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BEEF CATTLE FLY CONTROL—2012

With a possible drought looming, summer and flies will probably arrive early. So now is the time to plan to prevent problems. Cattle pests, such as flies, cost cattlemen by increasing treatment costs, lost production, irritation to the cattle, reduction in weight gains and feed conversion, and because of the diseases they can transmit. Fly infestations cost the U.S. cattle industries more than \$2 billion yearly. Horn flies alone cost U.S. cattle producers \$876 million a year. Horn flies are very stressful to cattle because they take 24 to 38 blood meals per day—per fly! Interestingly, California cattle producers report that face flies are the worst pests, followed by horn flies.

Face flies, in addition to producing eye irritation and animal nuisance due to their feeding behavior, serve as mechanical carriers of the causative agents of Pinkeye in cattle (infectious bovine keratoconjunctivitis; IBK) caused by the bacteria *Moraxella bovis* and *M. bovoculi*. Pinkeye consistently ranks as one of the top five most costly diseases in California beef cattle.

Feeding by horn flies, stable flies, horse flies, and other bloodsucking flies mechanically transmits several disease organisms as well as causing irritation and decreased weight gains.

Both face flies and horn flies develop resistance to insecticides over time. For maximum prevention, it is advisable to switch the class of insecticide (compound; drug) you use each year or two. If you used an organophosphate ear tag last year, use a pyrethroid ear tag this year. Additionally, if you plan to use a pyrethroid ear tag this year, use an organophosphate spray this year. Alternating the classes of drugs in this manner will increase the success of your preventive program. It is also recommended that application of ear tags be delayed until the fly population is relatively high so that the possibility of the flies developing resistance this year is lowered. Then, as the fly populations increase, apply the *fresh* ear tags to achieve maximum benefit. Always follow the manufacturer's label directions for ear tag application. If they call for two ear tags--use two ear tags! **If you need ear tags to prevent Pinkeye in the calves--use the tags in the calves. In the fall always remove the ear tags.** If the ear tags are left in the cattle, the flies that over winter—particularly the face flies—will develop resistance to the drug you used and it will no longer be as effective.

If you plan to use any additional chemical methods for fly management this year, such as pour-ons, sprays, back rubbers, face rubbers, or dust bags, be sure to utilize products that contain a different class of insecticide relative to the ear tags that you will use during this same period. Use of products with the same insecticide that is used in the ear tags will result in a more rapid development of resistance. Some of the ear tags now contain compounds like piperonyl butoxide (PBO) to increase the effectiveness of the primary insecticide and overcome mild resistance; however this will not help overcome severe resistance in fly populations.

Face flies and horn flies lay their eggs in cow manure and the larvae can **only** develop in cow manure. Therefore, some insecticides that are fed or given orally to cattle can kill the fly larvae in the manure pat and can be very effective to reduce the number of adult flies. One example of these insecticides is an insect growth regulator (IGR) called methoprene. IGR insecticides are very safe to use (to the animals and to their handlers) because they only effect insects and fly resistance does not develop easily to these compounds. Methoprene can be used in “feed through” products, where the drug passes through the animal's digestive system and into the manure unchanged and kills the fly larvae in the manure. Another IGR compound called diflubenzuron is also recently available in a feed through product called ClariFly® (marketed by Wellmark International) for face fly and horn fly management. There are also non-IGR insecticide products available that can kill the fly larvae when used as a “feed through”. One of these, Rabon® is an organophosphate insecticide and should be used only when not using organophosphate ear tags to avoid increasing fly resistance to this chemical class.

Some of the products available for fly management in the past may no longer be on the market in California. Products are removed from the market generally due to lack of product registration renewal or due to lack of effectiveness caused by fly resistance. However, there are also some new products available that you may be unaware of. One of the newer products is a cattle pour-on and spray from Elanco called Elector®. This product contains a new class of insecticides called the spinosyns, which are chemical compounds derived from soil bacteria. These products appear to be very safe and effective. Elector is labeled for the control of horn flies, but is not available as an ear tag product. If you have noticed that your horn flies or face flies appear to be resistant to the ear

Coumaphos	Co-Ral
Dichlorvos	Prozap VIP Insect Spray (Chem-Tech)
Permethrin	Ectiban EC (Schering-Plough), Permethrin II (KMG), Atroban (Merck), Prozap Insectrin (Chem-Tech), Prozap Fly-Die (Chem-Tech), GardStar EC (Y-Tex), Manna Pro Livestock (Manna Pro), Astro EC (FMC), Permanone EC (Bayer)
Tetrachlorvinphos	Rabon
Tetrachlorvinphos-Dichlorvos	Ravap EC (KMG)
Spinosad	Elector (Elanco)
Cyhalothrin	Standguard (Elanco)
Phosmet	Prolate/Lintox-HD (Starbar), Vet Kem Paramite (Wellmark)

POUR-ON APPLICATIONS

<u>Active Ingredient</u>	<u>Example Brand Names</u>
Cyfluthrin	Cylence (Bayer)
Fenthion	Lysoff
Permethrin	Ectiban EC (Merck), Atroban Delice (Schering-Plough), UltraBoss (Merck), Permethrin CDS (KMG), Buzz-Off (KMG), Prozap Insectrin (Chem-Tech), Brute Pour-on (Y-Tex), Kattleguard II (Dairy Solutions)
Lambda-Cyhalothrin	UltraSaber (Merck)
Spinosad	Elector (Elanco)
Cyhalothrin	Standguard (Elanco)
Permethrin+IGR	Clean-Up (KMG)

BACK RUBBERS AND FACE RUBBERS

<u>Active Ingredient</u>	<u>Example Brand Names</u>
Permethrin	Ectiban EC (Merck), Prozap Insectrin (Chem-Tech), Brute Pour-on (Y-Tex), GardStar EC (Y-Tex), Permethrin CDS (KMG), Buzz-Off (KMG)
Tetrachlorvinphos-Dichlorvos	Ravap EC (KMG)
Phosmet	Prolate/Lintox-HD (Starbar), Vet Kem Paramite (Wellmark)

DUST BAGS

<u>Active Ingredient</u>	<u>Example Brand Names</u>
Permethrin	Permethrin Fly & Louse Dust (KMG), Ectiban D (Merck), Prozap Insectrin Dust (Chem-Tech)
Zeta-cypermethrin	Python Dust (Y-Tex)
Coumaphos	Prozap Dust (Chem-Tech), Co-Ral Dust (Y-Tex)
Cyfluthrin	Prozap Cylence Dust (Chem-Tech)

FEED-THROUGH INSECTICIDES

<u>Active Ingredient</u>	<u>Example Brand Names</u>
Diflubenzuron	ClariFly Larvicide (Central Life Sciences)
Tetrachlorvinphos	Rabon 97.3 Oral Larvicide (KMG)
Methoprene	Altosid IGR (Wellmark International)

Please Note: the active ingredients are available under a number of brand names and those listed are examples only and not specific endorsements or recommendations.

ALWAYS READ AND FOLLOW LABEL INSTRUCTIONS CAREFULLY.

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