



Introduction

Welcome to the Sofina RWA program! If you are reading this, you are an important part of a pioneering program and emerging market. Our ability to raise flocks without the use of antibiotics is made possible by advances in poultry production (nutrition, genetics and health) and still relies on old fashioned poultry husbandry which goes back to the basics of chicken farming. It is important to understand that the Sofina program is not prescriptive; we are not telling you what to do to guarantee success because that won't work on every farm or in every flock. When we put "Raised Without Antibiotics" and "Not Fed Animal Products" and "Grain Fed" and "Raised by a Canadian Farmer" on the label it is a promise to our consumer.



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Many of the risk factors for flocks are at the farm and feeding program level so Sofina is working to partner with growers and their suppliers in a cooperative way to manage the risks and rewards of this program. Risk management can take the form of investment in technologies in the barn, in the feed, in the water and management efforts. There are as many successful ways of running an RWA program as there are farms and in this partnership with the farms and your suppliers, Sofina is committed to sharing our full support. We will share our knowledge, field service support and diagnostic testing to help understand where and how your program is working or being challenged. All recommendations must be taken and applied in the context of your farm and your coccidiosis management programs. We will require an attestation from your feed supplier to ensure that they have not included any antibiotics or ionophores in the feed as well as no animal products. On the farm side you are required to use only the products provided or approved alternatives in the water. If antibiotics are required to treat one of your flocks, they must be prescribed and provided by the Sofina veterinary team at Poultry Health Services. Poultry Health Services will also provide a letter of attestation for the auditing process listing the flocks which were treated. Providing your flock with feed that is not covered by your feed company attestations or a water treatment not approved by the Sofina program and our veterinarians will result in immediate disqualification from the program. Any cost sharing premiums will be withdrawn and losses experienced by Sofina, including product recalls, may be the responsibility of the farm. It is very important that the program is followed as described in this document. The program will be audited and bird and feed samples will be randomly tested for antibiotics and ionophores. The label claim of RWA-NAP is a promise to our consumers of our product claims are also regulated under Canadian law by the CFIA so there is no room or tolerance for mistakes or miscommunication.

Finally, the program relies on only using antibiotics when needed and when needed it is critical that it is communicated to multiple levels of the Sofina team and documented for auditing. It is critical that if a flock needs to be treated with antibiotics, that it is removed from the RWA supply. The final decision to treat or not treat a flock must be made by the grower in consultation with our Sofina veterinarians who will provide the prescription, record details of the treatment and products used for the purposes of auditing. You are welcome to get advice and support from your nutrition and health team which may include other veterinarians, but the program requires veterinary oversight by our company veterinarians to ensure all treatments are documented and communicated properly. We have also made a commitment in this program to ensure that bird welfare is not knowingly compromised for the sake of the claim and so we must be able to justify and explain all treatments or delays in treatments that may occur.



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Definitions

This document is meant as a guide document on delivering RWA-NAP based on the following definition.

- Raised without antibiotics
- Raised without the use of added hormones, like all chicken/turkey in Canada
- Grain fed, fed no animal products
- Grown on a chicken farm in Canada that is licensed and governed within supply management and under the mandatory programs for animal care and OFSAP

Feed claims

The following criteria support several different feed claims and their variations.

A. "Fed no" or "raised without" and

- animal products,
- animal by-products,
- animal fat,
- animal meal, and/or
- bone meal.

The above claims may only appear on meat, poultry, or fish products that were raised on feed that is free of ingredients or components of ingredients of animal origin (including [animal products \(definition-Ctrl+Click to follow link\)](#) and [animal by-products \(definition-Ctrl+Click to follow link\)](#)). This criteria applies to:

- non-nutritive feed additives
- supplemental sources of minerals and vitamins that contain animal products, such as
 - vitamins and minerals which are encapsulated in gelatin of animal origin
 - vitamin D₃ derived from the lanolin of sheep wool

Each of these claims may be used provided they are accurate, truthful and not misleading. For example, a meat product labelled "fed no bone meal" may be acceptable when the animal feed is free of all ingredients or components of animal origin.

An exception to the above is that for ruminants, until a legally approved non-animal source of vitamin D₃ is available in Canada for use in feed, a meat product of these species fed vitamin D₃ derived from lanolin of sheep's wool may bear these claims (e.g. "Fed no animal by-products"), as long as a statement is added to inform the consumer of the source of vitamin D₃.





Some animal feed is manufactured with bakery and snack food waste that contains animal products as well as animal by-products. If this type of feed is used, the resulting meat products may not be labelled or advertised with these claims.

The milk fed to an animal is not taken into consideration when evaluating these claims for the absence of animal products and animal by-products in the animal's diet.

