400 Mixes

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Introduction:

The 4 part article below was first published in Nederlands in 1996 by the "Neerlands Postduiven Orgaan" a weekly paper that sadly is now defunct.
I translated the series, shortly after it was published, and had their permission to publish it, on a website I was very involved in at the time called "In The Loft". I thought it would get many fanciers thinking a little more deeply about what they are feeding and why. After rereading it myself recently, I thought it should be republished, as most of it is still relevant today, 20 years later. In some ways the racing pigeon sport has changed very little over the last two decades. Hope you enjoy reading Part 1. The other three parts will follow weekly.

Nick

400 MIXES

Recently the American Institute of Medicine did a survey on the influence of diet on performance. They looked at both physical and mental performances. To do this scientists took all the literature available on diet and performance enhancement and submitted it to critical review. The results of this study were heavily against any evidence of a positive influence of diet and dietary supplements on performance. Physical performances are made possible by strength and or stamina. The last few years there has been a flood of research published in obscure medical publications where everything and then some has been claimed. The American research left no stone unturned, often the information was conflicting. Sometimes a performance enhancement could only be shown under very special circumstances by a given person, nothing that applied to the ordinary athlete. Besides physical performance they also looked at emotional performance (motivation and general feeling of well being) and cognitive performance that is learning, memory, perception, and judgment. In this group it was found that performance enhancement could not be measured. Their conclusion was that there was nothing that surpassed a varied diet and regular exercise.

FEEDING AND PERFORMANCE

This news could have been read a while ago in a daily newspaper. Then what does work? In humans it is only possible to show that carbohydrate loading in young male athletes may, and we want to emphasize may, influence performance. The only other way performance can be shown to improve is through the use of stimulating products, which all regulating sport bodies have ruled illegal. Emotional performance, again in humans, seems to be influenced positively be the amino acid tyrosine. Other than these examples it has not been shown anywhere that any type of diet or food supplements can influence performance.

With these conclusions retailers of all types of feeds and food supplements will not be overjoyed. They can be shown by the above scientific conclusions to be, charlatans, quacks and profiteers. Also, the purchasers of these products should draw their own conclusions. It is an illusion to believe that this might happen. Peoples believes and opinions are held strongly and their self confidence in their abilities and methods are influenced by these.

Grain handlers developed the various seasonal mixes to make it more convenient for the fancier. The annual lifecycle of the racing pigeon can be divided into four periods; breeding, racing, moulting, and resting. For each period the accent of the feeding changes. Simply, the differences are as follows; for racing and resting the pigeon requires principally energy, therefore, a mix with a high energy content; for growing and moulting the pigeon requires building products, therefore, a mix rich in protein. Energy is contained in carbohydrates and fats which are the contents of grains and seeds, building products in the form of protein are contained in legumes and seeds.

The grain handler provides for each season mixes containing more of this or less of that, all according to the needs of the season. For insurance a variety of grains are used to guarantee that all known and unknown nutrients required for general health and specific bodily functions are provided in the mix. Finally there is the amount we feed, a factor the feed dealers seldom talk about and which in fact is more important then the composition of the mix. To obtain the effect needed for each season pigeon feeds have only two specific functions, provide energy and provide protein. In between there is a status quo, that is to say a rest period or a period of change from one to the other season.

In the introduction we already learned, that in the world of sport nutrition little new knowledge was discovered, therefore, there is no chance that a better mix will be brought to the market. Once a mix has been thought out, pigeon feeds can be a boring product where no big advancements can be made.
The industry tries to keep the subject lively by translating human nutritional

knowledge to the pigeon sport. Profiteers will sometimes blow this all out of proportion. There are always fanciers who desperately want to believe these claims. After all most people want to take the easy way out.

WHAT'S BEING OFFERED

For many years we have tried hard to obtain the composition of the mixes offered for sale. Mostly we have been successful, sometimes not. Mysteriousness on the part of the industry in this respect is a bad sign. In this way our collection of 435 mixes us an incomplete inventory of all that is for sale in the Netherlands. Realistically, on the grounds that in fact these unknown mixes do not fundamentally deviate from tHose we know about, our collection does give a representative picture of the total offered for sale.

