

CONSTRUCTION AS RELATED TO ENHANCED PERFORMANCE AND HEALTH IN THE WORKING LABRADOR. Joy Venturi Rose

This article is written for the working Labrador enthusiast and is about form and function in the working Labrador, construction and how all this relates to the breed standard, which incidentally was originally written by working Labrador owners not show Labrador owners. I am writing for a few reasons and mostly because I have been asked by quite a few working people to do it. Possibly the reasons are, firstly, if we take a situation where a couple of youngsters have been run on and there is nothing to choose between them from a potential trialling or working point of view but a decision has to be made which one to keep and which one to sell. All being equal, as an aid to your final choice, I would like to encourage you to keep the best constructed dog for the job. The pay back on this is that generally, just as in any other performance livestock, for example horses, the better the construction the less injury tends to occur when under the stresses and strains of work and of course less money spent at the vets and less time out of action for the purposes of work. Of course it might also be of help if, after considering the behaviour of a new puppy, you have bred or might buy, you feel you might like to choose a well constructed one as well. I also know that many working or field trial owners take a certain pride in having a “good looking” Labrador in their kennel to boot. As a knock on effect this article may also aid field trial judges who are asked, when they judge breed club field trials or working tests, to understand what factors could be taken into account in making their decision on the “best looking Labrador in the awards” in other words one that fits the breed standard best. I often see working judges look rather horrified when asked to do this as they say they know nothing about it. I hope this article might let you discover you probably know more about it then you realise and having made a good job at judging your trial or working test you can make an equally good job at judging the form, function and construction of a Labrador as well.

So what’s all this stuff in the breed standard got to do with a working dog? Going through step by step the first thing it mentions is the general characteristics of the Labrador. Bearing in mind at the time of the writing of the original standard in the early 1900s (there have been some amendments made over time) the main retrieving gundog was the flat-coated retriever the standard was written to set the Labrador apart from the Flat-coated Retriever and as a comparison to this breed -not as an over exaggeration-the Labrador should be a moderate type of dog.

NB The wording, in normal type, that follows is from the breed standard with my comments in brackets and italics.

General Appearance

Strongly built, short coupled, very active, broad in skull broad and deep through chest and ribs, broad and strong over loins and hindquarters.

(All this is in comparison to the other retrieving breeds and particularly the flat-coated retriever except the words very active which is an obvious requirement of a gundog as long of course that it is not too exaggerated and the dog is still biddable and can be calm when needed).

Characteristics

Good tempered, very agile, *(both essential in a working dog that may have to get over jumps and twist and turn when on to a runner or at the very least get easily in and out of shoot vehicles and crowd in with other dogs).* Excellent nose, soft mouth, keen love of water, Adaptable devoted companion. *(I am sure no gun dog owner would quibble with any of this).*

Temperament

Intelligent, keen and biddable, with a strong will to please, Kindly nature, with no trace of aggression or undue shyness. *(Again I think few people will argue with any of this. Does it surprise you that these things are actual requirements in the breed standard?)*

Now we get onto the form and construction part which is designed to aid function.

Head and Skull

Skull broad with defined stop, clean cut without fleshy cheeks, Jaws of medium length, powerful not snipey. Nose wide, nostrils well developed. *(Most of this is a requirement designed to aid the dog's retrieving abilities i.e. to have good nasal passages enabling the dog to savour the scent of game in all scenting conditions and then have a muzzle of sufficient length to enable the capture and carrying of game, including large hares, in a way which exerts minimal pressure and preserves a soft mouth. To be fair dogs with less of a stop (which is the difference in line or plain between the top of the brow and the start of the muzzle especially when viewed from the side) and a slightly narrower skull, can probably retrieve game just as effectively. We are back to the Labrador Flat-coat difference here. However, dogs with rather fleshy cheeks i.e. with bulging cheek muscles, similar to Rotwiellers, are unlikely to be as soft with game. I am probably at risk here if I say perhaps the broader skull may aid brain room and can again be compared with the Flat-coated Retriever!! You be the judge here!).*



Fig.A.



