

CgFARAD™ Year in Review

In Canada, veterinarians are legally permitted to prescribe drugs in an extra label manner (i.e. for disease indications, or doses or duration of treatments that are different than the approved drug labelling). But, using a drug in an extra label manner also means that the label withdrawal time for meat, milk or eggs, no longer applies. It is the responsibility of the veterinarian to provide new withdrawal guidelines and they may contact the CgFARAD™ through a web based system to request advice on withdrawals that will insure that violative residues are not detected in food animal products.

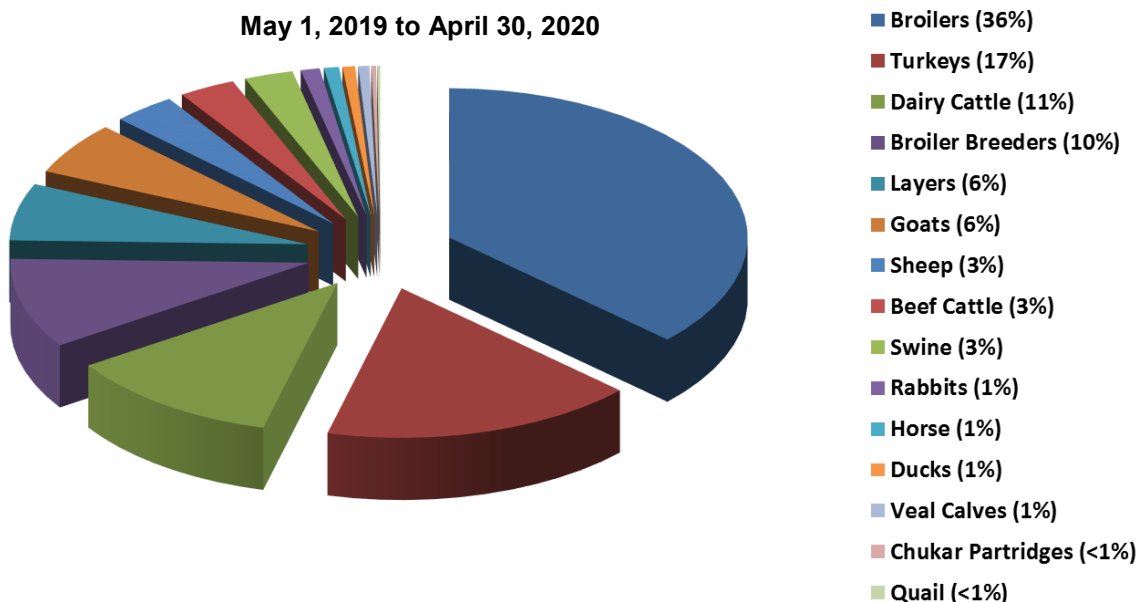
CgFARAD™ responded to 2,393 withdrawal requests in 2019-2020 covering 24 different livestock and poultry commodities.

CgFARAD™ personnel also assist:

- veterinarians in determining safe withdrawal periods when animals are accidentally exposed to pesticides, heavy metals or other chemicals;
- feed mills, producers and processors when accidental contamination of feeds occur; and,
- regulatory agencies seeking clinical pharmacological expertise regarding drug residues.

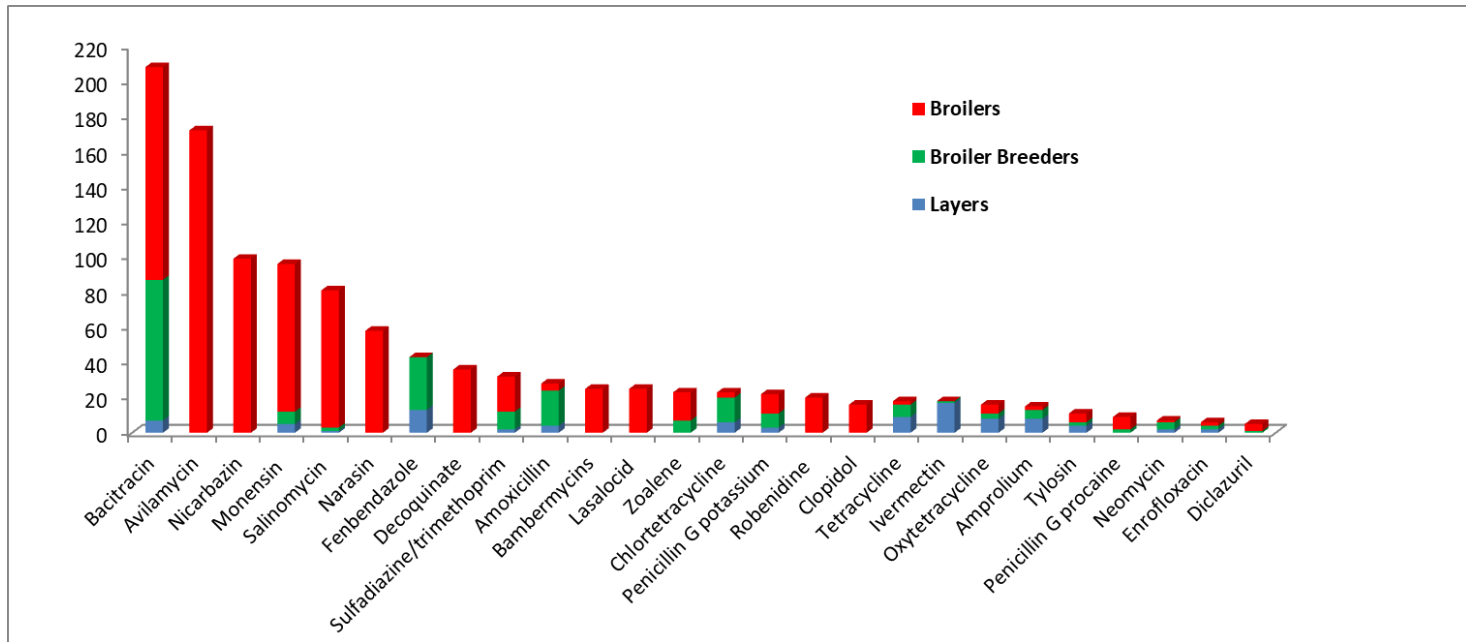
In our spring newsletter each year, we provide graphs illustrating requests by pharmaceutical product and by disease for each commodity group. Several graphs depicting this summary data by species are shown on the following pages. This is valuable information as it illustrates the health challenges with which veterinarians are dealing and highlights where there may be limited registered label options. The CgFARAD™ pharmacologists also use this knowledge to identify where drug residue research and depletion studies are needed.