These 435 mixes from 24 separate retailers are divided into 112 races mixes, 65 standard mixes, 59 young bird mixes, 52 breeding mixes, 39 purifying mixes, 17 winter of resting mixes and 40 specialty mixes. On average that comes to about 18 mixes per retailer. Today just about everyone can discuss nutrition. Terms such as, starch, carbohydrate, protein, amino acid, fibre, ash, digestibility, vitamins, minerals, trace elements, energy content, a kilo calorie are familiar to just about everyone. All grains, legumes and seeds have their own pattern and content of these elements.

These can be found in nutritional tables. Grains are know for their high carbohydrate content and their high digestibility, thus, they deliver 80% of their energy. On the other end of the scale are the seeds which deliver 70% of their energy through their hight digestible fat content. Between these two are the legumes whose strong point is their usable protein.

Pigeon feeds are mainly composed of 12 ingredients, namely, corn, wheat, milo, barley, rice, oats, buckwheat, peas, beans, vetch, sunflower and safflower. In smaller amounts, millet, Austrian peas, mung beans, soybeans (toasted), a variety of small seeds and pellets are also used. The seasons for which the mixes are intended are labeled; breeding, racing, purifying, moulting, winter, young birds (with or without corn) and standard or four season mixes (all round).

With most mixes it does not matter what the value of any particular grain is, but, what matters is the result of using the whole mix. To determine what percentage of grain, legume or seed to use, computer programs are used. All the nutritional information of each grain, legume or seed are in the programmes data base. By,

entering the what is required of the mix, the software will calculate what ingredients to us and the amount of each. For example: the energy content must be “x” and the amount of protein must be “y” and the fat content cannot be higher than “y”. The programme can calculate, for example, the least expensive mix that will meet our requirements. When all the data has been entered into the software, the computer will goes to work and calculates a feed mix that meets the requirements perfectly. One would suppose that this mix is than bagged and put on the market and sold by the retailer, but this does not always happen. This is because most pigeon fanciers have a specific idea as to how a pigeon mix should look.

It often happens that what the computer calculates as an ideal mix has such an unattractive appearance that it becomes unsaleable. When this happens the manufacturer chooses a less ideal mix which does have the appearance pigeon fanciers think it should have.

If we know the percentage of the ingredients in a mix (how much corn, wheat, beans, etc.) we can with the help of the nutritional tables on each grain calculate what the carbohydrate, protein, fats etc. content of any mix is made up of. We did this for the energy value and the protein content (including the amino acid amounts of lysine and methionine / cysteine) and compared mixes according the these elements.

After a careful analysis of the total number of mixes we concluded that 85% of the given mixes have an energy content of between 2900 – 32000 Kcal (av. 3005 Kcal) and have a protein content of between 120 – 160 gr. / kg. (av. 141 gr. / kg.)

ENERGY

Every living organism uses energy and building materials. These are supplied by food for both animals and people. The pigeon obtains, from the food it eats, the nourishment that supplies energy for work (flying), for producing body heat (winter), for growth during the breeding season, for renewing of the feathers during the moult and other bodily functions such, as the production of crop milk and egg laying.

The fat, carbohydrates and proteins in food provide products that contain large amounts of potential energy. Through the process of digestion these products are changed so that the energy can be used.

It is generally known that 1 gm. of starch contains 4.1 Kcal. Fat when burned by the body provides 9.3 Kcal per gram of energy. It provides twice the energy of starch.

The burning of fat and starch, produce few harmful by-products, only water and carbon dioxide. Protein is used for energy only in times of need. It mainly provides the amino acids that are the building blocks out of which the body rebuilds its various parts. As an energy supply it provides 4.3 Kcal per gram, but, the burning of protein for energy uses more oxygen, produces more heat and produces the most harmful waste by-products.