Fig. B.

Fig A. Good Width of skull for brain room, good width of muzzle to collect scent

Fig B. Length of muzzle should be the same length as top of skull to stop (division between the end of the muzzle and start of the skull) to enable large game to be carried i.e not too short.



Good head with correct proportions Ft Ch Olivertash Bailey (S.Rogers)

Eyes

Medium size, expressing intelligence, and good temper, brown or hazel. *(Obviously a large protruding eye will be at more risk of damage from the undergrowth and a small eye may reduce vision but is also more likely to suffer from in turning eye lids or entropion. If the eyes are the window to the soul then the next bit (about intelligence and good temper) is self explanatory. As to colour. Look around your good working dogs. Most have brown or hazel eyes. It is very rare to see black eyes in top working competition and it is believed black and stubbornness can go together. We do see more yellow eyes but over the years, even these, in working dogs, these seem to have become fewer. Again, perhaps selective breeding means the temperament of yellow eyed dogs was not as biddable as was required?).*

Ears

Not large or heavy, hanging close to head and set rather far back. *(Again all sensible requirements. Large heavy ears are going to get in the way of retrieving and get more easily damaged in the cover. If they are set too far forward they may get in the way of a quick effective pick up when retrieving the game. Interestingly, all gundog breeds have flop over ears which protect them from seeds and other debris dropping in them when working in cover).*

Mouth

Jaws and teeth strong with a perfect, regular and complete scissor bite, i.e. upper teeth closely overlapping lower teeth and set square to the jaw. *(See the diagrams below). The correct jaw and teeth are the natural one for a canine and avoid the potential for any malocclusions or incorrect alignment of the teeth which can lead to painful areas in the mouth, ulcers, poor eating and chewing. In my experience, where jaw alignment is only slightly out, it does not necessarily affect retrieving ability or softness of the mouth but it is obvious that if severe this could be an adverse consequence especially if the dog's mouth is painful in anyway).*



The correct scissor bite.

I am going to cover the next two parts of the standard together because they try to explain the ideal front conformation that aids a quick pick up and subsequent carrying of game and the ability to withstand the impacts exerted on the front of the dog's body when landing after jumping and propulsion on turns.

Neck

Clean, strong, powerful, set into well placed shoulders,

Forequarters

Shoulders long and sloping, forelegs well boned and straight from elbow to ground when viewed from either front or side.

See figure.1. The correct front angulation should form roughly a right angle to the right of the front leg bones (looking from the side of the dog) when viewed from the top of the scapula or shoulder blade i.e the withers (Point A), moving down to the bottom of the scapula or point of shoulder (Point B) to the elbow joint at the bottom of the chest (Point C). Try stretching out your arm in front or to the side of you and holding a pheasant you will soon tire. Try doing it with a bend in your arm and see how much better it feels. Also when a dog jumps and lands correct front angulation allows the upper joints of the forelimb to concertina down giving protection from the impact to the joints. Straight angulation would pound directly onto the joints giving rise to stresses and lameness. There is also an interesting point regarding speed. Dogs built exclusively for speed (and not for hunting by scent or carrying game over distance) have much straighter front angulation e.g. greyhounds. This enables them to run faster and of course we like this in our field trial dogs however, if they become too straight in forequarters, retrieving is impeded as when the dog puts his head down to pick up or track the bird his front legs (which are proportionally much further forward) are impeded by his head so slowing him up which can mean the difference between getting that runner or not and a more ponderous hunting style.