B. "Grain fed"

This claim may be used when a minimum percentage of the feed is made up of [grains \(definition-Ctrl+Click to follow link\)](#) and grain by-products calculated over the animal's entire life cycle. The minimum percentages of grain content are as follows:

- feed for beef and other sources of red meat: 75%
- feed for turkey: 80%
- feed for chicken: 85%

The remaining portion of the feed may contain other feed ingredients, regardless of origin. Examples include

- minerals
- vitamins
- antioxidants (for preservation)
- fish meal (as a source of omega-3 or omega-6)
- enzyme supplements
- pellet binders
- anti-caking agents (to help with milling and pelleting)
- flavouring agents
- medications
- other non-nutritive feed additives

Note that the species-specific percentages are based on attainable levels of grain in feed. Because of nutritional needs, most animals are not fed diets made only of grains. Other ingredients are an important part of the feed, required to make it nutritionally balanced.

C. "Grain fed" and

- **no animal products**
- **no animal by-products**
- **no animal fat**
- **no animal meal, and/or**
- **no bone meal**

These claims are a combination of the criteria for the claims in sections A) and B), mentioned above.





For example, "grain fed, no animal meal" or "grain fed, no bone meal or animal fat" may be acceptable if the feed:

- uses the criteria for "grain fed" (section B), and
- is free of ingredients or components of ingredients of animal origin (section A).

Note the exception made for ruminants meat products that may bear claims referred to in section A, as long as the clarifying statement is added.

Please refer to sections A) and B) for complete details.

"Raised without the use of antibiotics" claims

To display the claim "raised without the use of antibiotics," in relation to a meat, poultry or fish product, the animal may not have been treated with antimicrobials which include all antibiotics and ionophores which are anticoccidials with antimicrobial properties, administered by any method, from hatch to harvest. Antimicrobial agent means a naturally occurring, semi-synthetic or synthetic substance that exhibits antimicrobial activity (kills or inhibits the growth of micro-organisms) at concentrations attainable in vivo. Anthelmintics and substances classed as disinfectants or antiseptics are excluded from this definition. (OIE: World Organisation for Animal Health).

<http://www.inspection.gc.ca/food/requirements-and-guidance/labelling/industry/method-of-production-claims/eng/1389379565794/1389380926083?chap=8#s5c8>

This includes administration through:

- feed
- water
- injection
- local application, or
- injection to embryos and eggs

In addition, antibiotics may not be given to the mother of the animal in question in any manner that would result in antibiotic residue in the animal.

In the event that antimicrobials are given for the purpose of having an antimicrobial effect, the claim may not be consistent with subsection 5(1) of the FDA and subsection 6(1) of the SFCA.

Meat, poultry and fish products are **not** considered eligible to make the claim "raised without the use of antibiotics" if the animals were raised with arsenicals or substances that fall into the four categories of antimicrobial drugs listed in Health Canada's [antimicrobial categorization document](#). Examples include:



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1. Category I: Very High Importance

These antimicrobials are considered of very high importance in human medicine as they meet the criteria of being essential for the treatment of serious bacterial infections and limited or no availability of alternative antimicrobials for effective treatment in case of emergence of resistance to these agents. Examples include:

- 1.1 Carbapenems
- 1.2 Cephalosporins – the third and fourth generations
- 1.3 Fluoroquinolones
- 1.4 Glycopeptides
- 1.5 Glycylcyclines
- 1.6 Ketolides
- 1.7 Lipopeptides
- 1.8 Monobactams
- 1.9 Nitroimidazoles (metronidazole)
- 1.10 Oxazolidinones
- 1.11 Penicillin- β -lactamase inhibitor combinations
- 1.12 Polymyxins (colistin)
- 1.13 Therapeutic agents for tuberculosis (e.g., ethambutol, isoniazid, pyrazinamide and rifampin)

2. Category II: High Importance

Antimicrobials in this category consist of those that can be used to treat a variety of infections including serious infections and for which alternatives are generally available. Bacteria resistant to drugs of this category are generally susceptible to Category I drugs which could be used as the alternatives. Examples include:

- 2.1 Aminoglycosides (except topical agents)
- 2.2 Cephalosporins – the first and second generations (including cephamycins)
- 2.3 Fusidic acid
- 2.4 Lincosamides
- 2.5 Macrolides
- 2.6 Penicillins
- 2.7 Quinolones (except fluoroquinolones)
- 2.8 Streptogramins
- 2.9 Trimethoprim/sulfamethoxazole

3. Category III: Medium Importance

Antimicrobials in this category are used for treatment of bacterial infections for which alternatives are generally available. Infections caused by bacteria resistant to these drugs can, in general, be treated by Category II or I antimicrobials. Examples include:



- 3.1 Aminocyclitols
- 3.2 Aminoglycosides (topical agents)
- 3.3 Bacitracins
- 3.4 Fosfomycin
- 3.5 Nitrofurans
- 3.6 Phenicol
- 3.7 Sulphonamides
- 3.8 Tetracyclines
- 3.9 Trimethoprim

