

Understanding Difficulties of Economic Ostrich Processing

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The processing of Ostrich is developing in many countries. Very often, producers themselves are joining together to set up a processing operation to assist their fellow producers in the marketing of the birds. There is one common complaint heard continuously from processors in all countries, including South Africa, and that is the tremendous “variability” in carcass and individual muscle weights. When studying the economics of this problem, all by itself, it is clear to see why the success of the industry is put in jeopardy for everyone. There is also tremendous difficulty with what the consumer/customer is expecting in muscle weights when purchasing whole muscles from a processor. This is because of some very poor muscle weight guideline data being publicized in the industry. Until Producers and Processors address this situation on common ground, it is most difficult to produce and market Ostrich in an economically viable manner. Why is this?

There are several underlying industry factors contributing to the economic processing of Ostrich in a viable manner:

1. Moving from a “skin driven” industry to a “market driven” industry
2. Large range of variance in weight and quality of individual muscles
3. Industry Meat Charts stating contradictory information
4. Variations in Meat Quality
5. Variations in Revenue per Bird

“Skin driven” to “Market driven” industry:

The industry is trying to move from a skin driven ‘controlled supply’ market to a ‘market driven’ professional livestock production industry, which includes the marketing of high quality meat muscles that consumer’s desire. The majority of knowledgeable people report they recognise it requires birds yielding greater than 40kgs meat for the industry to be commercially viable for producers, processors and the industry itself. However, others are continuing to attempt to retain a skin driven ‘controlled supply’ situation, based on raising and processing birds with poor quality meat using outdated livestock farming methods. It is the belief of these few that this will preserve the market value of the skins and the only way to produce ostrich commercially, which is a backward direction for a viable Ostrich industry.

It is this conflict that is currently stifling forward progress by providing producers, the people raising the ostrich, with conflicting advice which is presenting meat processors with some tremendous difficulties and is also confusing our meat consumers/customers at the same time.

Large Variance in Carcass/Muscle Weights – Processing Difficulties:

Processors have orders to fill and plan their production on knowledge of the number of birds they have booked for slaughter or can handle in a day. The range of carcasses, total meat yields and individual muscle weights, varies from the worst case scenario of a batch of slaughter birds AVERAGING 16kgs (35 lbs) of total meat to in excess of 50kgs (110 lbs) of meat from birds 12 months of age. This is a range of 34kgs/bird (75 lbs) ...more than 300% variation in meat yields from low yield to high yield birds.

We have seen cutting sheets from high yielding birds where all in a batch yielded in excess of 50kgs (110 lbs) of boneless meat from slaughter birds 12 months of age. It

would take more than 3 birds of the worst case example of low yielding birds (16kgs) to supply the SAME weight of meat from these type of high yielding meat birds. This high variance results in a terrible problem for the processor who is trying to produce an economically viable product.

As can be seen from these extreme yield variances, economics and planning are impossible and the processing costs of processing 3 times more of these smaller birds is totally unfeasible.

Additionally, the meat from the small birds will generally be of severely inferior quality to that of the best birds. Figure 1 is taken from one processor's records demonstrating their worst, average and best birds over a period of 18 months. One can easily see by looking at Figure 1 that it is impossible for the processor to buy and make payment to the producer fairly when the payment system is "By the Bird" (same price for each bird). It illustrates the need to pay on a boneless meat YIELD basis, not a "payment per carcass" or "payment per bird" basis. In the situation of a payment by carcass or payment by bird basis, the only winners are the poorest producers raising the poorest quality meat thus putting the entire industry at risk as working in this way is not economically sustainable.