These numbers are not exact, but, averages of the total digestible carbohydrates, proteins and fats provided in a normal diet. Naturally, what interests us most as pigeon flyers is how much energy does a bird need during the various seasons.

Through experimentation it was learned that the weight loss of a pigeon was the highest during the first ten minutes of flight. After forty to sixty minutes of flight the weight loss gradually lowered to a fixed amount. In the following hours of flight, the weight loss is almost constant. From this it was concluded that the pigeon, during the first hour of flight used a different source of energy then in the following hours of flight. In the first hour of flight the bird uses mainly its glucose-glycogen reserves. If we calculate the total amount of sugar in the pigeon's body, we arrive at a maximum of 2% of the body weight or a maximum of 8 gm.

Everything considered, this is a relatively small reserve of energy for the work required of the muscles. The sugar reserves as an energy provider is not enough for the bird to fly even a short race. For example, a flight of 75 km requires more energy than the 8 gr. of sugar can provide. It is important to realize that the pigeon can only work for about one hour on its glucose-glycogen reserves and that after 10 min. of flight gradually begins to change over to a combination of sugar and fats. After one hour of work the bird uses almost only fat as its energy source. Therefore, on long flights pigeons use their fat reserves as their main energy source.

That the weight loss is double in the first hour of flight can be explained by the fact that one gram of carbohydrate(sugar) contains 4.1 Kcal., and one gram of fat contains 9.3 kcal. In other words, a sprint pigeon runs on its sugar motor and a long distance bird runs on its fat motor. The middle distance pigeon runs somewhere in between.

FAT AS RESERVES

Fat in the pigeon takes different forms. The fat in the blood supply is readily available to the muscles as an energy supply. We find fat deposits under the skin, around the intestines and other internal organs, and in the muscles themselves. Without destroying the form and balance, the body weight of a long distance bird should consist of not more than 10% fat. It we go past this maximum then the extra fat

becomes a hindrance to the bird. The feed has to be balanced.

It cannot contain so much fat that to get enough protein and carbohydrates the pigeon consumes to much fat. If too much carbohydrate is digested the body changes it to fat. This also has to be considered when we feed our birds.

Optimum amounts of different foods a pigeon has to ingest daily are difficult to determine. Of all the known avian species the muscle of the pigeon has the highest fat content. For several reasons fat is the ideal energy source for our long distance pigeons. Fat has twice the energy of carbohydrate or protein and the burning of fat does not produce harmful by-products. The burning of one gram of fat produces one gram of water. This water can be used by the bird for other bodily functions and is thus a very helpful by-product. When sugar (carbohydrate) is burned there are also no harmful by-products produced, but, the water is only one half of that produced by the burning of fat.

FAT CONSUMPTION

Pigeons at rest with one half hour of exercise, in the summer months needs about 70 Kcal. of energy per day. The amount of grain necessary to supply this amount of energy is about 23 grams (1 ounce). During the racing season we can estimate 100 Kcal. at the beginning of the week supplied by about 33 grams of grain. To build up reserves we have to supply a maximum of 124 Kcal per day at the end of the week to prepare the birds for the race. In the winter to produce enough body heat, the birds' furnace needs sufficient fuel. The energy needs increase as the temperatures drop.

Research has pointed out that energy use per hour of flying has a close relationship to the speed of flight. According to Rothe a pigeon uses about 26Kcal per hour of flight at 50 km. per hour, 39 Kcal per hour at 60 km. per hour and at 70 km. per hour uses circa 61 Kcal. per hour. To be clear race results show groundspeed (speed in relationship to the surface of the earth).

This is different than the flight speed (the speed in relationship to the surrounding air). The formula for groundspeed is, the sum of flight speed and wind speed (tail wind = plus and headwind = minus) Alerstam tries to make this theory simpler. He proposes that a bird to use its energy most efficiently chooses a flight speed according to the wind. If we suppose for example that the basic speed with no wind is 70 km. per hour, then, with a head wind it increases its flight speed to 90 km. per hour and correspondingly lowers its flight speed to 55 km. per hour with tailwind. With this we can see that with a wind of 30 km. per hour the groundspeed with head wind would be 90- 30= 60 and with tailwind would be 55 + 30= 85 km. per hour.