4. Category IV: Low Importance

Antimicrobials in this category are currently not used in human medicine. Examples include:

- 4.1 Flavophospholipols
- 4.2 Ionophores

However, meat, poultry and fish products may claim "raised without the use of antibiotics" if the animals were raised with the following veterinary drugs or biological products (the list is not exhaustive):

- vaccines
- antisera
- colostrum
- chemical coccidiostats, such as amprolium and decoquinatate
- direct-fed microbial products registered with the CFIA as feed ingredients

Additionally, in order for the claim to be used, vitamins and minerals given to the animals may only be given at the level of physiological action for dietary supplement, not for antimicrobial effect.

A claim such as "fed no antibiotics" may imply that the animal was raised without the use of antibiotics in cases where the animal has received antibiotics through injection or spraying. If such a claim is applied, the criteria for the claim "raised without the use of antibiotics" may be used to avoid misleading information.

Health Canada's Veterinary Drug Directorate considers ionophores as antibiotics and they are classified as Category IV anti-microbials because of their low importance in human medicine. Ionophores are classified as antibiotics by the nature of the antimicrobial activity and their microbial sources. More information can be found on the [Health Canada](#) website, under [Categorization of antimicrobial drugs based on importance in human medicine](#).

"Raised without the use of added hormones" claims

Meat, poultry and fish products may carry the claim "raised without the use of added hormones" on the label or advertising as long as no hormones or β -agonists, such as ractopamine, were administered in any way to the animal. In addition, hormones may not be administered to the lactating mother of the animal



in question in any manner which would result in increased hormone levels in the animal. However, consumers may not be aware that the use of hormones is only permitted with certain animals.

- In cases where the use of hormones is legally authorized and none were used, the products may claim "raised without the use of added hormones."
- In cases where the use of hormones is prohibited or not authorized, the claim "raised without the use of added hormones" may be considered misleading as it creates false uniqueness between similar products. This misleading impression may be avoided by applying an additional statement, such as "like other (naming the product or source animal)".

For example, since the use of hormones is not authorized in Canada for chickens, the use of the claim "raised without the use of added hormones" on chicken products could imply that other chickens may have been raised using hormones. A claim such as "like other chickens, this chicken was raised without the use of added hormones" may be used.

The claim "hormone free" used without any other information could create the impression that the animal product in question does not contain hormones. As meat, poultry and fish products contain naturally occurring hormones, the claim "hormone free" is not considered acceptable.

The claim "no growth stimulants" may also be misleading for consumers and be inconsistent with the relevant legislation on truthful and accurate labelling. Due to a broad and diverse understanding of the term "growth stimulant," the simple statement "no growth stimulants" could mean the absence of a number of substances (such as hormones, β -agonists or low dose of antibiotics) and the presence of others (such as vitamins and minerals).

Practices and Recommendations

Breeder Egg Quality

Egg quality should be from minimum 52 gram eggs and from well managed facilities.

- Prime eggs of best quality are preferred
- Minimize mold and contamination - No floor eggs or washed eggs should be used
- Egg holding should be at optimum temperature and humidity for no longer than 7 days
- Top breeder nutrition and vaccination to ensure the highest MAB to chicks

Hatchery Practices

- A fully audited hatchery procedure is in place to ensure segregation for RWA from conventional.

Farm Practices

No cross contamination of feed or water with antibiotics or animal products.

- Identify silos/feed bins for RWA – NAP feed.