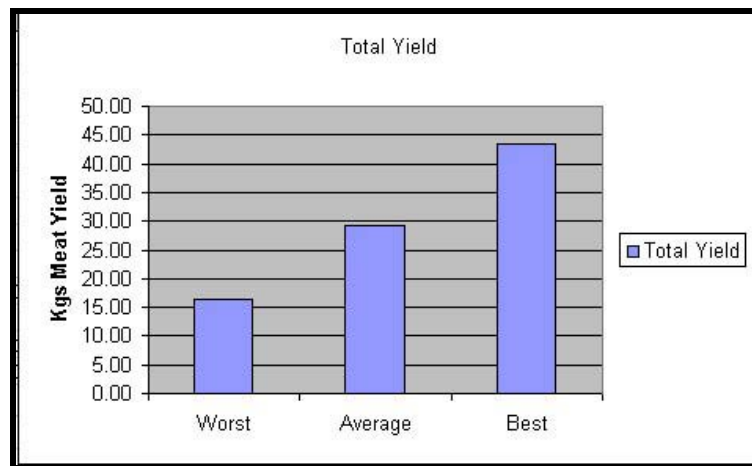


Figure 1 - Yield Comparisons

If a plant is slaughtering birds at capacity...say 100 birds/day, with these "low yield" and "high yield" ranges they could have as little as 1600kgs meat to sell or in excess of 5000kgs from the SAME number of birds. Imagine the cost and planning implications for the processor? No processing industry can be efficient in these circumstances.

The processing costs will be very similar per bird...but as can be seen in Figure 2, there can be as much as 300% variation in the costs per kilogram to process those birds as a result of the variations in meat yield. This clearly indicates the reasons why processors cannot fairly afford to pay by bird or carcass. When paying by boneless meat yield, it has to be on a "graded meat quality" basis connected with a "total meat yield" to encourage the good birds and eliminate the birds that are uneconomic for the producer to raise and the processor to process. This will also ensure progress toward high quality meat that is most desirable to our consumer/customers so they will come back for more.

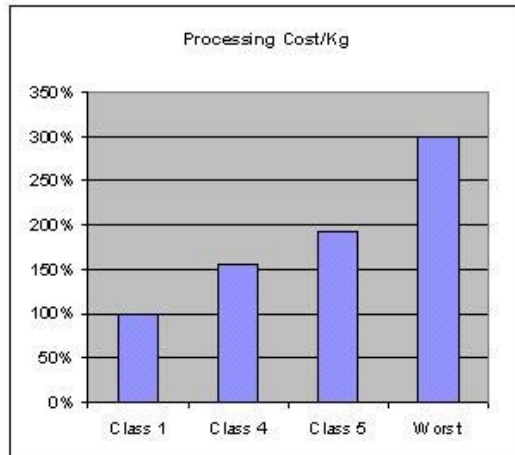


Figure 2 - Comparative Slaughter Costs per kilo Meat

Industry Meat Charts stating contradictory information:

In 2000, the International Ostrich Association (IOA) produced a Meat Chart to assist in standardising muscle identification and also provided average muscle weights for guidance. Previous to the introduction of this IOA Meat Chart, the American Ostrich Assn in the U.S. (AOA) also created its own AOA Meat Chart that included muscle identifications and muscle weight ranges. Table 1 references the differences of a few example muscles between these two associations. It is no wonder there is terrible confusion in the Ostrich industry. It all depends on the chart being used in a certain country as to what the consumer/customer is expecting and demanding.

Table 1 - Comparative Meat Chart Muscle Weights

MUSCLE	IOA Meat Chart Weight	AOA Meat Chart Weight
Fan #OS1046	+/- 1500 grams	1730 - 2140 grams
Oyster #OS1045	+/- 300 grams	730 - 760 grams
Round #OS1035	+/- 1000 grams	1770 - 2090 grams
Outside Strip #OS1036	+/- 300 grams	545 - 635 grams
Inside Strip #OS1050	+/- 300 grams	545 - 680 grams

This is causing significant difficulty for the processors as customers reading these meat charts have come to expect muscles of these weights (depending on the meat chart being used)...and therefore it reflects very poorly on the processor when these weights are highly variable. As can be seen the muscles weights in the Figures 3 and 4 were more than double in most cases between the worst and best. Therefore providing averages on the chart in this way is highlighting the variations and creating further difficulties.

To confirm the fact that the IOA Meat Chart is misleading customers and the industry, Blue Mountain has slaughter record data from the U.S. from large batches of birds fed correct diets and producing the highest quality meat possible using the Blue Mountain "New Ostrich Industry" concept of cost effective meat production. The Blue Mountain data shows yet a different story to the IOA Meat Chart. Table 2 clearly shows that birds fed a correct diet will FAR surpass the individual muscle weights indicated in IOA International Meat Chart. The birds used in this data were not "superior genetic" birds, but rather average birds raised by several different producers and all birds on a good nutritional diet. It is also important to note the Table 2 muscle weights was Ostrich Meat that ALL graded as PRIME ostrich meat grade with bright red meat of even colour with the highest degree of tenderness which is what our consumer/customer demands.