CgFARAD™ Requests by Commodity Group
May 1, 2019 to April 30, 2020

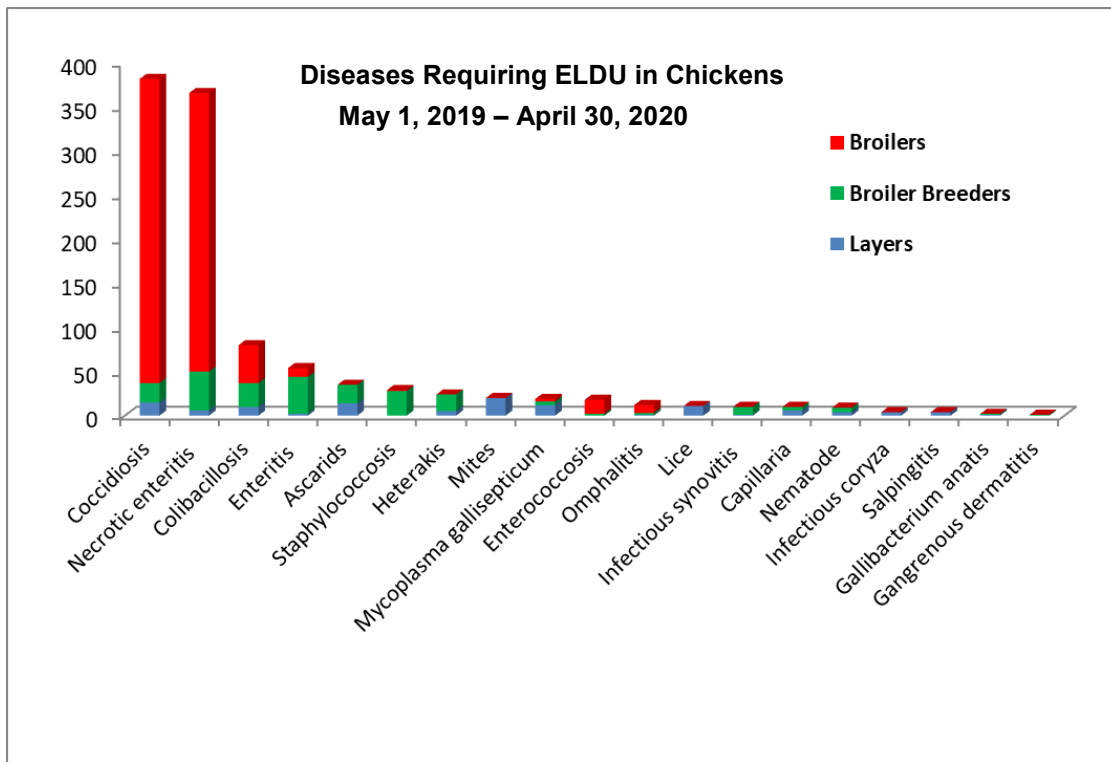


In all types of chickens, coccidiosis and necrotic enteritis continue to be the predominant diseases that require extra-label drug use (ELDU). The changes in federal regulations, removing all growth promotion claims for antimicrobials, continue to impact the use of a number of antimicrobials in layers. There has been a significant increase in the number of requests involving avilamycin. While many requests are due to combinations with other drugs in the same batch of feed, others involve treatment duration beyond the approved 21 days. The CMIB has now included this statement regarding avilamycin: "This livestock feed contains a medically important antibiotic. To reduce the development of antimicrobial resistance and maintain effectiveness, use this antibiotic prudently." Due to concerns regarding antimicrobial resistance, the Veterinary Drugs Directorate will no longer approve antimicrobials for continuous use throughout the production cycle and they strongly discourage extended durations of therapy. As such, we suggest that extended treatments with avilamycin should be avoided whenever possible, but the realities of feed milling sometimes make it difficult to follow such specific treatment durations.

ELDU Requests for Chickens by Product
May 1, 2019 – April 30, 2020

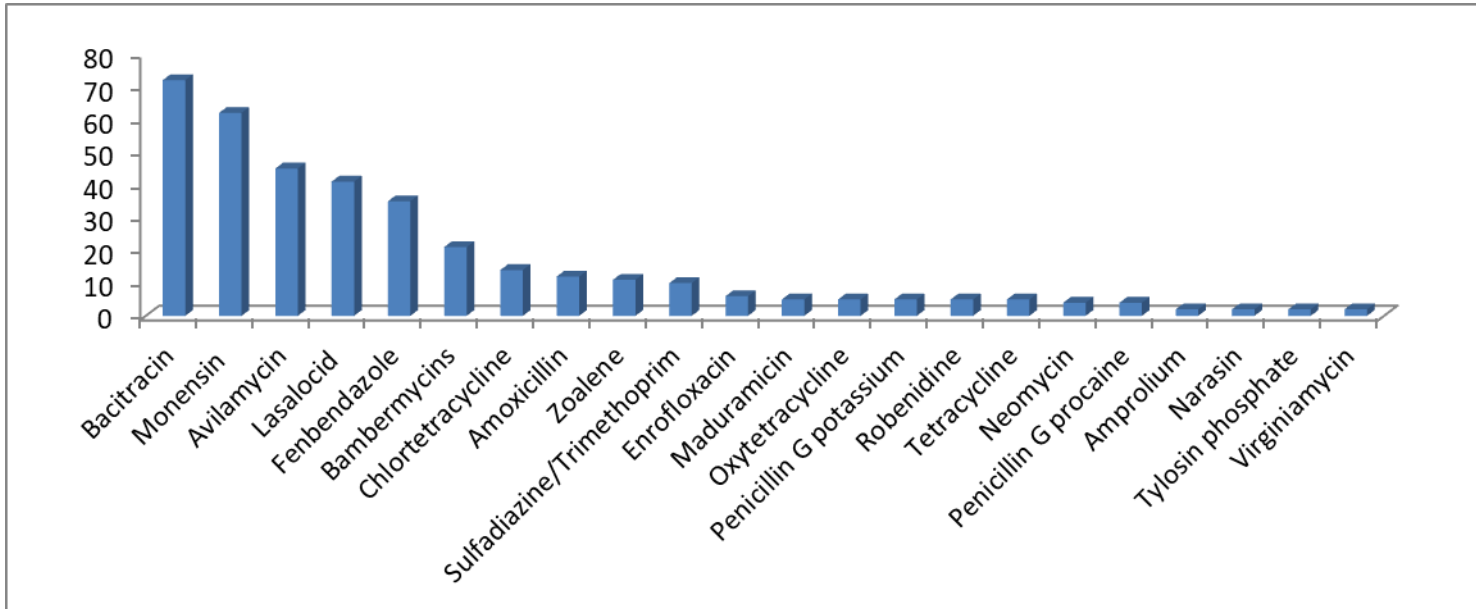


Mites and lice are problematic both in commercial birds and backyard flocks as pesticides cannot be used in an extra-label manner and we still have limited residue depletion data for ELDU treatments. In addition, we received requests for backyard poultry being treated by small animal practitioners for respiratory disease and injuries. Unfortunately, these practitioners often request withdrawal information for small animal approved products such as meloxicam and amoxicillin/clavulanic acid. We often do not have residue depletion information for these drugs. As well, amoxicillin/clavulanic acid is a Category I antimicrobial and as such, the Chicken Farmers of Canada has eliminated the on-farm use of this category of antimicrobials. The CgFARAD™ staff do our best to educate the veterinarians seeing backyard poultry on appropriate ELDU.

