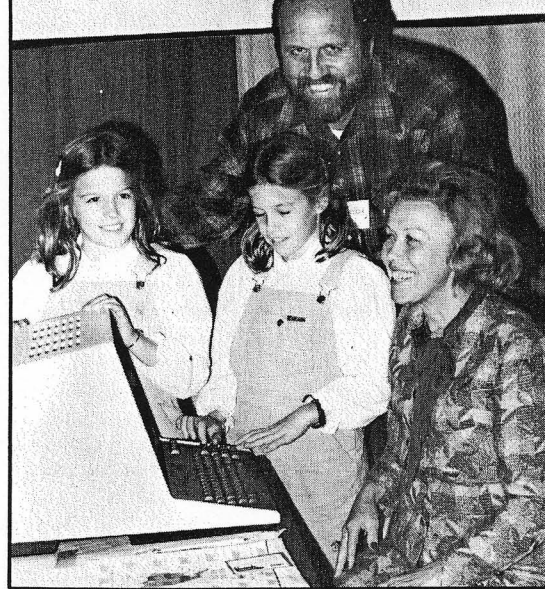
Written Instructions

And the print-out provides yet another benefit. In his experience, Dr. Ludwig says, if someone is told to do something, there's a 50-50 chance it will get done; if instructions are written, that percentage moves up to 99. Using the computer, instructions are supplied in written form to those responsible for doing the work.

The computer, by the way, is readily available as is service. The program set up by Dr. Ludwig and Vines (which is available through Matterhorn Systems at Box 880, Rt. 4, Alabaster, Ala. 35007) is compatible with Ohio Scientific, Inc., (OSI) hardware and OSI has sales and service in every state as well as overseas. But service, according to Dr. Ludwig, needn't be a problem. "A service contract can be bought with a computer," he says, "or you can fly by the seat of your pants." He chose the latter and has had no problems in the year his computer has been in operation.

The unit does not take a lot of room or special attention. The micro-processor includes a screen, a printer and the computer itself, all of which fill scarcely more space

MATTERHORN SYSTEMS COMPUTERIZED HERD MANAGEMENT



The family behind Matterhorn Farms—Dr. Arthur Ludwig Jr., wife Alma, daughters Andrea and Erika.

than an office desk. The equipment requires only one special consideration—room temperature must be maintained between 52° and 80°.

Prices Vary

Price range depends on speed and size. The faster the printer or the greater the computer capacity, the higher the price. Dr. Ludwig's system relies on a floppy disk, will handle up to 300 head and ranges from \$10,000 to \$14,000. A hard-disk system (which will hold information on up to 16,000 head) can cost between \$16,000 and \$18,000. But according to Dr. Ludwig, as they become more widely available, computers are coming down in price.

The savings in time, he claims, may well justify the cost for many cattlemen, especially those in situations similar to his or those having to handle records on a larger number of cattle. Dr. Ludwig puts it this way, "Now that I'm in this, I wonder how people keep records manually." His duties, by the way, are scheduled to increase—he intends to expand the herd to 300 head and embryo transplant also may enter the picture. Record keeping won't be a problem.

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The Computer