Poultry Health Services

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- Water works best with at least a neutral pH of 7. A pH lower than 7 is recommended for managing crop/gut health with birds on RWA-NAP.
- NE (necrotic enteritis) is our biggest concern growing birds on RWA-NAP. Whole wheat has shown to be a gut irritant, so the recommendation is for whole wheat to be rolled or ground. If using whole wheat, we recommend not including it above 30% of the total diet on a weight basis. Careful formulation and ingredient sourcing are recommended to ensure that damaged proteins and excess protein are avoided as these are also known to be risk factors for enteritis. Corn and corn gluten meal inclusion is recommended up to 25% of the diet to increase digestibility and to help manage risks associated with feeding other grains. Corn inclusion above 25% or with high pigment corn gluten meal will turn the birds' skin a yellow colour which is not desirable for our customers. Please discuss this with your nutritionist and ask them to contact us if they have questions.
- The strategy of keeping the litter very dry will help with chemical coccidiostat programs but will actually cause a coccidiosis vaccine program to fail. Paying attention to changes in the barn such as a jump in water consumption not explained by increased temperature, changes in the birds' feces (consistency, colour, smell), the appearance and activity of the flock and mortality patterns are all important. For the water product supplementation suggested below remember that when you change a feed (starter to grower, grower to finisher) that it will bring a change to the gut microbiome of the birds and you may want to time your copper sulfate use with those change periods. Watch carefully for changes when second stage ventilation kicks in and with the lighting programs. The biggest alternative to antibiotics is optimal nutrition and environmental management.
- Coccidiosis control is also important and there are now two methods that are available which can be used to successfully rear RWA flocks. There are **Coccidiosis vaccines** programs and non-ionophore (antimicrobial), **Chemical control programs and combinations of the two called Bio-shuttle programs**. You must communicate about your coccidiosis control program between your nutritionist and the hatchery to ensure that if you vaccinate for coccidiosis that there are no products in the feed or water which can damage the vaccine especially in the first 14 days. It is also important to confirm that you have a control program in the feed when you are not vaccinating!
 - Chemical coccidiostat controls, such as, Robenidine (Robenz), Clopidol (Coyden), Nicarbazine (Nicarb), Diclazuril (Clinacox), Zoalene (Zoamix), Amprolium (Amropol), Decoquinate (Decox), may be considered. **Chemical cocci control programs are best managed with a dry barn litter conditions.**
 - Coccidiosis vaccines are given at the hatchery by spray or gel droplet and the birds ingest the vaccine through preening off their feathers and their hatch mates. Coccidiosis vaccination requires more work at the farm level to ensure sporulation and re-infection to get proper immunity. The vaccine is applied to the bird but you are actually vaccinating



the litter as the oocysts will go through the bird, into the feces and mature in the litter to be ingested again after which they provide protection. Cocci oocytes need oxygen, temperature and humidity to sporulate (reproduce and grow). Temperature and oxygen are already contained with the perfect environment to grow chickens; however, with new litter, the proper humidity is not likely present. If you wait until the litter becomes more moist on its own it may take up to 25 days to have adequate cycling of the vaccine which is too late to provide protection. We need to have 30% litter moisture between days 7 and 14 to get a controlled cocci sporulation which will allow for proper cocci cycling between approximately day 18 and 22. This litter moisture can be developed via half house brooding (to day 7) and then moving to 2/3 (to day 11) and then full house at 15. Such a controlled release of the birds maintains litter humidity and controlled exposure throughout the barn. **Cocci vaccine programs require moist early litter conditions and dry conditions later.**

- Another method is to use full house brooding but to add water to the litter at day 7, 9, 11, & 13 to create the 30% humidity to promote a controlled cocci cycling.
- **NOTE: The programs above are only guides. Without proper OPG testing (oocytes per gram of feces) monitoring our veterinary and vaccine supply team we will not truly know what is happening in your barn.**

As such we will require the producer to sample based on the provided schedule and we will conduct testing to help each producer in their cocci vaccine management.

- Mash feed rations may also help support gut health to reduce NE and cocci.
- Steady state feeding, feeding without interruptions is very important. If the birds run out of feed it will put major risk on the GI tract and could cause a NE break.
- Over sporulation of coccidiosis vaccines is also a risk if the barn is too wet. Drying out the barn after day 15 is important for success.
- Rodent and pest control needs to keep maintained as these can increase the risk for diseases and clostridial challenges. Pay special attention to darkling beetle control.
- Lighting programs are an important tool as too much light can increase NE. Birds should be provided a lighting program that will reduce this risk: Here is an example of one that has shown success.
 - Day 1-3 **1D-22L**
 - Day 4-7 **4D-20L**
 - Day 8-14 **6D-18L**
 - Day 15-21 **8D-16L**
 - Day 22-28 **6D-18L**
 - Day 29-Fin **4D-20L**

Light off time should always be the same to allow birds to prepare to sleep; only light on time needs to be adjusted.



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Facility Preparation

We need to provide a clean comfortable environment to reduce challenges for RWA-NAP chicks.

- IT IS VERY IMPORTANT THAT YOU PRE-HEAT YOUR BARN AT LEAST 2 DAYS BEFORE THE CHICKS ARRIVE
- Remove old feed from the feed pans and blow the dust off the equipment.
- The brooding area should be cleaned as per the CFC’s Animal Care Program – dry cleaning each cycle with a wash down required once per year.
- Put new bedding in the barn, approx. 3” in depth.
- Check all equipment to make sure it is operating properly. (i.e. heaters, feeders, waters, ventilation and environmental controllers).
- Seal barn against wild birds, rodents and drafts (inlets closed).
- Fill the feed pans and ensure feed is to the outside edge so chicks can easily reach the feed.
- Pre heat the barn at least 2 days before the chicks arrive (90-93°f) 32-34°C – depending on relative humidity (RH%)
- Have enough air circulation to maintain an even temperature. Too much air circulation will cause the chicks to huddle; as a consequence, the chicks will not eat or drink properly, have a poor start and will be hard to successfully grow as RWA. Such challenges will have chicks with lower than average first week weights and higher first week mortality. Not enough air circulation will allow heat stratification costing more money to get the heat to the chicks’ level or not getting enough heat to brood the chicks properly.