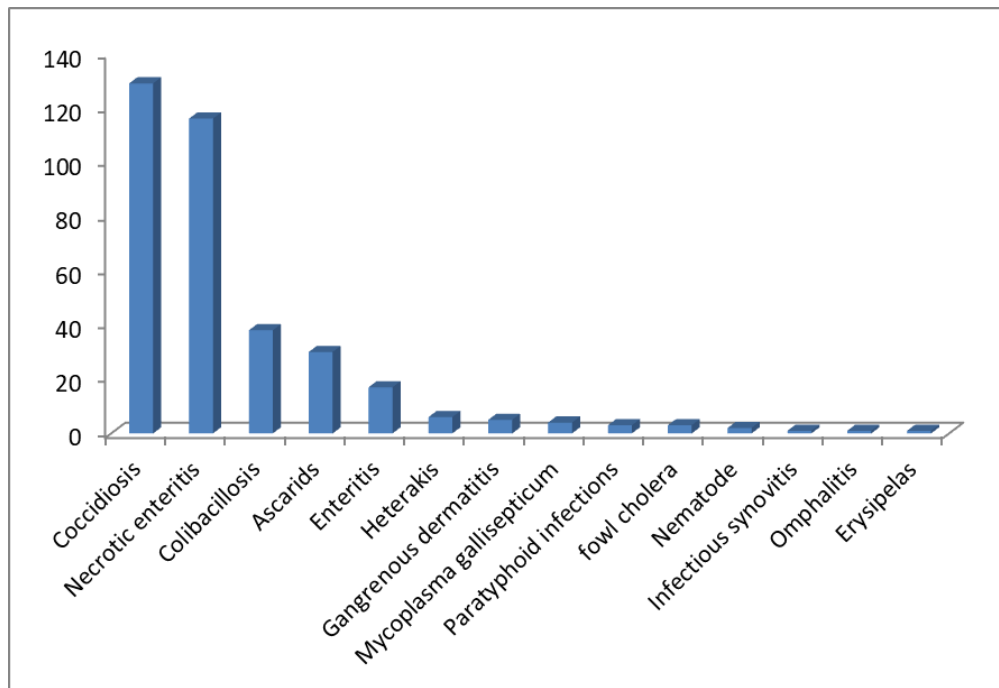


With the approval of Panacur AquaSol for all classes of chickens with no meat or egg withdrawal needed, our requests for ELDU in chickens has decreased. There are still occasions where use of this water product is not feasible, so we do still receive some requests in chickens. As this product was not approved for turkeys, requests for the use of Safe-Guard Premix had continued at a similar rate. But with the very recent approval of this premix for turkeys with a 24 hr withdrawal time, we expect to see a reduction in these requests. However, the approved dosage and duration of 16 ppm and six days does not match how it was being used by poultry practitioners. The most common dosage and duration have been 30 ppm and seven days and still require an ELDU withdrawal recommendation. But now that we have Maximum Residues Limits for fenbendazole in turkeys (they are the same as for chickens), we can provide a much shorter withdrawal recommendation based upon the published CgFARAD™ fenbendazole depletion study. Backyard poultry requests are typically for small animal or equine formulations of fenbendazole.

ELDU Requests for Turkey's by Product
May 1, 2019 – April 30, 2020



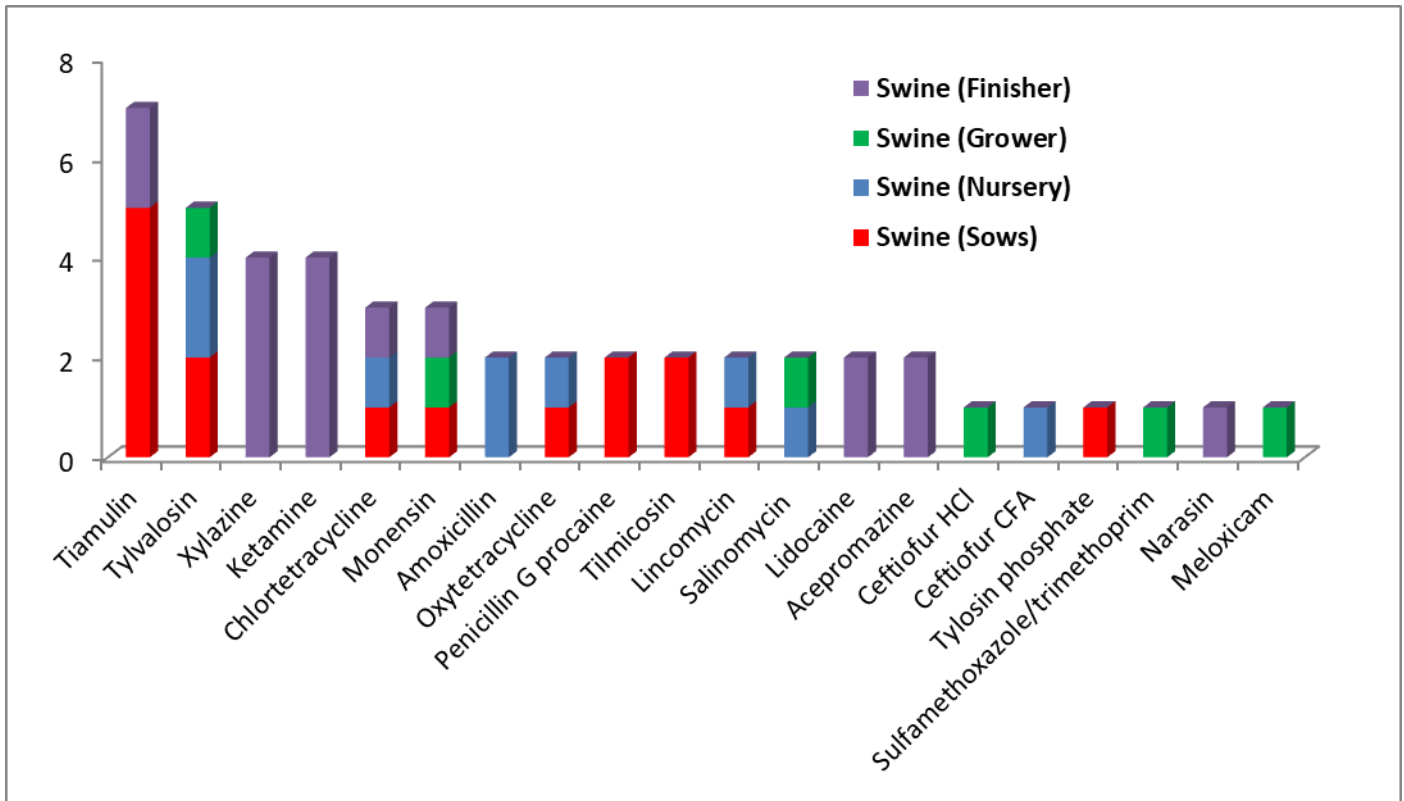
Diseases Requiring ELDU in Turkey's
May 1, 2019 – April 30, 2020



The primary reason for ELDU in swine continues to be antimicrobial treatments for infectious diseases, especially respiratory and gastrointestinal infections. We did see an increase in requests for drugs used for anesthesia and pain control. The swine veterinarians have few on-label treatment options in this area.