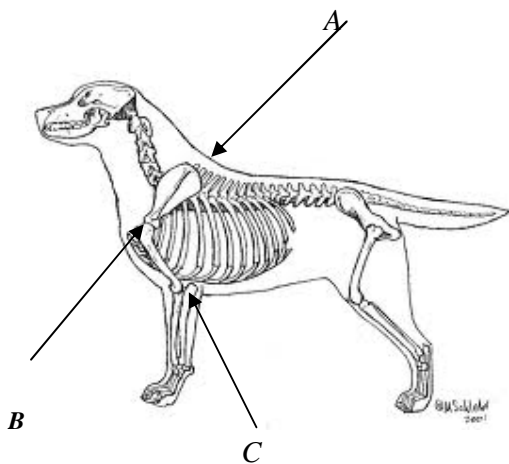


Figure 1

Compare the straighter front angulation of a greyhound standing and in action and the picture of working type Labradors, that are also well constructed, below. If the greyhounds were collecting a bird they would have difficulty keeping it out of the way of their front legs. The Labradors angulations allow stretch, carry and propulsion.



Photo (below) Di Stevens (Wylanbriar)



Other photos Google images



Photo Sharon Rogers (Woodmist) Demonstrating plenty of room for the bird even with the front leg extended (taken at a field trial)

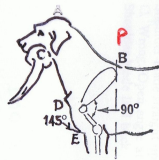


Fig. 7a

(a) Correct.



Fig. 7b

FIG. 7. SHOULDERS.
(b) Wrong.



Fig. 7c

(c) Wrong

Diagram (R. Roslin Williams The Dual Purpose Labrador Retriever)
Illustrating how correct angulation helps the Labrador to carry the bird and be able to move, without impedance, at the same time. Also, causes less strain with well angled rather than a straight front. Try holding a pheasant with your arm held straight out in front of you and then try it with your elbow bent and see which is the most tiring.

Body

Body of good width and depth, with well sprung barrel ribs – this effect not to be produced by carrying excessive weight (*this is a recent addition by the kennel club in response to criticisms about over weight in some show Labradors*), Level top line, loins wide, short-coupled and strong.

(Looking at the main role for which the Labrador was bred i.e a gentleman's shooting dog and picking up dog it is required to have stamina and be able to work hard all day. It is not just a sprinting dog. Unfortunately, field trialling, where only six or so retrieves a day may be the norm, does sometimes favour the sprinter over the dog that is able to pace itself and work all day but we do well to remember that when training our dogs and picking up we require more continuous work. Also any puppies we breed may go to non trialling working homes where they are required to work all day, most days, through out the season. Therefore, a good body and chest for plenty of heart and lung room is a necessity. A level top line, as opposed to a roached or dippy back line, assists in ensuring that every movement is ergonomically efficient and so less tiring for the dog. The term short coupled, is in relation to the space between the last rib and the start of the hind leg. This needs to be short (but not too short usually about the width of a man's hand). Anyone who has owned Dachshunds or other long coupled or long backed breeds will be aware that they can suffer back problems because an overly long back causes a weakness because there is too much "play" in the structure as is wobbles about. A similar problem exists with long backed golfers who I understand often suffer back problem! On the other hand an overly short coupling is also unsound as there is not the necessary flexibility to bend the back to get under gates and narrow spaces without compressing the vertebrae. So again moderation is important. When looking down onto the top of the Labrador the loins and rear part of the dog should appear slightly wider than the front. This is because most of the propulsion energy comes from the dog's hind end so this needs to be better muscled and also, as the Labrador is a specialist water dog, the brow of the boat should point forward to enable the dog to cut its way effortlessly through the water). In addition, as a water dog he needs a flotation chamber- hence the good spring of rib or what has been termed the barrel rib cage.