The results of the research are not yet perfectly clear, therefore, for the time being we estimate the energy use of a pigeon with prevailing winds at between 30 and 60 Kcal. per hour of flight. The lower amount being for the high groundspeed with tailwind. These observations show the enormous differences in the energy use of our birds during the races.

From the above we can see that our birds burn 8 grams of sugar during the first hour of flight and 3 to 6 grams of fat in the following hours of flight. For the fancier the question is whether or not the pigeon has enough reserves for the expected conditions of the upcoming contest and if the bird has replaced the reserves used in past races to the maximum.

It has been shown experimentally that pigeons on long distance flights show better results with more fat in their rations. Fanciers who prepare their charge by topping them up with extra corn, peanuts and seeds, are in fact on the right track.

PROTEIN

A large part of the pigeons' body is made up of protein (15%). Since the bodies proteins are not the same as the proteins in the feed, we have to pay particular attention to the proteins provided in our feeds. Proteins are indispensable for every living organism. Proteins are a group of substances that have a complex structure (amino acids) and have many varieties. Scientifically proteins differ from carbohydrates and fats in that they contain nitrogen (average of 16%).

In a living organism the bodies proteins are regularly broken down and rebuild. The half-life (the time in which half the protein is renewed) is different for each protein. For example: for enzymes the half-life is from one to ten days, for muscle protein the half-life is about two hundred days. When the feed is changed to include a desirable amount and quality of protein the body can repair the proteins with a short half-life in a very short period of time.

The main function of protein is the building and forming of new cells and tissue. Animals build proteins for the body out of amino acids, which are released by the food during the process of digestion. The bodies proteins are build up out of the various amino acids provided by the food.

Proteins are formed by a number of amino acids. Some amino acids can be produced by the body, thus, these do not have to be provided at all times by the diet. There are twenty different amino acids that can be used in many combinations to form the different proteins. Off the twenty amino acids there are ten that are necessary or essential. These are the amino acids the body itself cannot manufacture and therefore, have to be provided in the diet.

Lysine and methionine/ cysteine are the two amino acids that the pigeon has the most difficulties finding enough of in the feed. Usually these are the amino acids which fall below the amount needed by the bird. These are called first limiting.

Not all proteins can be stored in the body; a regular supply via the diet of these proteins is necessary. Protein that provides all the essential amino acids needed by the body in the proper amounts are referred to as proteins with a high biological value, these are in large part easily used to build body protein.

The process of breaking down and rebuilding of proteins usually provides a fluctuating amino acid reserve. (about 1% of the body weight) Protein serves as an energy reserve only when all the carbohydrates and fats have been used up. The burning of protein as an energy source uses a lot of oxygen and leaves many poisonous by-products behind. These are difficult for the body to deal with. With heavy protein diets the pigeon has to use protein as an energy source with the result that the liver and kidneys have to work overtime to rid the body of the harmful by-products.

Proteins are very necessary at breeding time, because the pigeon is one of the fastest growing animals, giving a need for a good source of protein during the growth period to ensure proper muscle and organ development. Older birds need less protein, except during the molt, when laying eggs and during the production of crop milk.

After a very heavy flight it may be necessary to feed protein rich feeds, because, after the fat and sugar were used up the bird may have burned its muscles as a source of energy. These birds have earned a long recuperation period to rebuild their muscle and replenish their fat and sugar supplies.

Protein Use

The function of protein in sports nutrition seems to be more involved than is usually acknowledged. Proteins cannot be stored in a depot like fats and sugars. A protein reserve does not really exist except in the form of the powerful large muscles.

The amount of food a pigeon eats is regulated by its need for energy. That is why the energy food we offer to the birds has to be balanced by the proper amount and quality of protein needed along with the other nutritional products required. Not only the amount of protein but, the presence of the first-limiting essential amino acids and the proper variety of amino acids are crucial in feeding. A large amount of unnecessary protein in the feed is difficult to digest. Feed with the proper amount and kind of protein is more efficient and gives better results.