Table 2 - Blue Mountain Recorded Muscle Weights

MUSCLE	BM RECORDED WEIGHT
Fan #OS1046	2341 grams
Oyster #OS1045	1114 grams
Round #OS1035	2091 grams
Outside Strip #OS1036	636 grams
Inside Strip #OS1050	818 grams

Table 2 also tends to confirm that data used to determine average individual muscle weights on the IOA International Meat Chart shown in Table 1 HAD to be derived from either very poorly fed birds or severely deficient genetic difficulties. But, Blue Mountain has enough meat weight information data to ascertain that it is clearly a representation of some very poorly fed birds rather than only genetics. In our opinion, the individual muscle weights shown in the IOA International meat chart are muscle weights that again clearly identify a bird that is not economically viable for the producer to raise or for the processor to economically process for a viable industry.

Because this type of incorrect data (very small muscle weights from poorly fed birds) is being published on some meat charts around the world, the customer/consumer is expecting something that is not economically viable or proper for the Ostrich industry to produce or process. A "giant" industry mistake!

Examples of Extreme Variations of Muscle Weights:

Swartland Abattoir in South Africa, have provided a couple of practical examples as this is such a major problem to them:

1. They have a large supermarket customer in Europe that take the Oyster Filet (OS1045) as a minimum 200gram steak, presented in individual trays. In one batch of 92 birds NOT ONE of the oysters achieved the required minimum weight of 200grams. They were ALL too small. The order was lost as they could not supply. In this example, the birds were even MORE nutrient deficient in their diets and could not even begin to meet the very low minimum of the IOA meat chart, let alone have a chance at being decent quality meat with average weight muscles.

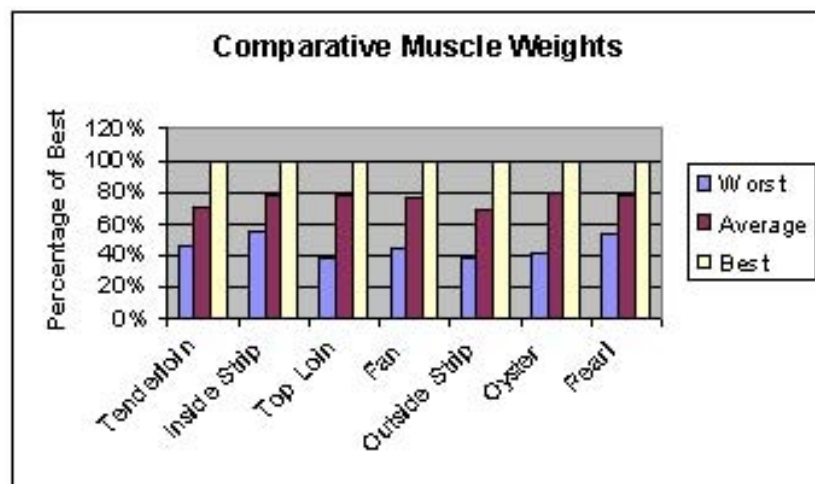


Figure 3- Comparative Weights Individual Tender Muscles [US Meat Chart Names]

2. Take this further...the customer in this example is looking for a minimum 200gram steak. The lowest weight of the Oyster filet used in Figure 3 was

275grams and the heaviest 680grams. We have seen batch sheets with averages for the Oyster filet at 1000grams and more harvested from properly fed birds. That would provide 5 by 200gram Steaks for this customer from ONE bird. As can be seen most clearly, it is extremely difficult to plan production and supply with such variability in bird size, muscle weight and size, and meat quality differences in the birds because of diet fed.

3. Another customer takes the Round (OS1035) cut through the middle to enable removal of the sinew that runs through this muscle. This customer expects (because of his knowledge of the IOA Meat Chart with low muscle weights) that each half will weigh a minimum 500grams; anything smaller this customer is not interested in as it is not useable for his needs. The larger the muscles, the happier he is. All too often Swartland reported that OS1035 fails to meet this weight resulting in a dissatisfied customer. This again indicates that producers are raising some very poor birds raised on very poor nutritional diets. This matter is destroying the very industry we are trying to progress.
4. It is worth noting that the smallest Round (OS1035) in Figure 4 was 1.6kgs and the best 2.2kgs...the best more than DOUBLE the size stated for this muscle on the IOA meat chart.

