

Roadrunner Chickens and Waning Disease Resistance

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There is heightened interest in raising indigenous chickens in the country at the moment. As the indigenous birds are fast gaining commercial recognition and widespread consumer appreciation, there has been an upsurge in the number of players joining this very promising poultry value chain. The major players in question are the breeders of the indigenous birds, fertilized eggs producers, hatchery operators and the farmers who raise and fatten the birds for the market. The sector is fast getting so organized that today one can procure any quantity of day old indigenous chicks with little effort, a feat which was not attainable in the five years ago. Nevertheless, as the sector strives to take root challenges are arising and hounding the farmers, particularly the new entrants. In the past few weeks, I have been inundated by farmers' emails and calls regarding the issue of disease resistance of the indigenous birds. The major concern raised is to the effect that the farmers are observing a significant departure from the norm in terms of the birds' ability to deal with diseases as well as general vitality. Traditionally our indigenous birds are famed for their hardiness, adaptability, high disease resistance and low maintenance. However, these highly sought-after characteristics seem to be waning away as the intensification of the indigenous birds gathers momentum. This article shall tackle some of the major reasons for the above-mentioned shift from the norm and attempt to proffer some practical solutions to these challenges.

Chick Quality

One of the possible causes of death being experienced could be poor quality of chicks. If one is not producing their own chicks as is the case with most new players in the indigenous poultry sector in Zimbabwe there is need to make judiciously checking the quality of the chicks which they procure in order to avoid problems along the way. There is raft of problems that emanate from the hatcheries which can easily be passed onto the farmer if they are not vigilant enough during procurement. Sadly, most of the farmers I have interacted with lately confessed that they are not able to differentiate chicks that are likely to die before the expiry of 14 days and those that will survive to maturity. Lack of technical skills is always costly because they are numerous hatchery flaws that one should astutely avoid. These are chicks with improperly healed navels as well as those with buttons. The belly characteristics should also be such that there is least likelihood of the chick

to succumb to a disease called omphalitis. Commercial hatcheries normally have quality control protocols which select against defective chicks, but now the scenario we have in the indigenous poultry sector is that a good number of the day old chicks are coming from small-scale hatcheries and individuals who in most cases do not put so much emphasis on chick quality issues. It therefore remains the farmers' responsibility to demand quality before they part with their money and walk away with a box full of problems.

Vertically Transmitted Diseases

In the attempt to avoid unwarranted deaths, it remains important for the farmers to carefully consider their sources of chicks. Chicks should be procured from sources that are famed for the provision of good birds. This helps in the evasion of inheriting some vertically transmitted diseases. By this I am alluding to those diseases that are passed from the parent hens through the egg to the chicks. Quick examples that come to mind are such daunting bacterial disease as salmonellosis and mycoplasmosis as well as viral diseases like avian encephalomyelitis, egg drop syndrome and leukosis just to mention but a few. As such all hatching eggs should be procured from disease free flocks to avoid this challenge. Whilst this may prove very difficult a feat to accomplish particularly ascertaining the disease statuses of the parent flock before procurement. Currently it really is a difficult exercise to execute as the sector is still in fledgling phase hence the observed increase in disease incidences. However, there are some producers I know who have perfected their art of keeping these indigenous birds. Such should be one's target when searching for disease-free birds as well as hatching eggs.

Maternal Immunity

The disease immunity exhibited by the chicks of the indigenous chickens is largely as a result of the presence of antibodies inherited from the parents. The mother hen packages an array of antibodies in the yolk of the egg for use by the resultant chick during the first few weeks of life. This is the period during which the chick will be developing the capacity to produce its own antibodies so it relies on the passive immunity passed on from the parents. What must be appreciated is the fact that antibodies are varied and they are specific to the antigens they respond to. In addition to that, the birds produces antibodies specific to a certain pathogen after mild exposure to that particular disease. This therefore means that the array of antibodies packaged by the hen into the egg for later use by the chick is never uniform as it can only possess antibodies that represent the disease challenges that it has been exposed to. So, the chick is geared to thwart off any disease challenges that are common in its mother's environment. The problem arises in our situation where the chick will be called upon to thrive in another environment different from its mother's. Our scenario is such that the breeding hens are in Chiweshe for instance and the eggs are purchased by a hatchery operator in Harare who later sells the chicks to a farmer in Marondera. In such a case the expected disease resistance in the first week or so will not be attained owing to the fact that the chick will be presented with diseases different from the ones experienced by its mother hen in Chiweshe. In essence the chick will not be able defend itself since it might not have all the antibodies required in the new area. To get around this challenge and ensure survival of chicks, vaccination support should be availed to any bird imported from another area. In addition to that biosecurity should be especially during the early days in order to avoid exposing the chicks to diseases that they are not able to manage.