The quality of protein is determined by the amount and the proportion of essential amino acids. A protein of high quality contains for a particular animal species the necessary essential amino acids in the proportion necessary for that animal. The need for amino acids is different for every animal species. If, a particular amino acid is not present in the proper amount in the feed, or the body reserves, then protein synthesis comes to a stop. The amino acid consumed by the animal can no longer be used. When this happens, then out of necessity, more feed is consumed. The bird will eat till the amount and type of amino acid present in the system will allow protein synthesis to resume. This causes the digestive system to be heavily taxed. The extra carbohydrates and fats consumed also lead to unwanted results. The amino acids required for protein synthesis to take place are called, first-limiting amino acids. For feeds heavy in protein methionine/cysteine are the first limiting amino acids. For mixes light in protein lysine is first limiting.

A mature pigeon, not moulting, according to Brody and Scott has a daily requirement of about 0.7 grams of protein. To replace this amount of protein, if the protein provided has a digestibility of 55%, the bird needs in its feed 1.3 grams of protein daily.

For the renewal of feathers a pigeon requires extra protein. On average the pigeons' feathers make up six to seven percent of the total body weight. Feathers are made up of about 80% protein. According to Brody and Scott a pigeon requires approximately 55 grams of raw protein to renew all of its feathers.

If we know the length of the moult and the time and length of the heaviest moult, we should theoretically be able to calculate the amount of protein required through the different phases of the moult. At the height of the moult the amount of protein needed can be assessed at circa 4 grams per day. This has to be provided by the birds' daily meals. Besides extra protein the moult also requires extra minerals. In order to provide all the nutritional requirements a top quality, varied mix is necessary.

Similarly, extra protein is required during the breeding season. The young pigeon is one of the fastest growing species of birds. During the first six days of life a new born pigeon grows from, a birth weight of 15 grams to 110 grams. The amount of feed needed ranges from the first day of life, 5 grams or 35% of its body weight, the second day 12.5 grams or 70% of its body weight, the third day 21 grams or 75% of its body weight.

To gain one gram of weight the baby pigeon during its first five days of life requires 1.3 grams of crop milk. Therefore, crop milk has to have a very high nutritional content. The composition of crop milk provides for rapid growth. It is made up of, 14% protein, 8.5% fat, 74% water and all the required vitamins and minerals. The rapid growth is possible because of the protein content of the crop milk which in turn is only possible if the parents producing the crop milk are provided with an adequate diet.

Let's do some arithmetic. During the first six days of life, a young pigeon grows 95 grams. For every gram of growth, 1.3 grams of crop milk are needed, a total of 125 grams. At 14% protein in the crop milk, the total needed is 17 grams of digestible protein. If a pigeon can digest about 55% of the raw protein in its diet, then we have to provide over 30 grams of protein. Including the parents own needs, which comes out to an average daily raw protein requirement of 6.5 grams.

At the height of growth, the young bird grows 20 to 25 grams per day. To provide for this rapid growth, it is fed circa 30 grams of crop milk containing 4 grams of protein. Providing for its own needs the parent requires 8.5 grams of protein in its own diet. For the parents a normal diet will not provide this amount of protein.

Feeding a straight legumes diet (Peas, beans vetch etc.) will be required.

The function of crop milk therefore is, to provide a source of highly digestible protein for the squeaker. Milk production begins during the last week of the brooding period. The crop milk produced at this time is stored, to be used later. Crop milk production reaches its peak when the youngster is three days old, it's needs are so great, that at this time the parents cannot produce enough and the reserves are used up in a matter of days. At this time the youngsters diet begins to be switched over from milk to grain. It should be apparent that at this time a mix heavy in protein and varied in its composition is necessary.

Energy Mixes

We can take for granted that the feed dealers know all there is to know about the function of carbohydrates and fats on the one hand and about the function of protein on the other hand. We can also take for granted that they know what of our birds' needs are at various times of the year. We can be fairly certain that they use this knowledge when they formulate their various mixes. Can't we?

