# Preconditioned Calves— A Progress Report

*by*
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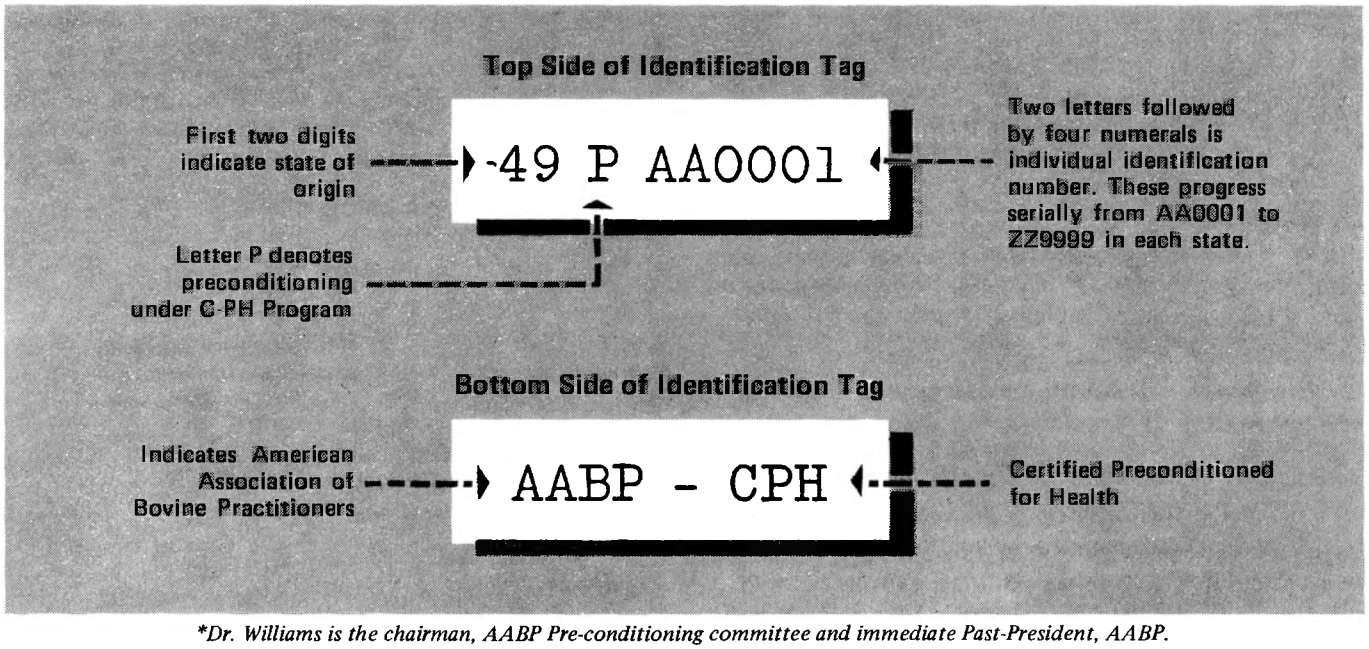
The American Association of Bovine Practitioners, in response to the need of the livestock industry, prepared a program in 1968 for certified pre-conditioned calves. The trademark of CPH was registered with the United States patent office. CPH designates that the calves are certified as pre-conditioned for health. This trademark can only be used by those veterinarians participating in the program as outlined by the American Association of Bovine Practitioners.

The animals that have received treatment in this program, of course, must be positively identified. This identification is essential if the seller of the calves is to receive any extra money for his efforts in preparing these animals. It is also essential if the buyer is to place confidence in the purchase of these animals. Identification of these animals has been accomplished by two means, one of which is the placing of a metal ear tag in the calf's ear similar to that which is used for the test for tuberculosis and brucellosis. However, this tag has been purchased in a chartreuse color to permit quick identification of the purpose of the tags. A typical tag would read 43PAA1234. The first two digits indicate the state of origin for this animal, the letter P signifies that it was pre-conditioned under the CPH program, and the last six digits will increase serially in order to give positive identification of the individual animals. This method of identification permits separate numbers for each calf up to 5 million calves per state. On the back of the tag, are the letters AABP CPH, designating that the program is sponsored by the American Association of Bovine Practitioners and that this is the Certified Pre-condition for Health program. Hanging from the tag at the time of shipment is a plastic information

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sheet referred to as a bangle. The bangle includes information as to the type of vaccination the animals have had, the type of grub treatment, whether or not they have been wormed and also additional remarks about treatment. It indicates whether the animal has been pre-weaned or not, indicates the date that the vaccination was done and the veterinarian who did it. With this type of information, the veterinarian in attendance when they are received in the feed lot immediately knows what the calf has previously had, and is able to prepare an adequate program for the maintenance of the health of this animal from thenceforth.