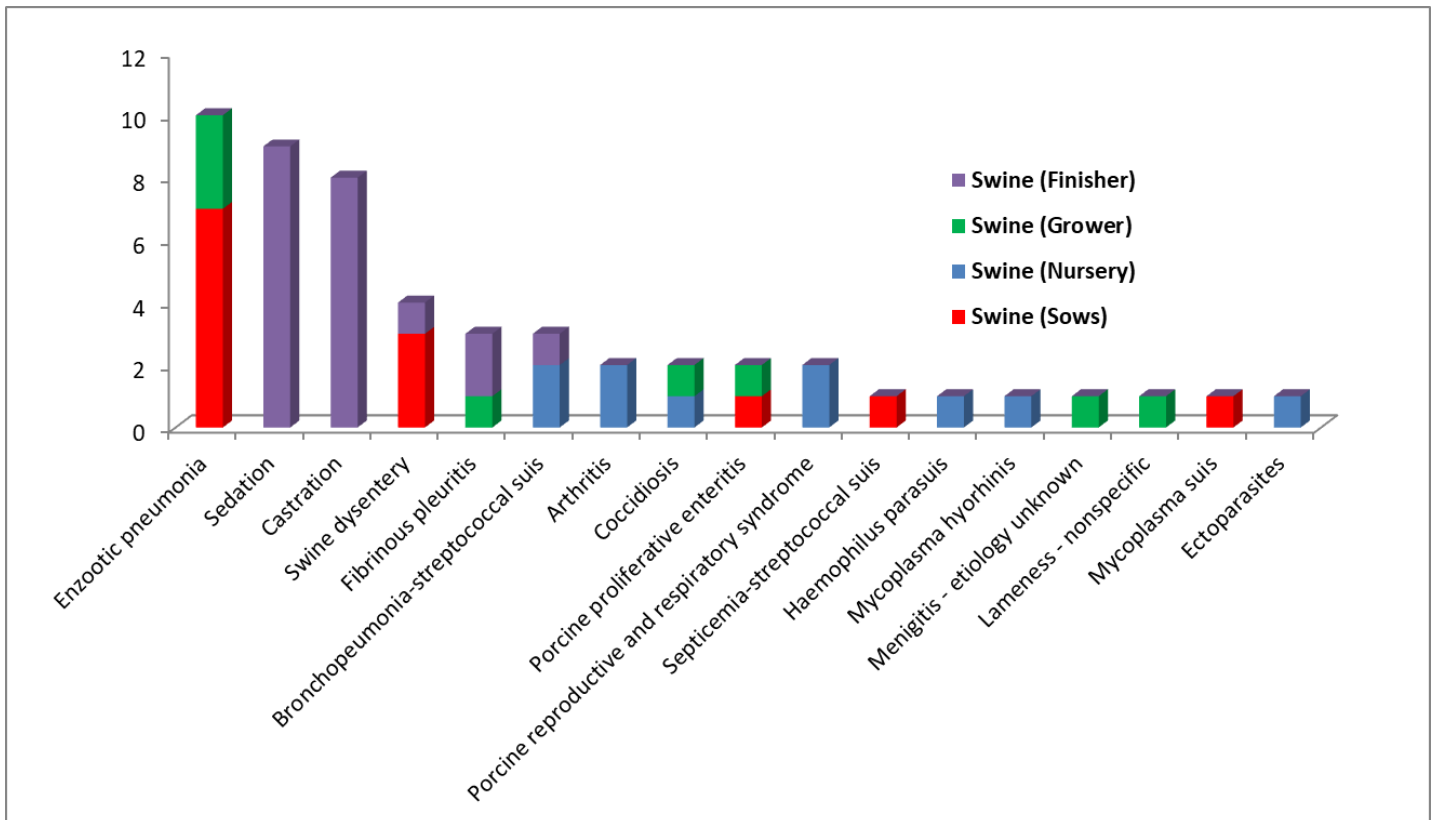
ELDU Requests for Swine by Product

May 1, 2019 – April 30, 2020



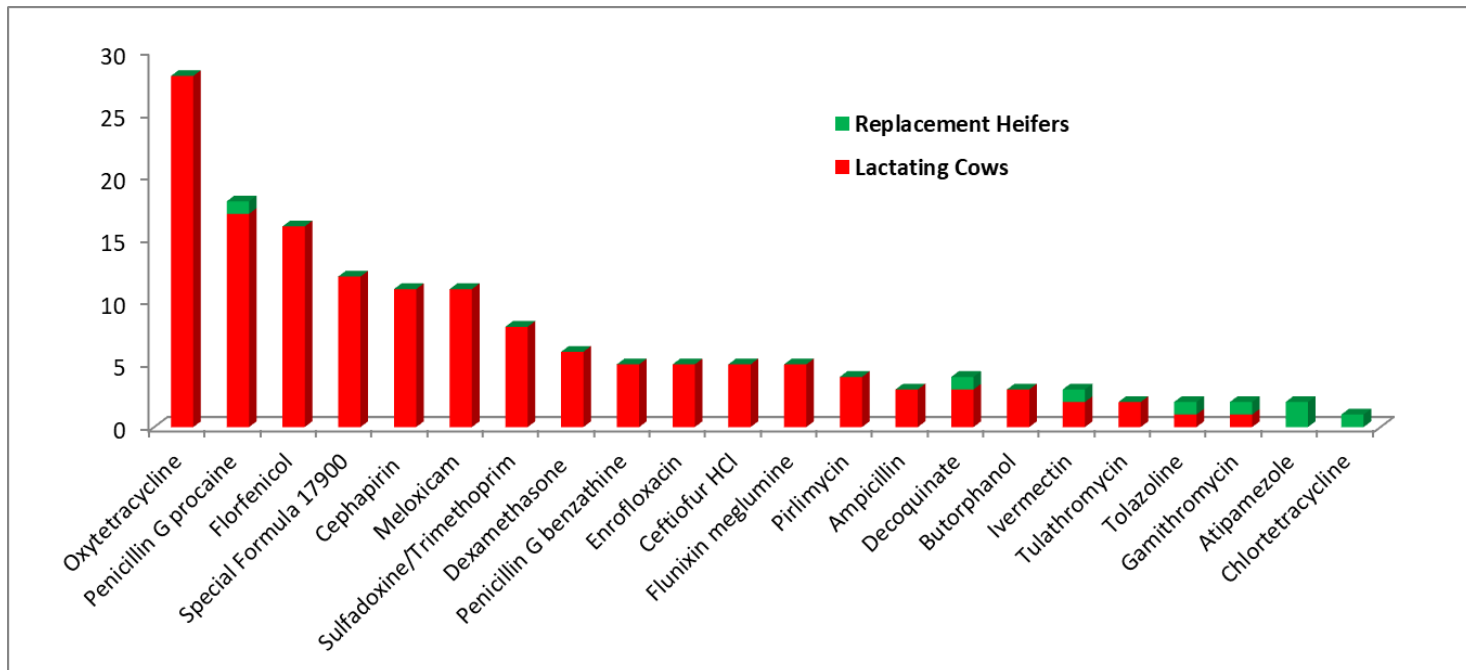
Diseases Requiring ELDU in Swine

May 1, 2019 – April 30, 2020



In dairy cattle, treatment of bovine respiratory disease (BRD) and mastitis continue to be the most common reasons for ELDU. Treatment of digital dermatitis and pain and inflammation are also important reasons for ELDU. There are some major changes in drug availability for the treatment of mastitis. Special Formula 17900, while approved for bovine mastitis, was frequently used with extra-label treatment regimens (e.g. twice daily and for more than two days). This product contains penicillin G procaine, dihydrostreptomycin, novobiocin and polymyxin B. It has recently become unavailable from the manufacturer. Polymyxin B is a Category I antimicrobial, so this product may be discontinued. We have also been informed that Cefa-Lak (cephapirin, a first generation cephalosporin) is on back order. The loss of these two products leaves dairy veterinarians with few treatment choices. It appears to be increasing the use of Spectramast LC (ceftiofur). As a third generation cephalosporin, it too is a Category I antimicrobial.

ELDU Requests for Dairy Cattle by Product
May 1, 2019 – April 30, 2020