As well as a good width to the body it should show good depth. This area is one of the most contentious and miss understood ones. The difference in leg length between show and working Labradors has often been a matter for discussion. However, I have long felt that this perception had more to do with the depth of chest and weight. Show Labrador owners feel the correct proportion is that the measurement from the top of the withers to the bottom of the chest should equal the length of the leg from the elbow to the ground (but interestingly there is nothing to suggest this in the standard so this is not necessarily accurate). However, many working bred Labradors appear to have chests that seem to stop a little higher than the bottom of the elbow joint. However, I do wonder if this is often more of an illusion related to weight carried and the effect produced by, the often, more rounded rib cage of the show bred Labrador?. Few Field Trials incorporate significant water work so the pronounced spring of rib in the Field Trial Labrador has probably been lost to some extent as some tend to be more slab sided (flat sided rib cage) than their show cousins. Recent research by Alison Scutcher (see table i. below) asked a range of Labrador owners to measure the chest depth and front legs of their Labradors and the resulting data split into groups depending on the dogs pedigree (mixed show and trial breeding Labradors were also measured but I have not included that data here). Surprisingly perhaps, this research suggests that there is actually very little average difference between working bred and show bred Labradors. However, the sexes of the dogs were not gathered during the research so there may be more differences between the sexes than difference overall within the breed. This said, for good marking ability it is important that dogs do not get too short or short on the leg. Walked up field trials may well favour the taller dogs as they are more easily able to see over tall cover to mark (it certainly helps the handlers to be taller!). However, this is not suggested by the data so far.

Table i. SHOW AND WORKING LABRADOR MEASUREMENT COMPARISONS (inches)

a) Elbow to ground	b) Withers to ground	Difference i.e. Withers to bottom of chest	c) Hock to the ground
FT or Working Bred			
11 ½	23	11.5	6 ½
12	23	11	7
10	21 ½	11.5	6
12	24	11	6 ½
11	22	11	5 ½
12 ½	23	10.5	7
12 ½	24	11.5	6 ½
11 ½	20	8.5	6
11	22	11	7
10	22	12	6 ½
11 ½	22	10.5	6 ½
12	22	10	6
11 ½	22	10.5	6
12	22	10	6
12	22	10	6
12	24	12	6 ½
12	22	10	6 ½
Show Bred			
11 ½	21 ¼	9.75	6 ¾
11	21	10	7
11	21	10	7
12	22 ½	10.5	7
11 ½	22	10.5	6 ½
11	21 ½	10.5	7
12	23 ½	11.5	7
11	22 ½	11.5	7
10	20 ½	10.5	6
10	20	10	5
11	21 ½	10.5	5 ½
11	22	11	6 ½
13	25	12	7
12	22 ½	10.5	7
12	22	10	7
12	21 ½	9.5	7
12 ¼	23 ½	11.25	6 ¼
12	22	10	7
12	21	9	6 ½

Average measurements (inches)

	<i>Elbow to ground</i>	<i>Withers to ground</i>	<i>Withers to bottom of chest and percent of total height.</i>	<i>Hock to ground</i>
<i>Working bred Labradors</i>	11.58	20.8	10.7 (51%)	6.58
<i>Show bred Labradors</i>	11.5	21.88	10.45 (47.7%)	6.53

*Dual purpose bred Labrador data was also gathered but is not represented here.
Data collected by Alison Scutcher (Winsleywood)*