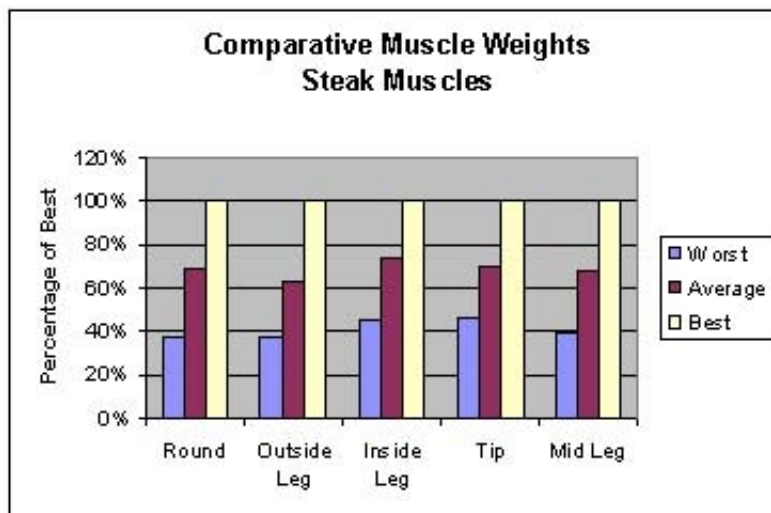


Figure 4 - Comparative Weights Individual Steak Muscles Muscle names as per US Meat Chart

When a slaughter plant cannot supply, this is not only loss of revenue but also puts the credibility of the slaughter plant (and our industry) in question. Slaughter plants everywhere are currently facing these types of problems. This variability from batch to batch is IMPOSSIBLE for them to work with. This is one of the most important factors that has resulted in the failure of so many processing operations or making it most difficult for others to operate efficiently. It is also one of the reasons that so much emphasis continues to be placed on the need for high revenue from the skins, which takes our industry backwards.

Variations in Meat Quality:

OS1060 – for those without a meat chart handy, this is the muscle that goes part inside and part outside the carcass. In Figure 3 it is the Tenderloin (US Meat Chart). In a quality meat bird this muscle is perfectly even right through and one of the best muscles on the birds. Some processors have NEVER seen this. With correctly fed birds it is impossible to tell one end from the other in tenderness, the muscle fibre "grain" all runs in the same direction when cut cross grain as it should be...all cuts are exactly the same. In a poorly fed bird the one end is course grained and can

hardly be cut with a knife. The IOA International Meat Chart shows this muscle as split to Filet quality and Steak Quality. This is an immediate loss of revenue, as a high value muscle becomes a lower value muscle. It is also a poor reflection on our industry that there has been seen to be the need to differentiate this muscle in such away as those designing this chart had clearly never been presented with well produced Ostrich. What are the financial cost implications?

The actual weight differences for muscle number OS1060, called the tenderloin and referenced in Figures 3, shows the "worst" weight with a low of 815 grams and the "best" weight shows a high of 1760 grams. When reading the IOA meat chart, it shows 500 grams total weight, split into two different classifications – OS1060F (filet) and OS1060S (steak). These low yielding birds can only achieve 50% at the premium price for OS1060, as it has to be divided. One does not need to be a mathematician to understand the financial implications of this are most significant.

One European processor has informed me they find "filet" quality muscles so poor in some birds that they market them as "steak" quality, not wishing to risk their reputation selling them as "filet" quality. Conversely with the better quality birds they are marketing "Steak" muscles as "Filet" quality as they are of excellent quality by comparison. Very difficult to "plan" production for customer orders not knowing if one can supply specific customer needs in this situation.

Another factor very noticeable when visiting processing plants is the amount of light coloured meat that has to be trimmed from a high value "filet" muscle. This has two cost implications: The loss of revenue because of the loss of weight of high value cuts plus the additional processing time required to trim these muscles.

Finally, poor muscle development and muscle degeneration, caused by extremely poor bird diets, results in tremendous variations of meat colour from batch to batch and also effects meat taste and texture. In birds fed PROPER diets, the individual muscles and muscle groups may show slight variable colour before separation, but once separated, the antioxidants in the meat take over and all become the same bright red colour.

Variations in Revenue per Bird:

In regards to the comment:

“Nutritionists are telling farmers they can have birds at slaughter weight by 9 months but the skins are not sufficiently mature at this age to have a quality skin.”