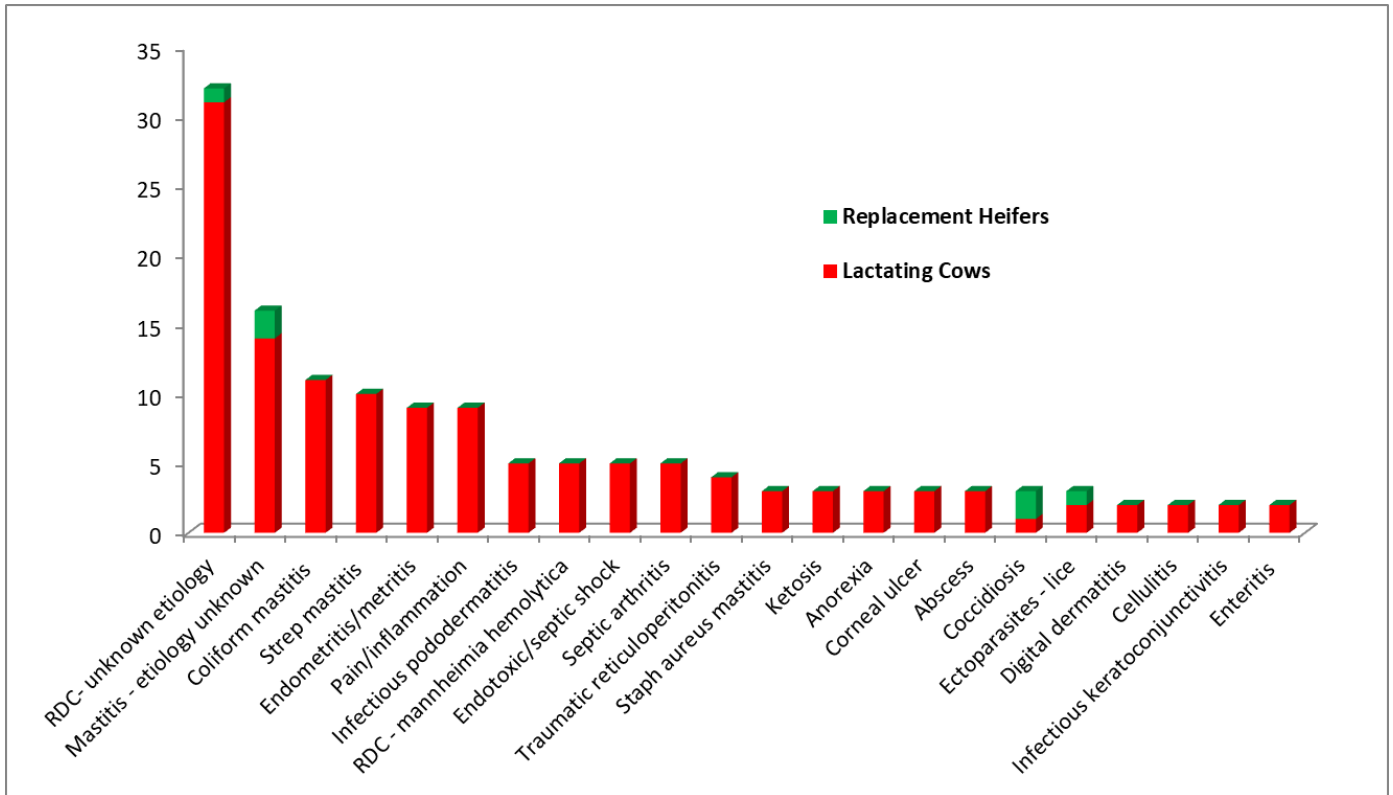


Due to the COVID 19 pandemic, we are seeing recent changes in requests and some new concerns. Due to the reduced need for milk in schools and restaurants, the Canadian dairy industry is struggling to reduce production. One of their strategies is to rapidly cull marginal lactating cows. But many of these dairy cows are to be sent for slaughter in the United States. These cows are then subject to the US laws regarding ELDU. We are seeing requests for meloxicam (Metacam) and ketoprofen (Anafen), which are not approved for use in food animals in the US but they are not banned drugs. Therefore, cattle treated with any of these drugs must not have detectable residues. Boehringer-Ingelheim has been kindly providing the CgFARAD™ with depletion data for both of these drugs to help us with this process. The list of drugs that may be an issue with Canadian food animals can be found at <http://www.farad.org/prohibited-and-restricted-drugs.html>.

A more serious issue is the use of drugs that are banned or restricted in the US. The US has not had injectable trimethoprim/sulfadoxine (e.g. Trimidox, Borgal) for decades. The use of non-approved sulfonamide drugs is not permitted in dairy cows over 20 months of age. Therefore, Canadian lactating dairy cows treated with these drugs

