INCREASED ANTIMICROBIAL RESISTANCE OBSERVED IN TREATING CLINICAL & SUBCLINICAL MASTITIS ON DAIRY FARMS JAMAICA

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The dairy farmer must implement a robust herd health programme to maintain the health and productivity of the herd. However, the battle to fight mastitis (inflammation of the udder) through prevention treatment and control programmes continues to be at the forefront of the dairy producer's business. Mastitis both subclinical and clinical have significant economic importance for the dairy producer and is a costly disease manage. Worldwide mastitis is one of the most important diseases in dairy cattle.

The three pillars for mastitis management are prevention, treatment and control.

Prevention

Strategically this represents the best and most logical approach, as it provides a shield to the establishment and spread of pathogens that cause mastitis. The focus of the dairy producer should be the implementation of good milking practices. In summary, this includes pre dipping teats with a recommended germicide followed by wiping teats dry then attaching the cluster or cups 60 to 90 seconds after applying germicide and wiping teats. This time allows for adequate stimulation for milk let down and quick milk out of udder. Post dipping teats follows cup removal. The objective of the milking process is the use of zero or minimum amounts of water on the teats and udder. Of course, other factors such as properly functioning milking equipment and a highly motivated milking team are critical.

Treatment

Cow showing acute gangrenous mastitis

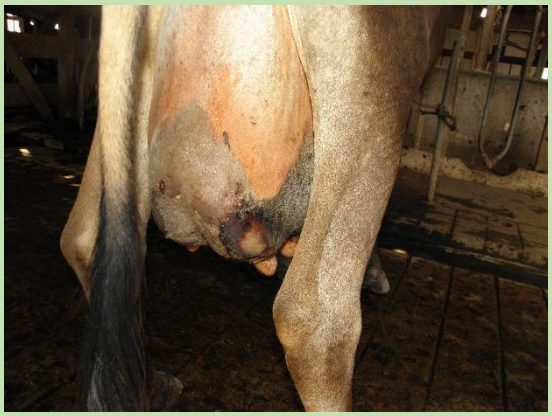
Mastitis treatment can be extremely challenging. In Jamaica there is a limited range of intra-mammary antimicrobials for treating clinical mastitis. Over the years there have been abuse of antimicrobials used to treat clinical mastitis.

A recent study on selected dairy farms in different geographical regions in Jamaica revealed there are increasing levels of antimicrobial resistance in treating clinical mastitis. Examples of individual bacterial culture and sensitivity testing results are shown in the following table.

Table showing examples of antimicrobial resistance in results of bacterial culture & sensitivity testing in cases of clinical mastitis in dairy cattle. (R = resistant, S = sensitive)

Name of Antimicrobial	Bactrim	Gentamicin	Tetracycline	Ampicillin	Cefuroxime	Norfloxacin
Name of bacteria causing mastitis						
Streptococcus sp.	R	R	R	S	S	R
Escherichia coli	R		R		R	R
Klebsiella sp.	R	S	R	R	R	S
Pseudomonas sp.	R	S	S	R	S	S

This is of great concern to veterinarians and dairy producers because ineffective treatment of clinical mastitis will result in total loss of milk production from quarters affected and possible death of the animal. Culling rates due to chronic mastitis has increased significantly at some dairies due to poor management of clinical mastitis including antimicrobial abuse.



Control

Mastitis control is based on good husbandry and milking practices which include responsible use of antimicrobials. With the awareness of the increasing problem of antimicrobial resistance in treating clinical mastitis, an action plan must be implemented to manage this problem. Veterinarians must take the lead role in training and encouraging dairy producers to use best practices for milking to minimize the incidence and prevalence of clinical mastitis.

In addition, the instruction of responsible use of antimicrobials must be emphasized coupled with laboratory support through culture and sensitivity tests to effectively treat clinical mastitis and reduce abuse of antimicrobials.