Hindquarters

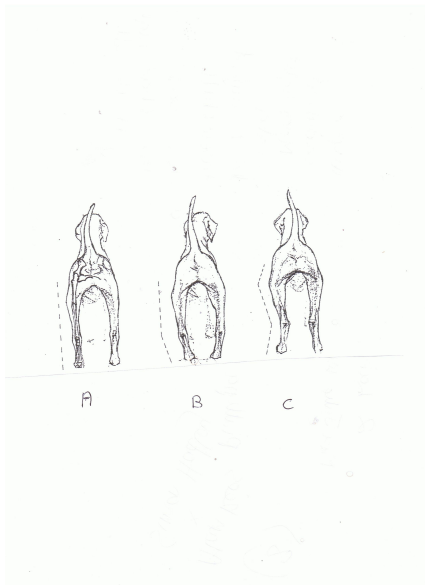
Well developed, not sloping to tail, well turned stifle, hocks well let down, cowhocks highly undesirable. (Obviously if the dog's main area of propulsion, for both speed and endurance, is from the hind quarters they need to be well developed. Again the angles from the hip joint (which you just have to envisage as it cannot be felt) to the dog's knee (correct terminology stifle) and then back again to the dog's top of the heel (correct terminology is hock and dogs actually walk on their toes not on their whole foot like us) should be a series of right angles to enable the dogs joints to better stand impacts and cause less damage. If the hind end angulation is in balance with the front end angulation it will give the dog its level top line. If the top line is out something else in the front or hind angulation is usually not quite correct leading to more stresses and strains in the system. Hocks well let down- is a peculiar term. Basically this means a reasonably short length from the top of the hock (heel) to where it meets the ground. The hock joint acts like a pulley system. The shorter the hock the better "support" the pulley can give. Longer hocks help to give more speed (compare the length of hock on the greyhound which is very long) but with long hocks there is more pressure on the muscle and tendon insertion points that can give rise to much more risk of injury and traction injuries that are a major factor with racing greyhounds and fractures around the hock joint are also common. There is a whole field of science being built up in the greyhound racing industry in trying to improve track conditions to reduce the considerable injury time suffered by many racing greyhounds (see table ii. below). With our working dogs we have little control over the ground our dogs work on the only thing we can try and improve is the conformation that is most ideal to limit injury in the first place).

Table ii. Injury types seen with certain track conditions

Track Condition	Hard Track	Soft Track	Inconsistent Track
Related Injuries	<ul style="list-style-type: none">• Toe• Metacarpal• Carpal	<ul style="list-style-type: none">• Shoulder• Muscle• Traumatic Injuries	<ul style="list-style-type: none">• Toe, Metacarpal, Carpal• Shoulder, Muscle• Balance Related injuries• More Severe Traumatic injuries

<http://www.sportsvet.com/greyhound/GHTrack.htm>

(Cow hocks mean when they are when they turning in towards the middle of the dog when viewed from behind. This again is a structural unsoundness that is undesirable and indicates poor construction increasing the risk of injury in a working dog.)



Rear View Construction A = correct B = incorrect legs bowing out C = incorrect cow hocks turning in often go with poor hind angulation poor rearing or too much early exercise.

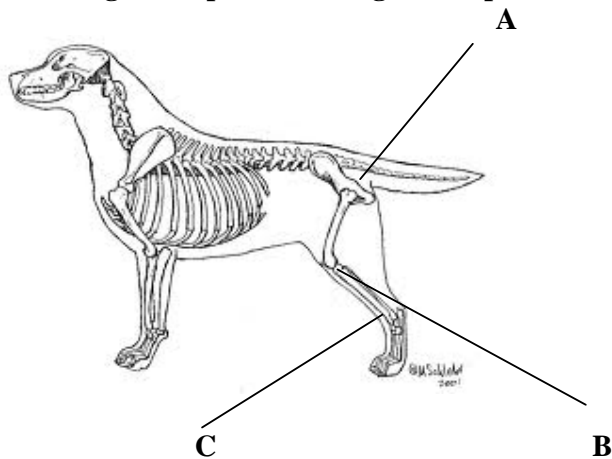
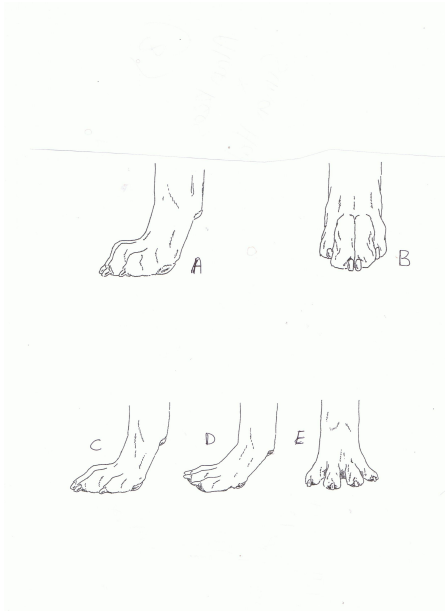


Diagram Hind angulation Again roughly a right angle is formed from point A, the hip joint, to point C, the hock joint, having passed through point B the Stifle or knee joint.