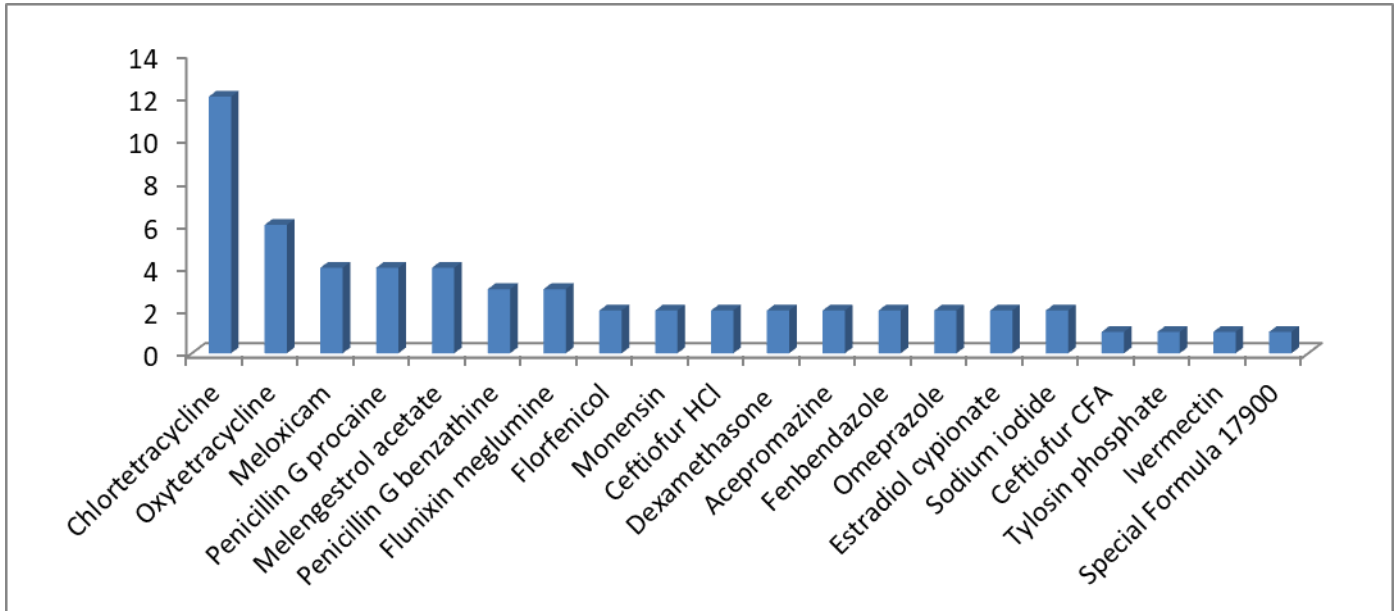
cannot be sent for slaughter in the US. It is not an issue of detectable residues; cattle treated with banned drugs must not EVER be slaughtered in the US. Other drugs of concern include Baytril (enrofloxacin) or A180 (danofloxacin). We occasionally get requests for these drugs as it is legal to use them in an extra-label manner in Canada. No ELDU of fluoroquinolones is permitted in the US; so again, treated dairy cattle must NOT enter the US food supply. Ceftiofur can be used extra-label but only under specific circumstances. The CgFARAD™ staff have been working to provide this information to dairy veterinarians and associations.

Diseases Requiring ELDU in Dairy Cattle
May 1, 2019 – April 30, 2020

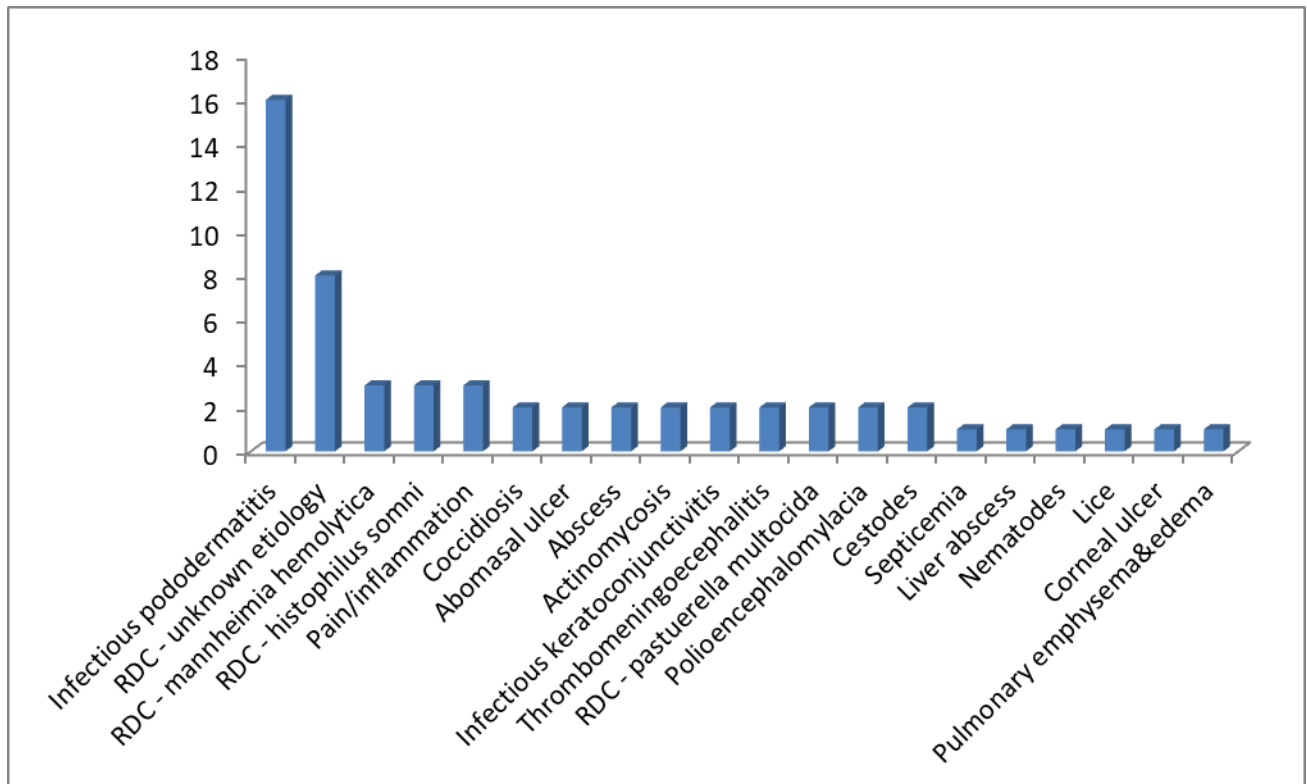


Requests for withdrawal information for ELDU in beef cattle are traditionally low. Cow/calf operations have animals that are far from the time of slaughter and feedlot operations typically do not use drugs in an ELDU manner. Requests reflect common diseases in beef cattle that may require ELDU because of handling and management factors.