This comment is stated all too often and made by those with NO knowledge of livestock nutrition. So why do they continue to make these statements?

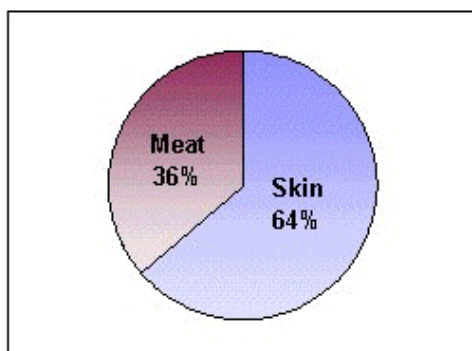


Figure 5: SA Genetic Bird 2001

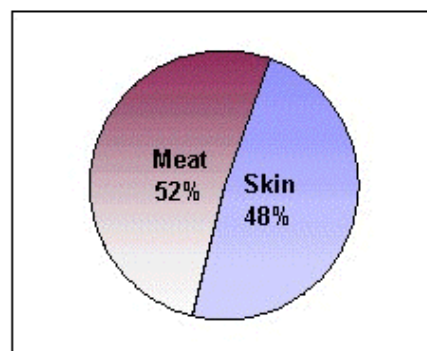


Figure 6: SA Meat Bird 2001

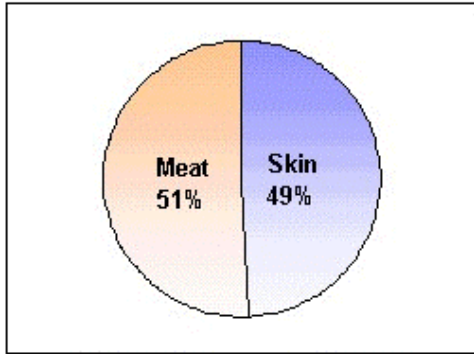


Figure 7: Canada Generic Bird 2001

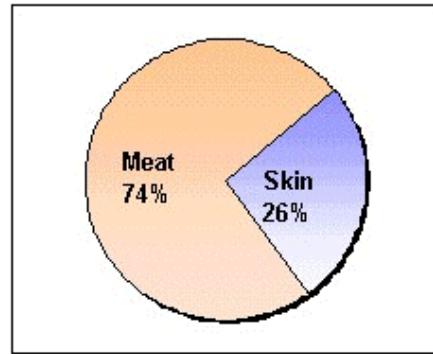


Figure 8: Canada Meat Bird 2001

People making these statements have NEVER had the opportunity to see skins from PROPERLY fed birds for comparative purposes. It has also been assumed by these same people that 95kgs is the correct live weight of a bird at slaughter...yet a larger bird, properly fed, will produce greater usable skins and much higher yields of quality meat...something that will provide manufacturers and processors with a more commercially viable product.

It has been argued to producers that the meat revenue from a bird is only 25% of total bird revenue...of course it will be if the birds are demonstrating so many signs of malnutrition and producing so little muscle development. The economics change significantly once a bird is producing double current low meat yields...even if slaughter is delayed till 12 months rather than 9 months of age. Some nutritionists tell farmers that only fat is produced on birds fed more than 9mths—this is simply not true and a statement of ignorance. A correctly fed bird will continue to put on muscle cost effectively until 12 – 14mths, though it is probably questionable if later slaughter optimises the profits for the farmers because of the lower feed conversion factors in the later months.

Figures 5 and 6 2001 assume current average meat prices (gross of slaughter fees) paid by South African abattoirs and an average R1000/skin (US\$125). It could be questioned how many farmers, not marketing their own skins, actually achieve this AVERAGE for all their slaughter birds. Many farmers do not see any feather revenue as they don't harvest them to eliminate bird stress or see any direct benefit from the processor, so feathers are not included for this exercise. As can be seen in Figures 5 and 6, even the lightweight bird shows the meat revenue is 36% (Figure 5) of the total revenue of that bird for the farmer and this meat revenue increases to 52% on a quality meat bird (Figure 6).

Figures 7 and 8 are based on US\$105/skin for both (lower skin revenue), though I am told that the low weight slaughter birds produce skins that generally achieve discounted payments much lower than that price, as they do not achieve acceptable quality. One can easily see how GREAT and important the meat revenue itself can be to the overall TOTAL revenue of the bird (meat and skin revenue) even when skin prices are lower. The past 12 months have seen significant changes in the Rand Value of the meat revenue and an easing of skin prices. This has changed significantly the percentage value of the meat revenue; even from a non-meat bird...see Figures 9 and 10.