In order to fly or over winter a bird needs primarily energy. At these times, protein requirements are at the lowest point, heavy exercise and low temperatures require higher energy content in the feed. The birds require less protein at these times, that is they need less then 1.3 grams of protein daily. In a 25-gram portion of feed this can be provided easily by the leanest mix. Winter and flying mixes can therefore be solely oriented to energy. They need to be different in composition when compared to moulting and breeding mixes.

We would expect that the flying and winter mixes, in this day and age, would show a marked difference from moulting and breeding mixes. They don't! The average energy content of the mixes for various seasons are the same or differ only slightly. The average energy content for all the different seasonal mixes lies between 2986 and 3050 k/cal., a relative difference of barely 1%. Even the high and low energy mixes vary little from each other. Looking at all the 400 mixes together 63% of them lie between 2950 and 3050 k/cal., or a variation of only about 3%. If we look at only the four main seasonal mixes that percentage comes to 72%. Looking at it from a different point of view, seasonal mixes with an energy content of less than 2900 k/cal. and higher then 3100 k/cal. don't exist. This leads us to the conclusion, that of the mixes offered for sale for the four main seasons, as far as energy content is concerned, it makes little difference which one we use. The labels Breeding, Moulting, Flying, and Winter mixes are redundant as far as energy content is concerned. A Standard mix could replace all of them for their energy. There is only one way to build reserves for the coming race with the commercial mixes available and that is to feed more.

If we use a feeding curve or increase the energy towards the end of the week by providing a constant amount of low energy mix at the beginning of the week and the same amount of high energy mix at the end of the week, it would make little difference which mix you used, at either end of the week. Since the manufacturers don't put the energy content on the label, choosing a mix is like buying a lottery ticket.

Protein Mixes

In view of the birds' requirements while breeding moulting, protein stands central. At the height of the moult a pigeon has a protein requirement of about four grams of crude protein per day. A ration of 30 grams of feed per day requires a protein content of 140 grams/ Kg. This same ration provides 90 Kcal. For birds with little activity this is on the high side. We can see that open loft during the moult is advisable. Activity uses energy and controls the birds weight.

During the breeding season, the diet for the parent pigeons should be adjusted to allow the buildup of good quality crop milk before the birth of the nestling and the subsequent rapid growth of the young squeakers. After a week of being fed crop milk the youngsters change over to grain in just a few days. From the foregoing we can see the tremendous amounts of protein required by the growing youngster. Anyone familiar with pigeons knows that the feeding parents supply the growing babies with large amounts of feed. The youngster relies completely on its parents for nourishment during its fastest period of growth. At this time the parents' needs are secondary to that of its young. Their systems stand still to provide for the next generation. Their moult comes to a complete stop.

For balanced growth the fast growing youngster needs other food products besides protein. We know, that parents feeding youngsters will go fielding and will readily pick at minerals, grit and pickstone offered to them. They are seeking nutrients essentials to the overall health and specific bodily functions of their offspring. Nature provides these in abundance. It is easy to appreciate that the fancier should not tread a path to far removed from nature. The mix provided at this time should provide enough of a balanced protein for 8 oz. of growth in a two-week period.

The average mix delivers 141 grams of protein per kg. The difference between the seasonal mixes are greater for protein then they are for energy, 70% of the mixes have a protein content of between 130 – 160 grams/kg., or a difference of 25%. A breeding mix for young birds is a moulting mix for old birds. To grow or to moult amino acids are required, therefore, a mix having a higher protein content should be provided. An average breeding mix delivers 148 grams /kg. of which, due to the amino acid pattern only 87% is useable. Moulting mixes are more balanced, of their 139 grams of crude protein/kg. an average of 132 grams is digestible, or 95%. Although it would seem that the moulting mixes and breeding mixes should have higher protein content, again we can see that in most cases the standard mix as offered for sale in most cases will be sufficient.