Since research of recent years indicates that all of the infectious agents causing disease in shipped calves exist in the cow herd, the primary problem must be some factor which does not occur to these calves until they leave the premises. Since the incidence of these diseases is very low when calves remain on the original pasture, or are not moved to a great extent, it then follows there must be a stress at the time of shipping which leads to the development of these disease processes. This stress has many components, the foremost of which is probably psychological. Many of these calves are weaned at the time of shipment and are moved from familiar surroundings the first time. The fright and apprehension which these calves experience is a major contribution to their stress. In addition to the psychological stress, we must list nutritional stress. If the calves have not been pre-weaned, the animal goes from a milk and grass diet to one probably containing dried roughage and grain. Of course, many of these animals are not accustomed to eating or drinking out of troughs. This results in animals with inadequate energy and water intake at a period of time when they need all the nutritional help they can obtain.

Yet another stress would be the physical stress these calves sustain. Physical stress involves the possible overheating of the animals in the process of "cutting them away" from the dam and loading, followed by a possible cooling of the animals when the truck moves to market. The physical stress is increased by the amount of walking that calves may do in the anxiety of new surroundings and separation from the dams, as well as the physical stress these calves are caused to endure in long shipments possible between more than two markets. The additive affect of all of these stress conditions can only lead to *calamity*.

The question now arises, why should all of these stress factors have a greater effect on the respiratory system? Although the answer to this problem may not be completely understood, probably the greatest single cause is the dehydration of the mucus membranes found in the respiratory tract. This dehydration is part of a general dehydration of an animal due to the lack of water and, secondly, a local dehydration due to the bawling of the weaned calf, as well as the dust of the inspired air so prevalant in many sale yards. The resulting dehydration permits the viral invasion of cells lining the respiratory tract which would otherwise be protected by the immune bodies present in the immune globulins of the mucus secretions. The invasion of the cells by the viruses results in a progressive multiplication of the viruses during the incubation period until the animal shows symptoms of the full disease. The extensive damage to the cells which line the respiratory tract permit the secondary invasion of these tissues by bacterial agents. Numerous researchers have shown that the Pasteurella species are quite commonly found in the external nares of healthy calves. It thereby follows that these bacteria of the respiratory tract can only gain an entrance when the body defences are diminished by other conditions and agents. Needless to say, the bacterial infection is the major cause of death and is equally the biggest cause of economic loss as shown by poor weight gains when affected animals go on feed. Another problem which is involved in the protection of the mucus membranes of the respiratory tract in times of stress is the source of the antibodies. Work in both the bovine and human fields in the last three years show that some of the viral agents elicit a local tissue antibody response as well as a parenteral response. It seems that there must be contact of the antigen with the cells lining the respiratory tract in order to produce the correct immune globulin to protect the epithelium. Most of the work in this field has been done with the PI 3 virus. With these basic problems in mind, the AABP has designed their pre-condition program to be more than a series of vaccinations. Of course, the vaccinations play a major part in the protection of these calves; however, it must also be realized that it is probable that there are numerous infectious agents involved in this disease syndrome which have not yet been identified. For this reason, a pre-condition program must cover management as well as vaccination. The recommendations in this program include:

1. The vaccination of the calf for PI 3, IBR, Blackleg, Maglinant edema, and Leptospirosis, at least ten days and preferably three weeks before shipment. In addition, the animals must have two injections of a good Pasteurella vaccine which contains both Pasteurella multocida and Pasteurella hemolyticum. Due to the difference in the incidence of BVD throughout the country, the use of the BVD vaccine has been made optional.
2. It is strongly recommended that all the calves be weaned at least three weeks prior to shipment and accustomed to grain feed as well as water trough. There is an optional plan provided for those calves which are not pre-weaned; however, it is mandatory on this plan that

the animals be fed grain for at least three weeks prior to shipment. This option was placed in the program primar ily due to the fact that it is impossible in some Western range areas to pre-wean calves.