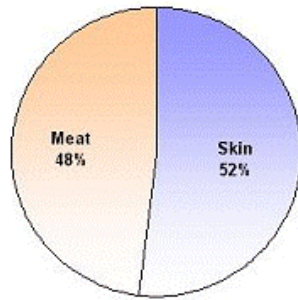


Figure 9: SA Generic Bird 2002

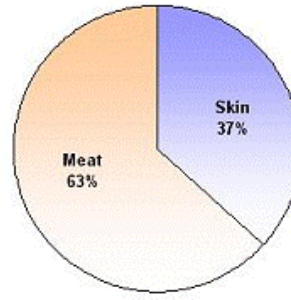


Figure 10: SA Meat Bird 2002

As a side note, it is also important to know that the overall TOTAL revenue per bird (skin and meat) was 10% better in Figure 7, when compared to Figure 5, despite the lower skin price in Figure 7 on the standard birds. Also, the overall TOTAL revenue per bird (skin and meat) was nearly 60% better in Figure 8, when compared to Figure 6, despite the lower skin price in Figure 8 on the meat birds. What this proves is that the MEAT REVENUE is most important to overall total revenue of the bird especially when times are depressed on skin prices. Trying to "CONTROL" skin prices is NOT the answer to a "viable" Ostrich industry. The answer IS to produce a quality bird that will yield quality meat and quality skins with high yields and extremely good consumer acceptance. That will maintain good consumer demand for all of our Ostrich products and will in itself develop a "viable" Ostrich industry.

So, where do we go from here as an industry to straighten out and correct this mess in order to progress to a viable industry?

Achieving Quality Meat Birds:

The above illustrations demonstrate just how necessary it is for the processors to be presented with more consistent birds of good quality. Achieving this will take time with the first step recognising the problem, understanding the causes, and then putting in place programs to address the situations that are causing the difficulties.

The correct nutritional program of the slaughter birds is essential to achieve good meat production. There has been little published data presented in the past and the data that has been published was based on feed rations that were designed to 'hold' birds rather than optimise the ostrich's outstanding ability to convert feed to muscle. Leading nutritionists have been quoted as stating: "Feed formulas must be produced to prevent any fat on the birds" and "Abdominal FAT is of no use to the bird whatsoever and a waste of feed dollars". A certain amount of fat production is always essential for good health and good muscle development in any livestock meat production industry. Currently most Ostrich nutritional programs are not designed for good meat production or good muscle growth. They were developed as a 'holding' exercise to keep a bird 'alive' until it reached the "perceived optimum" slaughter age of 14mths with a liveweight of no more than 95kgs, which was only to satisfy the feather and skin market. The thought of ONLY marketing skins and feathers from Ostrich and to consider the meat as a small revenue "by-product" is short sighted and is the thought process that will produce a bird that is not economically viable. QUALITY meat from an Ostrich is a significant part of its total revenue and immediate steps must be taken to progress the industry towards that line of thinking so the Ostrich CAN be economically viable to produce and process.

With breeders changing hands many times over the past decade and often seeing two or three continents, there has been no genetic tracking or development program put in place. For the most part the South African industry has breeders in colonies

(more than one breeding group in a single pen), thus making it impossible to monitor genetic traits. The genetics of the birds vary with some genetics better able to produce quality meat birds than others.

Conclusion:

Raising a quality meat bird for the processor and customer requires a program of “production” nutrition accompanied by good feed management based on “production” standards, a farm management program that includes an adequate recording system and then to implement a genetic improvement program. This is how a “production” livestock industry succeeds and crosses over into the “economically viable arena”. The method of doing that has already been designed into Blue Mountain’s “The New Ostrich Industry” concepts and is already being achieved in some parts of the world by a few producers and processors—and they are only beginning to see the initial results from this wonderful production bird. It takes a few years after implementation of such a program to achieve consistent results, but until this “production” approach is implemented, the difficulties highlighted in this article can never be properly addressed and corrected and will always be a contributing factor to an Ostrich industry that is not viable for anyone to produce or process the bird. Working together and implementing the information already known in the parameters of Blue Mountain’s “New Ostrich Industry” for “production” birds will turn these non-viable problems and difficulties into viable production profits for everyone.