ELDUs Requests for Beef Cattle by Product
May 1, 2019 – April 30, 2020

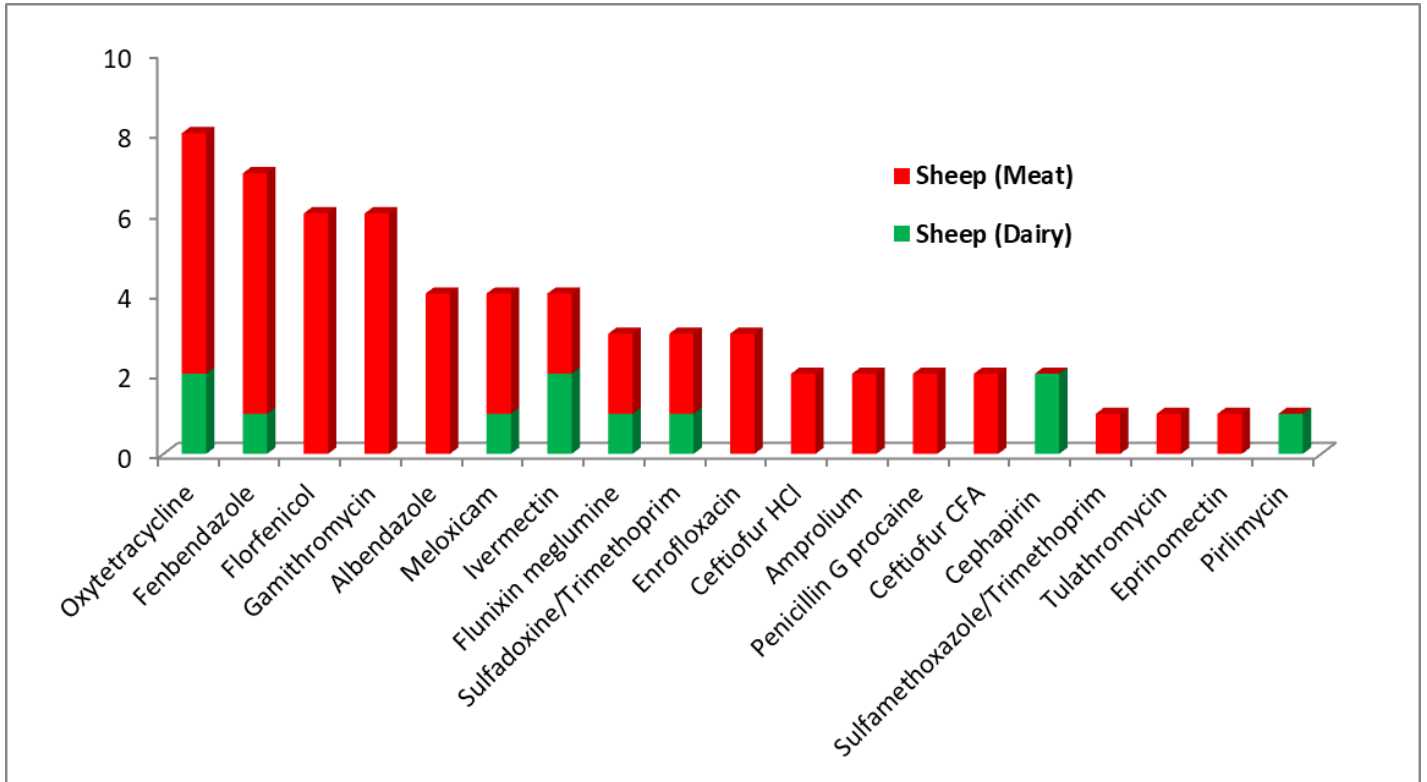


Diseases Requiring ELDU in Beef Cattle
May 1, 2019 – April 30, 2020

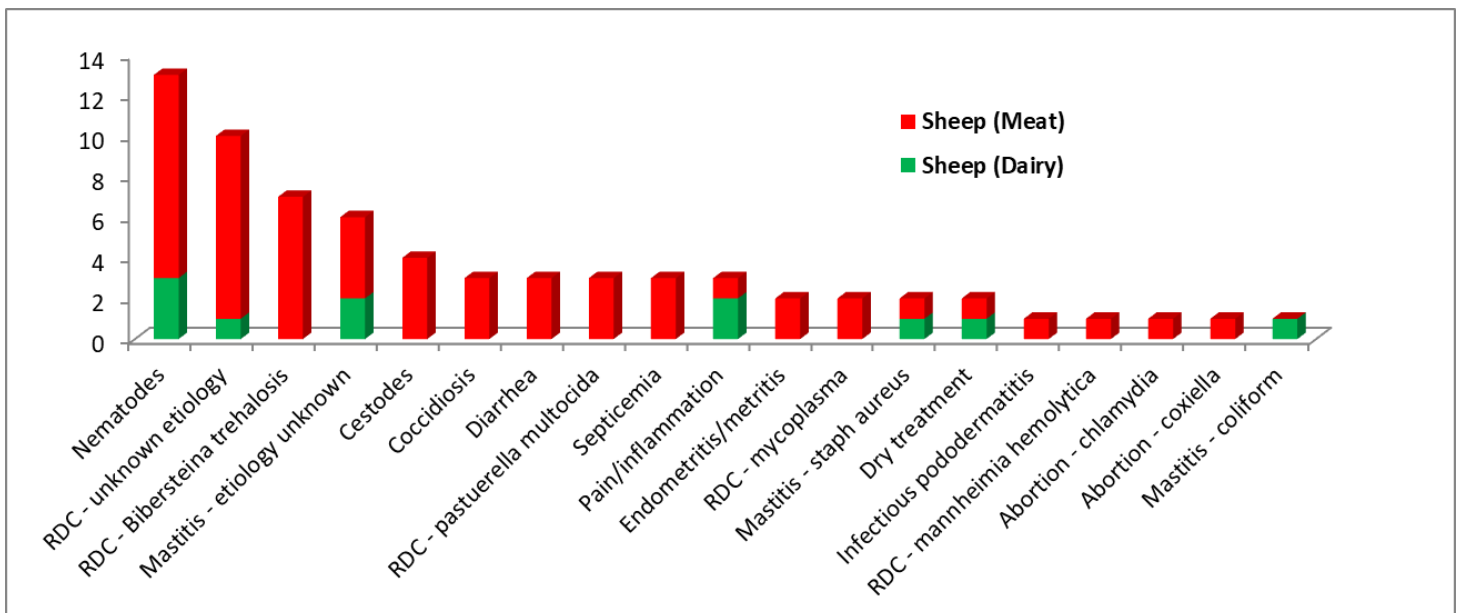


Due to limited drug approvals and bacterial and parasite resistance, antimicrobials, coccidiostats and dewormers are the most commonly used products for ELDU in sheep and goats. Even if parasite resistance is not present, residues in milk of lactating sheep and goats can be very problematic due to persistence and very sensitive detection methods used by regulators.