3. It is strongly recommended that the utmost emphasis be placed on the speedy transit of the animals from one location to the other. Dr. Bristol of Iowa has collected ample evidence to show that the incidence of respiratory diseases increases markedly after the animals have been in transit 24 hours.
4. It is recommended that the departure time of the truck be placed on the health certificate to encourage the speedy transit of the animals.
5. It is strongly recommended that the calves being shipped be furnished ample amounts of water at all times.
6. Upon arrival these animals should be placed on a high roughage ration which is easily digested and furnishes high energy intake. The energy intake in the calves at early arrival is of prime importance, but this must be attained without inducing a grain overload and the accompanying acidosis.

**CERTIFIED-PRECONDITIONED FOR HEALTH®**

This Animal Has Received: Yes No

A. Immunization against
Blackleg, Malignant Edema, IBR, PI3
Leptospirosis, Pasteurella ☐ ☐

Bovine Virus Diarrhea ☐ ☐

B. Grub Treatment ☐ ☐

C. Treatment for Internal Parasites ☐ ☐

THIS ANIMAL HAS BEEN PREWEANED

CPH® Plan #1

PLAN 1 —identified by bangle printed in black;

**CERTIFIED-PRECONDITIONED FOR HEALTH®**

This Animal Has Received: Yes No

A. Immunization against
Blackleg, Malignant Edema, IBR, PI3
Leptospirosis, Pasteurella ☐ ☐

Bovine Virus Diarrhea ☐ ☐

B. Grub Treatment ☐ ☐

C. Treatment for Internal Parasites ☐ ☐

THIS ANIMAL HAS NOT BEEN PREWEANED

CPH® Plan #3

PLAN 2 —identified by bangle printed in red

**CERTIFIED-PRECONDITIONED FOR HEALTH®**

This Animal Has Received: Yes No

A. Immunization against
Blackleg, Malignant Edema, IBR, PI3
Leptospirosis, Pasteurella ☐ ☐

Bovine Virus Diarrhea ☐ ☐

B. Grub Treatment ☐ ☐

C. Treatment for Internal Parasites ☐ ☐

THIS ANIMAL HAS BEEN PREWEANED

CPH® Plan #2

PLAN 3 —identified by bangle printed in blue

*Results*

This program has been in effect now for approximately 15 months, so the usual question is, what are the results? Certificates issued at the time these calves are pre-conditioned have copies permitting the reporting of the results of the pre-conditioning back to a computer center in Iowa. The compilation of data from these cards indicates that this program is remarkably successful in reducing incidences of diseases. Good experimental trials in this field has been difficult to establish. The primary reason probably lies in the fact that the controls used in these experiments are not actually subjected to all of the harmful stress which the calves normally go through in shipment, and probably are shipped direct from the farm to the experimental farm without going through numerous sale yards and dealers. For this reason, accurate experimental data has not been obtained in great quantity. There have been numerous trials which have definitely substantiated that pre-conditioning is of value, and is almost a necessity in modern day shipment of cattle. It has been estimated that the losses due to respiratory diseases in midwest feeder calves approximate $10 to $12. Other trials show that calves vaccinated with PI 3 vaccine show an increase in net gain during feed trials which is in the value of $7.00. Under present day economics, the producer of the calf needs to be compensated by about $5.00 in order to justify his time and expense in pre-conditioning the calves. It thus would appear that a feeder can pay $5.00 extra for CPH calves, net $2.00 to $7.00 per animal while insuring himself against some of the catastrophic losses experienced with some cattle.

The main problem facing the CPH program at the present time is a good method of marketing these cattle. There seem to be many feeders that wish to buy CPH calves as well as producers who would be willing to prepare their

calves. The problem has been to get buyers and sellers to the same place at the same time. A solution to this problem must be found.

The AABP tags and bangles can be purchased from National Band and Tag Company, 721 York Street, Newport, Kentucky.

*Dr. Vernon Tharp, AABP Director, 4th District, informs us that the Ohio State Charolais Association sponsored a Feeder Calf Sale of 100% pre-treated cattle by licensed veterinarians on October 10, 1969 at the Producers Stockyards, Washington C.H., Ohio. (Editor)*

# A.A.B.P. District 7 ANNUAL CONFERENCE

Over 80 veterinarians attended the AABP District 7 annual Conference at Kansas State University on September 8-9, 1969. The meeting was arranged by Dr. R. B. Miller, District 7 Director, in collaboration with the KSU College of Veterinary Medicine Committee for Continuing Education. Papers were presented on the bovine digestive, respiratory and reproductive systems. Other topics included metabolic diseases and preconditioning programs.