Feet

Round compact, well arched toes and well developed pads. Long hare like feet or wide flat feet are more prone to injury as it is much easier for flints, stones and other debris to enter between the pads. A compact foot with good strong pads and well arched toes prevents this. However, a too smaller foot would not be able to grip slippery surfaces adequately leading to slipping and potential muscle and tendon strains and sprain so correct size, structure and shape are very important.. I am always disappointed that too often in the horse world, owners' with a poorly constructed mare, that eventually goes lame (no different to a poorly constructed dog) then decide to breed from her. I wonder if they always take account of the weaknesses in construction that helped lead to the lameness in the first place and at least try to find a stallion that does not also have the same weaknesses? A horse is only as good as its legs and feet (hooves) and the same usually goes for our dogs.



A & B = correct foot construction Rest are incorrect and more injury prone
C =Hare foot D=Flat foot E = Splayed foot



Comparisons' of hind quarter construction and its effect when working. The Labrador (top left) is able to drive off his hind legs at the gallop and the front legs have maximum extension with back line still being able to be more or less level. The Labrador (top right) lacks drive in his hind quarters the legs are almost crossing each other at the rear. He has a goose stepping action in front and carrying the bird requires more effort to be kept out of the way. He rises over his rump. Not such a stylish or speedy picture. The yellow (below left) paints a similar picture of poor construction in the rear having to more or less pull himself along by his front legs finding it hard to increase speed. His hind leg lands past where the front foot vacated the ground causing more strain (see explanation under gait below). Finally the black (bottom right) shows good construction and drive being able to keep a good top line at speed with the power from behind pushing him forward and his good angulation at the stifle can still be seen. (Photos Sharon Rogers)



Tail

Distinctive feature, very thick towards the base, gradually tapering towards tip, medium length, free from feathering, but clothed thickly all around with short thick, dense coat, thus giving “rounded” appearance described as “otter” tail. *(All of the forgoing describes an ideal tail that is protected from the worse damage heavy cover can inflict especially, at the tail tip. It is also a tail that can act as a powerful rudder in water and its medium length helps to counter balance the dog when running and turning on land but not so long as it easily gets damaged or trapped in doors and such like).* **May be carried gaily but should not curl over back.** *This is, from my experience a very practical aspect. We all know that even the sweetest natured dog can be misinterpreted by other dogs, as being aggressive, if it has a high tail carriage especially if carried over the back. Equally, a dog carrying its tail between its legs generally denotes a nervous creature with a temperament not ideally suited to the shooting field or the other modern living requirements our present day dogs have to adjust to.*

Gait and movement

Free, covering adequate ground, straight and true in front and rear. *(if the Labrador is well constructed and fit and muscular it will move well and in a manner that has no exaggeration or unnecessary action that will tire it more quickly during a day’s work. Usually movement is assessed at the trot. Viewed from behind its legs should move forward in a straight line so that it is not easy to see the front legs (as they are doing the same). When moving towards you it should show a similar picture. Any turning out or in of the elbows, paws or feet is a weakness. Gait from the side the rear foot places into the space vacated by the front foot. This enables maximum stride length so more efficiency (less overall strides for the same distance) when getting over the ground. The hind legs should not over reach (e.g. pass in or out to the side and beyond the front legs or crab (swing the rear to one side) at the trot as that requires the legs to swing outwards thereby causing addition strain and greater likelihood of injury and muscle strain.*

Diagram of a Labrador with poor reach and balance



Notice the distance left between the feet under the dogs as well as the poor reach in the dog to the left. Often, if the angle of the joints is wrong, the dog cannot take nice big strides. These short strides mean that this dog will take 6 steps where a well made dog may take just 3.

More steps = more fuel consumption and more wear on joints. Also the back is somewhat unlevel and roached.