Water Management

Set water pressure and adjust according to your nipple line manufactures recommendations.

Ensure that pH level is a neutral (6.5-7). Most farms will require acidification to get to this level. Below is an example of a water treatment program that can help deliver RWA success.

Nipple Flow Rate per week (milliliter{cc’s} per minute)*	
<u>AGE(weeks)</u>	<u>Flow rate</u>
1	27
2	34
3	41
4	48
5	55
6	62
7	69
8	76
9	83

*1 oz = 30 ml(cc); 1 cup = 273 ml(cc)

Spray Vaccination Procedure:

Vaccines are important tools for optimizing bird health to facilitate RWA production and that may include giving additional live vaccines on the farm. Because drinking water management is foundational to RWA we recommend that all live vaccines are given by spray. Ensure that non-chlorinated water is used and



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that no disinfectants or chlorine is every used in the sprayer, the sprayer should be cleaned with soap and water.

USE A DEDICATED SPRAYER FOR VACCINATING – USE NO OTHER PRODUCTS.

- Rinse sprayer before use.
- Rinse container with non-chlorinated water.
- Mix vaccine with non-chlorinated water.
- Spray vaccine within ½ hr.
- Walk the middle of the barn so that the chickens go to the outside walls. Dim the lights so that the birds will stay close to the walls. Do not turn off the lights as we need the chickens' eyes to remain open for the vaccine

Feeding Management (recommendations)

- Have enough extra feed on the floor on chick paper to last for at least 4-5 days during the brooding period – approx. 75 grams per chick on the floor not including feed pans.
- When starting chicks, it is very important that we get the chicks on food and water as soon as possible and there should be enough feed to last 4-5 days. The paper should not run directly under the nipple lines as you will waste more feed than necessary due to water dripping on the feed as the chicks drink and can also cause contamination and mold. Try to set up your barn so that the chicks don't have to walk much more than 4' to access food and water. With RWA chicks, having them on food and water as soon as possible is extremely important in gut development. This can be measured through crop fill.
- During the flock we recommend ad-lib feeding.



Temperature / Humidity Chart

Age (Days)	Target		Dry Bulb Temperature at RH%					
	Temp	RH % range	30	40	50	IDEAL		80
						60	70	
Day Old	86 °F (30°C)	60-70	95 °F (35°C)	93 °F (34°C)	91 °F (33°C)	88 °F (31°C)	84 °F (29°C)	81 °F (27°C)
3	82 °F (28°C)	60-70	93 °F (34°C)	91 °F (33°C)	90 °F (32°C)	86 °F (30°C)	82 °F (28°C)	79 °F (26°C)
6	81 °F (27°C)	60-70	91 °F (33°C)	90 °F (32°C)	88 °F (31°C)	84 °F (29°C)	81 °F (27°C)	77 °F (25°C)
9	79 °F (26°C)	60-70	90 °F (32°C)	88 °F (31°C)	86 °F (30°C)	82 °F (28°C)	79 °F (26°C)	75 °F (24°C)
12	77 °F (25°C)	60-70	88 °F (31°C)	86 °F (30°C)	81 °F (27°C)	77 °F (25°C)	75 °F (24°C)	73 °F (23°C)
15	75 °F (24°C)	60-70	83 °F (29°C)	81 °F (27°C)	79 °F (26°C)	75 °F (24°C)	73 °F (23°C)	70 °F (21°C)
18	73 °F (23°C)	60-70	81 °F (27°C)	79 °F (26°C)	77 °F (25°C)	73 °F (23°C)	72 °F (22°C)	68 °F (20°C)
21	72 °F (22°C)	60-70	79 °F (26°C)	77 °F (25°C)	75 °F (24°C)	72 °F (22°C)	70 °F (21°C)	66 °F (19°C)
24	70 °F (21°C)	60-70	77 °F (25°C)	75 °F (24°C)	73 °F (23°C)	70 °F (21°C)	68 °F (20°C)	64 °F (18°C)
27	68 °F (20°C)	60-70	75 °F (24°C)	73 °F (23°C)	72 °F (22°C)	68 °F (20°C)	66 °F (19°C)	63 °F (17°C)
30	68 °F (20°C)	60-70	73 °F (23°C)	72 °F (22°C)	70 °F (21°C)	68 °F (20°C)	66 °F (19°C)	63 °F (17°C)
35	68 °F (20°C)	60-70	72 °F (22°C)	70 °F (21°C)	70 °F (21°C)	68 °F (20°C)	66 °F (19°C)	63 °F (17°C)



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Water line cleaning procedure

After each flock has been completed, the nipple lines should be flushed and washed, during the barn cleaning procedure.