Fewer Mixes

Strangely, the large variety of mixes were originally meant to make life easier for the fancier, but now with the listing of a multiplicity of mixes, the feed manufactures are now constantly preaching nonsense. No one has become a champion because he feeds a particular brand of feed. Not one feed manufacturer can show that pigeons fed their particular feed perform better. Now that manufacturers use the winners of big races in their advertising, they are only a small step away from claiming, that their feed won the race. Would you believe them?

The average manufacturer offers his clientele a choice of about 15 mixes. Most fanciers make do with 3 types of mix throughout the year. It goes without saying, that by fragmenting the mixes they can charge a little more for one than the other. Of all the mixes we studied, the energy content from the highest to the lowest had a difference off 9% (the Luikse mixes and pellets were not included). The more varied mixes, showed fewer differences in their total nutrients. Large modifications in the nutrient content of a mix, can only be achieved by one-sidedness, for example, adding extra corn or rape seed. These can easily increase the total energy consumed by the bird. A greater variety of seeds and grains in a mix also affects the amount of protein. The composition of the feed has to match the protein requirements for a particular season, while the balance of amino acids and overtaxing the organism also has to be taken into consideration. This is not too difficult, because the relative difference in protein content between the lightest mix and the heaviest mix is great, the highest at 160 grams/kg. and the lowest at 100 grams/kg.

With the help of programs and computers the manufacturer can calculate the most ideal composition for each mix. By entering the required nutritional components for each mix the program can quickly calculate the necessary constituents of a mix to provide the proper nutritional elements. But for reasons other than nutrition the manufacturer sometimes adjusts the mix. Small seeds are often left out of the mix. They do not readily mix evenly throughout the mix. They quickly sink to the bottom of the bag through the larger grains. For the customer a mix also has to be pleasing to the eye. Only because of eye appeal the manufacturer has to adjust the mix away from the ideal, he has to take away or add seeds and grains that make a mix which contains more or less of the required nutrients, to make it saleable. In a test a number of fanciers were asked to choose the mix that looked the best for their purposes. In all cases the mix not chosen, that is the less eye appealing mix, was just as good nutritionally and in most cases was also cheaper as the one chosen.

The eye is not always the best judge. The uncomplicated is often at the basis of good. There is much to say for keeping the seasonal mixes to a minimum. In reality there are only three feeds to aim for, a protein rich mix for the breeding and

moulting, an energy rich mix for flying and the winter and a resting or maintenance mix to use between the above named phases. By limiting the number of mixes, feeding becomes more of a game of “feeding more or less”.

The feed companies should provide their clients with the nutritional content of the feeds they are selling. That is the energy and protein content etc. They should also make available to their clients, a complete feeding program for the entire year.

Use a System

Feeding correctly, often is more a matter of giving the proper amounts, than choosing a particular mix from a particular brand. Feeding correctly is difficult, especially when the needs of each individual pigeon is difficult to ascertain. That is why when feeding, each bird will choose a slightly different menu. Every crop is filled differently, one with more corn and the other with more seeds. It makes no difference if the birds are fed within a narrow range. The regime of feeding is more important than the composition of the mix.

The difficulty comes with the fact that every pigeon on the same day flies a different race, every pigeon withstands the test differently, and every pigeon comes home in a different condition. From week to week no two races are the same. Distance, wind, cloud cover, clearness, temperature, humidity, air layers, etc., change the length and difficulty of a flight, which directs affects the reserves required for that week. If a bird could deliver its “black box” when it arrives home, then the fancier would have an idea of how to handle that particular bird. Regretfully the bird cannot deliver this package to us. Knowledge, a good system and an understanding of our birds can give us a big edge.

Regularity is always required. Changing feed mixes and the times of feeding are examples of things that can affect the metabolism. A system is therefore a necessity, as it prevents or at the very least reduces inconsistency. In reality, when looking at all of the successful systems and methods available, one can only conclude that having a system is more important than which system.