A Labrador with good reach and balance in the stride Less steps for same ground coverage therefore less strain



Coat

Distinctive feature, short dense without wave or feathering, giving fairly hard feel to the touch, weather resistant undercoat. *(The correct coat is actually a part of good welfare and health. If the dog is out all day in the rain and cold weather it needs a good warm undercoat which is made up of softer, shorter insulating hairs. The top coat is much harder to the touch as helps resist brambles and other penetrating cover. It also includes quite a bit of natural oils and research has shown that Labradors make more oil than other breeds and shed water much easier because of this. I once heard someone argue against an undercoat because the dogs got hot on the grouse moors. However, in actual fact, Labradors like most other dog breeds, moult and shed their coat including much of the undercoat, in the summer so this is hardly, to my mind, much of an argument for a single less protective coat. A dog that is kept warmer in the winter months is less likely to develop illnesses and arthritic conditions that are made worse in the cold weather so again the correct coat is a practical feature.)*



Coat and construction. (Left) This Labrador has just emerged from the water then over the jump the correct coat is already almost dry. The impact from the jump is taken easily on the forelegs with the angulation from the withers to point of shoulder and back to elbow still forming a right angle to concertina down and protect the joints. The tail is used as a counter balance. (Right) This otherwise well made Labrador competing at a water test is still very wet, the coat offering little protection from the water or the tail (Photos S Rogers)

Colour

Wholly black, yellow or liver/chocolate, yellows range from light cream to red fox. Small white spot on the chest permissible. *(Nothing very strange here except that the term yellow was originally used to differentiate more clearly from the Golden Retriever. It is interesting that in the early days of the breed the yellow pups were usually “put into a bucket” as they were not felt to be a proper Labrador. Thankfully all that changed with the dedication of the Radcliffe family and their famous Zelstone Labradors. However, it is not often realised that originally the yellows had their own standard separate from the blacks. That is not the case today and perhaps the main concern for the breed is the emergence of some other colours which are probably throw backs to earlier crosses (such as the Gordon setter and suspected more modern ones such as the Weimaraner with the so called silver Labradors). However, only the breed standard colours (or the phrase non standard) are the ones the KC will except for registration purposes. Throw backs to other breeds are not desirable in a working Labrador as the other breed characteristics can creep in e.g. pointing rather than getting on and retrieving the bird as could occur with a Weimaraner cross.*

Size

Ideal height at withers dogs 56-57 cms (22 to 22 1/2 inches) bitches 55-56 cms (21 1/2 to 22 inches), You will note there is actually very little difference in size between dogs and bitches a very medium dog required. In practice different jobs may require smaller or bigger dogs so even the show Labrador enthusiasts certainly do not judge with a measuring stick in the UK.

Faults

Any departure from the foregoing points should be considered a fault and the seriousness with which the fault should be regarded should be in exact proportion to its degree and its effect upon the health and welfare of the dog and on the dog's ability to perform its traditional work. *(This last paragraph is a recently introduced wording by the kennel club to ensure that exaggerations and other features that can affect the dog's health and welfare and ability to work effectively are taken seriously. Whilst much of this might be felt to have a more direct impact on show dogs it does in fact require all Labrador owners to take into account the health and welfare of their dogs when working them in KC competitions and when considering the effects any breeding may have on the puppies produced. Therefore, it is important to take construction into account as poor construction has potentially unhealthy consequences for the working Labrador.)*

Note: Male animals should have two apparently normal testicles fully descended into the scrotum. *(This is a very important point as retained testicles are an inherited condition. If dogs have either one or two retained testicles they are much more likely to get cancer of the testicle/s that are retained. It is therefore, recommended that the retained testicle be removed by a veterinary surgeon and castration normally undertaken so not to perpetuate the fault.)*

I hope the forgoing discussion of the standard and pictures will help working Labrador owners have a better idea of the practical usefulness of the breed standard and its relationship to health and welfare and the effectiveness of a working gundog. I hope you will consider it when making breeding decisions and picking breeding stock.

JOY VENTURI ROSE (Leospring Labradors)