24hrs before the day of placement, H2Pro, PWT or citric acid will be flushed through the nipple lines. After the flushing, the H2Pro, PWT or citric acid will remain in the nipple lines until the day of placement. 1-2hrs before placement flush the nipple lines with clean water. Flush the nipple lines until the water at the back of the nipples is cold to ensure cleaning solution is removed. It takes approx. 1 minute to flush 100 feet of nipple line length.

After the flushing has been completed, release the pressure from the nipples by removing the cap at the back of the nipple lines. When the pressure has been released from the nipples, activate all nipples (with a broom) to ensure water is visible for chicks.

Between flocks:

Fill the water system and allow it to sit for at least 1-3hrs.

Cleaning Solutions	Mixing Rate (Metric)	Mixing Rate (US)
Vinegar For alkaline water	8 ml./liter	128 fl.oz. /128 gal.
Citric Acid For alkaline water	1.7 gm./liter	29-oz./128 gal.
Ammonia For acid water	1.0 ml./liter	16 fl oz./ gal.

When the birds are in the barn:

Cleaning Solutions	Mixing Rate (Metric)	Mixing Rate (US)
Vinegar	4 ml./liter	64 fl oz./128 gal.
Citric Acid	0.4 gm./liter	7-oz./ gal.
Ammonia	0.25 ml./liter	4 fl oz./128 gal.





Making a treatment decision:

The two big risks to bird health in RWA-NAP are Necrotic Enteritis and coccidiosis. Coccidiosis can trigger Necrotic Enteritis and if it is the cause of mortality it can be treated without using antibiotics. Remember that Coccidiosis responds to chemical and natural anticoccidials so jumping into an antimicrobial treatment even if NE is seen may remove the flock from the program unnecessarily!

Knowledge is power. Sofina will provide monitoring support for each RWA cycle which includes OPG testing (Coccidia Oocysts per gram of feces). You will receive a kit for sampling on days 9,12,15,18 & 21 and a live bird sample for gut health check at 24-28 days. If you don't have any concerns and opt not to send in live birds you can continue to take fecal samples for testing at 24, 27 and 30 days. All of this testing is paid for and will help evaluate your program and trigger early interventions if needed.

Everything starts with an accurate diagnosis! Many causes of mortality do not require or benefit from antibiotics so an accurate and complete diagnosis is the first step. Triggers for calling field service:

- The flock doesn't look quite right, water consumption is up, feed consumption has decreased, litter is getting wet, birds don't look good.
- If you see any blood droppings or an increase in the number of sick looking birds (outside normal culls).
- Anytime you have a concern about the flock

Contact your Sofina Field Service Representative based on the following mortality triggers:

Mortality of 1 bird/1000 or (0.1%) is considered normal, no response needed.

Mortality of 2 bird/1000 or (0.2%) for 2 consecutive days: is considered a valid reason to check the birds and send in a sample or use the telemedicine diagnostic program with a FSR.

Mortality of 3 bird/1000 or (0.3%) for 2 consecutive days: please bring in or call for a FSR to bring in a sample depending on age a non-antibiotic intervention will likely be recommended

Mortality of 4 bird/1000 or (0.4%) for 2 consecutive days: treatment with antibiotics based on diagnosis and depending on age a non-antibiotic intervention will be recommended

Mortality of 5 bird/1000 or (0.5%) for 2 consecutive days: a diagnosis is required and if the disease identified can be treated successfully with antibiotics, the flock must be treated with antibiotics based on the Sofina Welfare Commitment.

Our retail partners require that diseases which can be treated are treated to ensure optimal bird welfare. If another condition is present or reason for mortality is not likely to respond to antibiotics then the producer, together with our vets, will make decisions to monitor the flock and support as necessary.



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If a farm neglects to report, or if recommended, to treat a flock experiencing high mortality they may be disqualified from the program and eligible cost sharing premiums. All antibiotic treatment decisions must be made in consultation with the Sofina live production team and by prescription from our Sofina Veterinary team and reported immediately upon initiation.

It is common in the poultry industry to deal with periods of high early mortality related to yolk sac infection and omphalitis (navel infection). The standard recommendation in the program is to take in a mortality submission for diagnosis and cull the flock heavily up day 7 and treat at that time if required and if a suitable treatment is available based on bacterial sensitivity.