ELDU Requests for Sheep by Product
May 1, 2019 – April 30, 2020

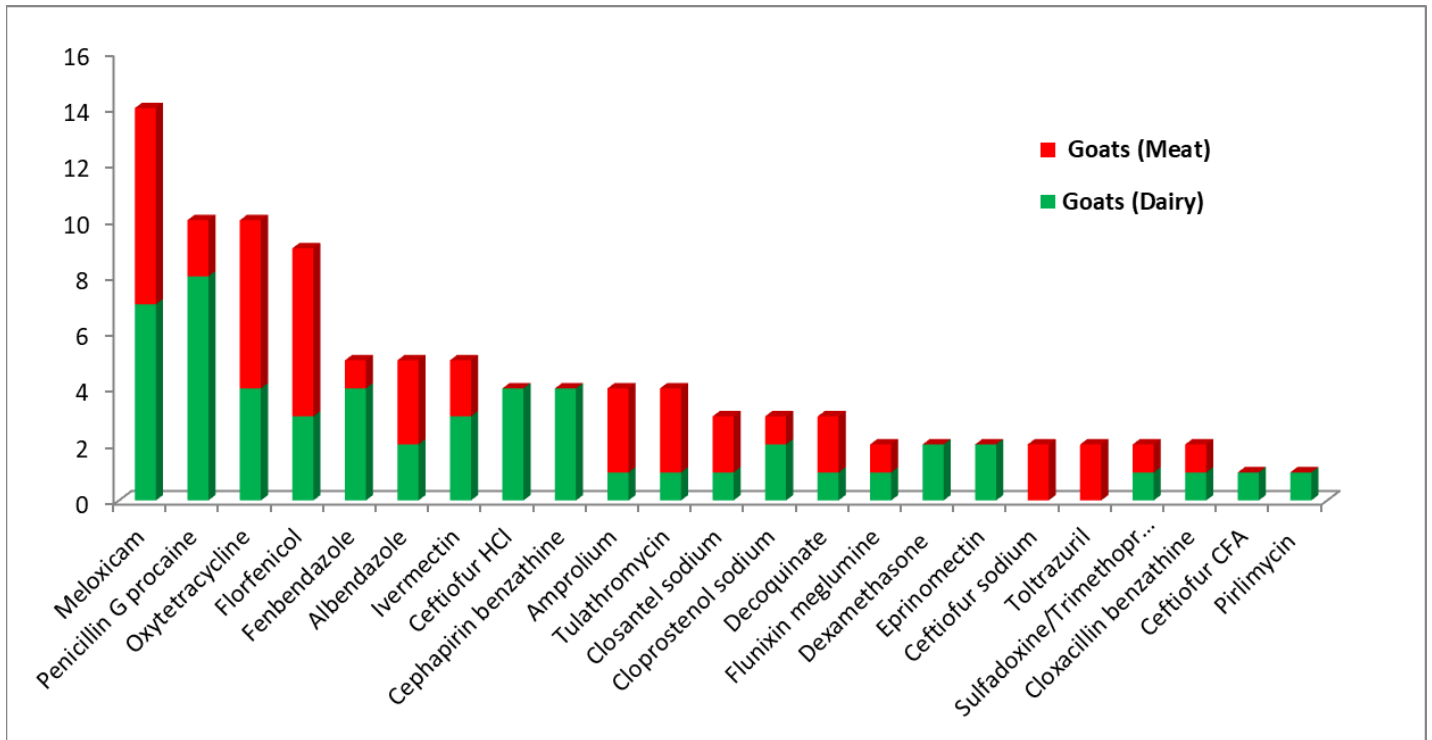


Diseases Requiring ELDU in Sheep
May 1, 2019 – April 30, 2020



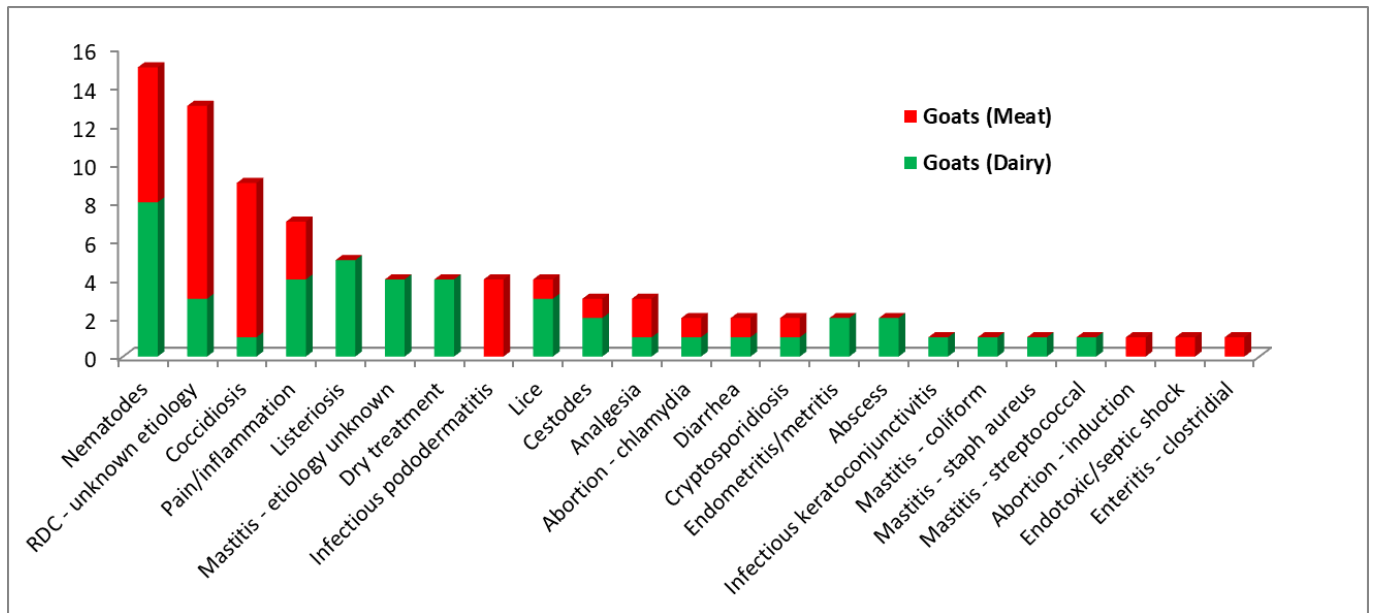
ELDU Requests for Goats by Product

May 1, 2019 – April 30, 2020



Diseases Requiring ELDU in Goats

May 1, 2019 – April 30, 2020



The chart to the right shows a comparison of ELDU requests by commodity over the past five years. Requests in 2019-2020 were down by 247 as compared to 2018-2019 which saw an all-time high in the number of requests. The 2,393 requests received in 2019-2020 are comparable to 2017-2018. Goats, sheep and swine requests showed noticeable declines this year.

The “other” category in 2019-2020 was comprised of five ostrich and two Silkie requests. The CgFARAD™ team is asked to provide advice on a wide variety of species but the vast majority of requests are for the major farmed animal species.

Species	2019-2020 requests	2018-2019 requests	2017-2018 requests	2016-2017 requests	2015-2016 requests
Chickens/Broilers	866	796	756	825	801
Turkeys	399	380	512	482	446
Dairy Cattle	274	266	261	232	266
Broiler Breeders	228	259	119	79	101
Chickens/Layers	145	144	137	92	69
Goats	134	241	189	196	90
Sheep	80	170	164	125	61
Beef Cattle	72	82	64	88	48
Swine	62	171	38	40	56
Rabbits	24	24	22	21	21
Bison	22	11	13	11	7
Horses	19	23	21	10	19
Ducks	16	20	5	6	13
Veal Calves	14	15	45	23	48
Deer	7	0	1	1	5
Chukar Partridges	6	10	6	8	19
Elk (Wapiti)	5	5	4	N/A	3
Quail	4	5	10	5	9
Geese	3	2	5	N/A	3
Pigeons	2	3	14	N/A	4
Guinea Fowl	2	2	8	1	0
Pheasants	2	6	6	6	4
Fish	0	1	4	1	2
Other	7	4	N/A	5	10
Total	2393	2640	2404	2257	2105

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Dairy Farmers of Canada
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