Husbandry Methods

The observed reduction in the ability to deal with disease challenges could in part be stemming from the husbandry practices preferred on the birds by the farmer. Whilst it remains true that our indigenous birds are disease tolerant and hardy when compared to broilers and the like, it does not follow that they can make do with mismanagement and gross ill-treatment as most of us would like to believe. These birds require good conditions too in order for them to thrive. For instance, if one chooses to raise chicks from day old without the mother hen, they have to find a way of keeping them warm artificially. I have attended to situations where the element of providing warmth is summarily ignored on the basis that the indigenous birds are “stronger” than broilers. That is not correct given that naturally they would get a warm covering from their mother.

In addition to that, as the commercialization of the bird gathers momentum, there is a growing tendency to grow the birds under conditions that somewhat resemble intensive production systems. The conditions in question refer to housing and space allowance per bird. The attempt to confine indigenous chickens in cages or fowl runs where they are crowded all day infringes their freedom and right to expression of their natural behavior. Whilst this may not worry most of us as we chase the dollar, it has untoward effects on the health of the birds. The stress which the birds experience as they endure the conditions of the cage or pen is responsible for most of the deleterious impacts on health that most farmers are grappling with. Stress stimulates the release of a cocktail of ‘stress hormones’ which are known to have immune-suppression effects thus exposing your birds to infections.

Free-ranging birds tend to be healthier than their caged counterparts owing to the fact that as they wander around the yard they get in contact with a lot of environmental pathogens. They are able to develop antibodies for all the local pathogens thus building the disease resistance for which indigenous birds are famed. In addition to that, they tend to get access to nutrients from diverse sources which in some cases have a role to play in disease resistance. It is without doubt that free-ranging birds also benefit from the ample exercise which they get as they move around. It also remains an advantage on the part of the birds especially the young ones; to be exposed to sunshine as it confers them with vitamin D. Therefore, the farmer should be careful to keep his/her husbandry practices as close to ideal as possible in order to benefit fully from the disease resistance, hardiness and productivity of the indigenous birds. Should there be a significant deviation in terms of how one manages the birds then they should also take the correct steps in terms of vaccinations, biosecurity as well as stress management in order to eschew losses.

Nutrition

A well fed bird performs better in the face of a disease challenge than its malnourished counterpart. The issue of nutrition is one of the key drivers of the observed reduction in disease resistance especially when it comes to confined indigenous chickens. This is so because a good number of the poultry keepers especially those that joined the rush recently are so confident that the indigenous chickens can make do with very little of their input to the extent that they do not make any deliberate effort to secure good nutrition for their birds. There is this general belief that indigenous birds just require small grains only as feed. I have seen people queue up to procure hordes of

sorghum after which they feel they have done justice to the nutritional needs of their birds, how unfortunate that is. Indigenous chickens require a balanced diet just like any living body for them to function optimally, produce as well as deal with any disease challenges. Whilst sorghum and other small grains are good as supplements to those birds that are free ranging, they should not be taken to constitute a sole diet for those birds in confinement because the birds cannot derive all their nutrient needs from a single type of grain.

When birds are free ranging they have better chances of access to a whole array of nutrients because they eat greens from which the bulk of vitamins and minerals are obtained. Not only that they access lots of proteins when they consume such things as worms, termites and insects. The grains that most of us are so fanatical about are largely carbohydrates. So, if one decides to raise the birds in confinement, efforts should be directed towards availing a balanced meal to the birds if they are to thrive well. They need good supplies of vitamin A, vitamin E and micronutrients especially selenium in order to build capacity to fight off infections. It is against this background that I suggest that farmers reconsider the way they are feeding their birds and try to mimic the dietary provisions available to the birds when kept under natural systems if they hope to enjoy the usual disease resistance and productivity of the indigenous chickens.

It is therefore imperative that farmers pay due attention to the production fundamentals highlighted in the discussion above in order to get optimum performance from their indigenous birds. The ability to keep the birds healthy is key to the success or failure of any poultry venture and road –runners are no exception.

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