Conclusion

Pigeon feeds and feeding have changed greatly over time. In old books we can read about mixes with 70% legumes. Logically at that time one regularly heard of diseases related to heavy feeding, such as, lame wings and limping, etc. Today, no more than 35% legumes are fed and then only when there are youngsters lying in the nest. The growth of our birds to-day is just as good as in days gone by and the overall health is

better. The answer lies in the amount of feed. The composition and manner of feeding are mainly learned through our shared experiences. We are also offered many by-products, many good ones and of course also many unnecessary by-products.

Still not everything done in the past was totally wrong. Circumstances for our birds have changed a tremendously. One could cite housing, flying methods, more frequent racing and the distances. Through experience we have learned that one has to feed differently from loft to loft. Dry warm lofts require lighter and less food than cold damp lofts.

The amount of sunshine and wind certainly make a difference. That is why everyone has to seek their own way of feeding, their own amounts of feeding. The main principles though are the same for all lofts and for all birds.

A while ago, in the United States after years of discussion and study, the use of hormones was allowed to increase milk production in the dairy industry. This is of interest to farms with hundreds of cows. Smaller farmers have shown that through natural methods cows can produce large amounts of milk. It is not only genetics and feed that influence top production. The manner in which the farmer handles his cows greatl$$$y influences the behaviour and performance of his herd.

Some examples: In England the owner of ten dairy farms noticed that when a new manager took over a farm, sometimes large swings in milk production occurred, while all other management factors had changed very little or not at all. Curious, he organized a psychological study of his ex-managers. From this study it seems that the managers who were responsible for the higher production were more animal oriented. This showed that the behaviour and demeanor of the manager, can result in calmer cattle at milking time and lead to higher production.

In a publication about the behaviour and well-being of milk cows, it seems that the farmer who daily walks among his cattle for ten minutes, touches them for two minutes and talks to them for four minutes, gets an extra five hundred litres of milk per head annually. This is a performance increase of 5%. A scientific answer is hard to find, but a quiet demeanour with animals and few unexpected occurrences, give the animals trust and tranquillity. When an animal feels at ease it translates into better production or performance.

Two years in a row, in the Netherlands the highest milk production was attained by a relatively small farmer. His performance is head and shoulders above the rest of Holland. His results were reached without special feeds or expensive breeding stock. The farm has far from ideal conditions. To reach this production and keep it there, the farmer always takes all the time necessary for his cattle. When the cows are in the pasture he always walks among them for fifteen minutes. He never chases his cows; he always lets them set their own tempo. They know undoubtedly that he is someone they can trust, he says. He points out that when it is necessary to give a cow an injection for some reason or other, she lies quietly chewing her cud, while he injects her. He says he always attempts to keep his animals out of stressful situations. He believes that the moment the animal is stressed production drops. If the farmer always milks and feeds at different times it produces a masked stress which results in lower production.

Naturally, the above are not the only reasons for outstanding performance. But, what is clear, is that animal friendly and animal directed behaviour by the manager results in higher production and better performance by the animals. Spending time with the animal not only builds trust, it has other advantages. One gets to know when the animals act differently and why. One gets to know what the animal responds to positively or negatively, one can recognize trouble at its earliest and respond appropriately.

Knowing that this animal friendly behaviour comes from the character and ambition of the fancier, it is very possible that flying well with pigeons lies mainly with the character and behaviour of the fancier. This is too bad for the fanciers who are always seeking success by obtaining other birds. To be successful, a fancier has to first has to look for answers in his own relationship with his birds. Perhaps the purchasing expensive birds or obtaining quality birds from top fanciers has a psychological effect on us so that we change our behaviour when we are among the new birds, this in itself will produce better results.

The well-being of our birds is important. A top flyer can attribute his success mainly to his skill as a manager. Which requires, taking the time to look after his charges, being busy around and among his birds, feeding in a suitable manner, learning the different characters of the birds, watching for disturbances in the pecking order, the proper method of race motivation, making informed selection choices. etc. From my point of view, it is these things that separate the top fanciers from the rest. Something we should all think about.

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