Guidelines for using the non-antibiotic health management tools provided:

Some of the most effective non-antibiotic treatments for your flocks will include: Copper sulfate (helps with bacterial and fungal overgrowth), Oregano oil (a strong anticoccidial) and acidification of the water during the first week to help improve effectiveness of chlorine in the water and control bacterial overgrowth in the crop of the bird. Sofina is providing these products as the foundation of the RWA health program and to give you some effective tools to use in response to challenges the flock faces. Your feed company will provide an attestation that the feed will not contain antibiotics, ionophores or animal products so you don't need to worry about your feed program. Any product you want to use in the water must be recorded on the flock sheet and should be confirmed to be a non-antibiotic and have no animal products in it. Many vitamins use gelatin coating which may not appear on the label and would disqualify your flock from the program and premium so please check before you use anything. A list of approved products will be compiled over time and change with the program.



Protocol (with chemical coccidiosis control in the Feed):

Chemical anticoccidial control is done in the feed using one of these products: such as, Robenidine (Robenz), Clopidol (Coyden), Nicarbazine (Nicarb), Diclazuril (Clinacox), Zoalene (Zoamix), Amprolium (Amprol), Decoquinatate (Decox). You need to discuss and understand these programs with your feed company. Every farm has used different products over the years and the resistance pattern of cocci on your farm can only be predicted from previous usage and actual measurement. This is why Sofina is supplying fecal coccidia oocyst counts and live bird cocci/gut health scoring for flock performance and measurements. General recommendations are that you should avoid using Amprolium because it is our only water treatment available.

Day 1-5: Microbiologically clean water pH of 5.5 - 6.5 (confirm both with testing). An organic acid product will be provided to use in the first week.

Day 7,8: Copper Sulfate - Low Dose 400g to 15L (stock solution)

Day 14-21: Regano (recommended dose)

Day 25,26: Copper Sulfate - Low Dose 400g to 15L (stock solution)

Day 28,29: Copper Sulfate - Low Dose 400g to 15L (stock solution)

Day 35,36: Copper Sulfate - Low Dose 400g to 15L (stock solution)

48 hours before shipping: H2Pro or PWT (as per recommendations)



Protocol (with coccidiosis vaccine given at hatchery):

It is important to remember to connect with your feed supplier and the hatchery to coordinate coccidiosis vaccination control programs. The feed supplier must know not to include coccidiosis control in the feed early in the program as it will kill the vaccine and cost the farm unnecessarily for those products. The hatchery must know that you plan to use vaccine so they order enough vaccine and administer it to the birds after hatch. The lab must know what program you are using so they know how to interpret your fecal coccidial oocyst counts and live bird cocci/gut health scoring. Low Fecal coccidial oocyst counts (no evidence of cocci cycling) early on in a vaccine program indicates a vaccine failure and (high levels of early cocci cycling) on a feed control program represents a control product failure.

Day 1-5: Microbiologically clean water pH of 5.5 - 6.5 (confirm both with testing). An organic acid product will be provided to use in the first week.

Day 7-9: Copper Sulfate - Low Dose 400g to 15L (stock solution)

Day 14-16: Copper Sulfate - Low Dose 400g to 15L (stock solution)

Day 21,22: Copper Sulfate - Low Dose 400g to 15L (stock solution)

Day 28,29: Copper Sulfate - Low Dose 400g to 15L (stock solution)

Day 35,36: Copper Sulfate - Low Dose 400g to 15L (stock solution)

48 hours before shipping: H2Pro or PWT (as per recommendations)

Regano can be applied after oocyst levels are recorded, you do not want to apply the Regano without knowing your vaccine has been effective or you can kill the vaccine and end up with full exposure to birds at the end of the cycle where they will very likely break with cocci and or necrotic enteritis.



Copper Sulfate Vet Recommendations (RWA Sofina Program)

As per label directions:

$$\frac{500g}{4L} \times \frac{30mL}{9000mL} = \frac{0.4167g}{L} \text{ dosage concentration}$$

Stock Solution will need to be:

$$X \times \frac{1}{128} = \frac{.4167g}{1L} \quad X = \frac{53g}{1L}$$

1 Scoop (200g) in 3.75L of **warm** water to create stock solution. Dose stock solution at 1:128 into the drinking water.

*If using a 15L stock solution mix the stock solution at a rate of 800g (4 scoops) per 15L of **warm** water and dose at 1:128 in the drinking water.*

Veterinary Recommendation as per label and as part of a health monitored program without the use of antimicrobials:

Low dose for dysbacteriosis and prevention - 400g to 15L (stock solution)

Administered at a 1:128 for 2 days

At these rates you will use approximately 200g of Copper Sulfate to treat 1000L of drinking water

High dosing for Necrotic Enteritis - 800g to 15L (stock solution)

Administered at a 1:128 for 3-4 days

At these rates you will use approximately 400g of Copper Sulfate to treat 1000 L of drinking water

- please call for bulk tank instructions if you need those



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Regano Vet Recommendations (RWA Sofina Program)

As per the label:

50ml of Regano per 1L of stock solution dosed at 1:128

OR

3.8L (jug) of Regano per 76L of stock solution dosed at 1:128

- please call for bulk tank instructions if you need those



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Pre-harvest Water acidification:

Please use as per the label and based on your water pH to drop 1 log in the last 48 hours. If your water is usually at a pH of 6.5 target a pH of 5.5 for the last 48 hours. If you are acidifying your water all the time and have a high pH water source and or a lot of mineral, H2Pro or PWT may add too much sodium to the diet and may not be the right choice for ongoing acidification.

H2Pro or PWT can be used as part of a first week mortality intervention along with increasing the chlorine levels in the water so please contact your FSR for advice with any problem or concern with the flock.

You can submit a water sample with your bird and fecal samples for water micro testing and water acidification testing. The lab will test your water to tell you how various acids perform to drop the pH based on its' chemical makeup and buffering capability. This test could save you a lot of money in acidifiers.

Feed Withdrawal and the last 48 hours

With all the effort and investment in your RWA flock the last 48 hours is critical. The program requires that your flocks will be the first through the processing plant and so any problem with feed withdrawal and quality will have a big impact on the plant. Hopefully your flock has been healthy and that is the best situation we can deal with. We can also expect many flocks or at least a portion of the birds in most flocks to have dysbacteriosis (upset microflora and loose droppings), enteritis or coccidiosis. You will see decreased water absorption in the gut in the form of increased litter moisture and softer droppings. Birds will be drinking extra to help offset this challenge but of course during feed withdrawal and shipping they will eventually not have access to water.

By using **H2Pro or PWT in the water**, as per the instructions, for the last 2 days before shipping will help acidify the contents of the crop which lowers bacterial levels (particularly Salmonella and spoilage bacteria) it also gives a low level of sodium which helps the birds absorb and retain water. This water retention is a win-win for the farm and the plant as obviously the bird weights go up (great for the grower) and the muscle moisture increases. This water uptake is primarily intracellular (water in the muscle cells) which is important because this is the moisture that stays in the product during cooking and freeze thaw. By starting the water acidification and sodium delivery with H2Pro or PWT you are setting the birds up to be well hydrated for feed withdrawal, catch load and transit. This step also sets up the plant to produce very high-quality poultry products from a food safety and quality perspective which is the ultimate goal for all of our hard work.



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Feed withdrawal is a term used to describe lifting the feed lines at the farm and the total time the bird is off feed which can be confusing. It is very important to differentiate between the time off feed while the birds have access to water, are walking and digesting normally (On farm feed withdrawal) and the time off feed while (catching, crating, transit, unloading) at the plant (total feed withdrawal). These two periods together equal the total feed withdrawal time

Total Feed Withdrawal = On farm feed withdrawal + time in transit and Lairage

Ideally your feed withdrawal will be:

Total Feed Withdrawal (**8 hours = Total**) = Feed lines lifted with access to water (**4 hours = feed lines up with water**) + (catching, crating, transit, unloading) (**4 hours = without water**)

48 hours before shipping: Acidify Water using H2Pro or PWT provided, turn off feed to run down lines and empty out fines.

- 4 hours before catching raise feed lines 2.5-3 feet just high enough the birds can see the pan but not reach them. Call and confirm that catchers and trucks are on time. Call the catching supervisor 8-12 hours before you expect them to arrive to ensure there are no delays.
- 1 hour before catchers arrive you can turn off water and raise all of the water and feed lines to the ceiling.

Common and expensive mistakes:

- **Mistake: Extra on-farm feed withdrawal beyond 4 hours.** For every additional hour off feed than needed a 2.3 kg bird will lose approximately 7 grams of body weight so for a flock of 30,000 birds that is 210 kg/hour.
- **Mistake: Turning off feedlines to get birds to clean the pans.** Feed withdrawal is started by raising the feed lines 3 feet above the birds and there should be some large particle feed in the pans at that time. Birds will start pecking at and eating the litter if they can't see the feed pans. If the pans are empty when raised you have already started feed withdrawal randomly and are losing gain and quality. At least 48 hours before shipping when you are starting your preharvest water acidification, allow the lines to empty and dump out the fines. The lines should be charged with fresh feed prior to feed withdrawal.
- **Mistake: Raising water lines when you raise the feeders.** This delays crop emptying and contributes to dehydration, weight loss and product quality loss. Raise the water lines right before catching.
- **Mistake: Lowering the barn temperature before catching.** By lowering the barn temperature the birds will be disrupted and stop eating normally. The digestive process and water consumption slows down if you lower the barn temps.





- **Mistake: Having a dark period in lighting right before or during the expected feed withdrawal.** Birds will eat less when the light goes out and tend to feed up right before lights go out without necessarily drinking the same amount after that meal. We want the birds to be drinking water with the lights on right up until we raise the lines.

Thank you for participating in the program and supporting the industry!

