

# STANDARD OPERATING PROCEDURES FOR LINEAR APPRAISAL EVALUATIONS

Effective May 1, 2018

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## STANDARD OPERATING PROCEDURES

### **1.0 SCOPE & APPLICATION**

- 1.1** This Standard Operating Procedure (SOP) is applicable to the systematic collection of data documenting evaluations for participants in ADGA's Linear Appraisal Program. The application of these procedures is to provide the framework for a uniform, accurate record system to be used for (1) making farm management decisions; (2) educational programs and research, including the genetic evaluation of does and sires; (3) breed association(s); and (4) the promotion and sale of animals.

### **2.0 SUMMARY OF PROGRAM**

- 2.1** Evaluations should be done in accordance with the latest version of the ADGA Guidebook and the Linear Appraisal System. All procedures are to be followed.
- 2.2** Procedures outlined in this document are in addition to these documents. These basic and minimum standards are to be uniformly followed. They serve to ensure that records will provide the accuracy, uniformity, and integrity essential to dairy goat type evaluation records.
- 2.3** The linear appraisal system evaluates individual type traits that effect structural and functional durability in order to take full advantage of the potential for genetic improvement through selection. There are three parts to the linear appraisal of an animal, linear traits, structural categories, and major categories with a final score. The first part involves the determination, by the linear appraisal, of the point that describes the condition of each of the 13 primary linear traits and the 1 secondary trait on the 50- point scale that represents the biological range for a particular trait. The program does not set a certain point on a range of points on the scale for a linear trait as "ideal," nor are more points, fewer points, or midpoint on the range for a trait necessarily more desirable. The program is designed, instead, to objectively assess the condition of a trait that a sire passes on to his offspring. The evaluation of these traits represents the true "linear" portion of the linear appraisal program. It is the primary linear trait data, plus the animal's final score, that are used by ADGA from the USDA algorithm to develop sire summaries.
- 2.4** The other two parts of a linear appraisal are modifications of descriptive type classification features. Although this type of information provides a descriptive evaluation of a particular animal rather than gather data that can be used in sire summaries, the evaluation information will be useful to the herd owner in making management decisions about individual animals and in promoting the herd. The first part of a linear appraisal consists of the appraiser evaluating each animal in 8 general structural/functional areas: head, shoulder assembly, front legs, rear legs, feet, back, rump, and udder texture. The appraiser will note, for each of these 8 areas, if it is poor or fair (both of which indicate a problem to the herd owner), acceptable, good plus, very good, or excellent as described in section G, below. The final two areas of a linear appraisal is the evaluation of the 4 (3 for a buck) major categories and the assigning of the final score. Dairy goat herds evaluated with the linear appraisal system will be instrumental in helping develop the data base needed to determine the heritability of structural traits in dairy goats and, eventually, their relationship to longevity and production.

### 3.0 AUTHORITY

- 3.1 The ADGA Board of Directors and the Council on Dairy Cattle Breeding (CDCB) approves [2017] the data necessary from the linear appraisal program to ensure the flow of records for industry purposes including genetic evaluation programs.

### 4.0 RESPONSIBILITY

- 4.1 Linear Appraisal staff and herd owners as well as persons in their employ are individually and collectively responsible for adherence to these Procedures.
- 4.2 Code of Conduct for Linear Appraisal Participants and Appraisers: There are certain expectations ADGA has for both Linear Appraisers and Member Herd Participants. We realize that there are many cross-over connections between members and appraisers, but while they are on the farm for linear appraisal, the appraisers are employees of ADGA and are there for the sole purpose of appraising the herd. Paramount is an expectation that any discussion concern only the animals in the herd being appraised. The appraisers should not be expected to discuss animals in other herds, give medical advice or diagnosis, give management recommendations, or discuss other herds or members. Courtesy is expected from all with regard to the session. The appraisers have a schedule to keep so will not usually be able to stay for meals and visiting. If there are any problems, the Performance Programs Manager or clerk shall be contacted immediately.
- 4.3 To participate in this dairy record keeping program, herdowners must agree to conform to these procedures, along with registry requirements.

### 5.0 EMPLOYEE DEFINITIONS

- 5.1 **Candidate** – any person attending an LA workshop or pre-Refresher Training that desires to become an ADGA appraiser, and who meets the qualifications listed in 6.0.
- 5.2 **Trainee** - any person working under the guidance of the Linear Appraisal committee and appraiser in preparation for employment as an appraiser.
- 5.3 **Appraiser** – Any person employed by ADGA on a seasonal basis to evaluate animals for the Linear Appraisal program.
- A. Appraiser – any person with less than 2 years of employment as an ADGA appraiser or who has appraised less than 2,000 mature does.)
  - B. Senior Appraiser – any person with 2 years or more of continuous employment as an ADGA appraiser and has appraised 2,000 or more mature does.
  - C. Relief appraiser – a retired senior appraiser that is contracted on a year to year basis for emergency coverage or to supplement current staff. The relief appraiser will be offered work based on needs not filled.

### 6.0 PERSONNEL QUALIFICATIONS

- 6.1 Training should be done in accordance with the practices and procedures approved by the ADGA Linear Appraisal Committee and the ADGA Board of Directors.
- 6.2 Linear Appraisal Candidates are considered based upon the following criteria from the Appraiser Job Description:, including training and/or other requirements:
- A. At least 6 years of experience in livestock appraisal or judging work;
  - B. General experience may substitute for above with approval from an independent source;
  - C. Completion of an ADGA training program for animal appraisal;
  - D. Possession of a valid Driver's license; (availability of a vehicle during working hours);
  - E. Be of an age to operate a rental vehicle;
  - F. From the Employee Handbook: Physical Activity of this Position
    - a. Stooping/Crouching;
    - b. Standing for sustained periods of time;
    - c. Walking – moving about to a wide variety of location types;
    - d. Working primarily with fingers: writing, typing use of stylus;
    - e. Expressing or exchanging ideas by means of the spoken word;
    - f. Providing spoken instructions to accurately, loudly, or quickly communicate;
    - g. Ability to receive detailed information through oral communication.

- G. From the Employee Handbook: Visual Acuity Requirements
    - a. Close visual acuity to perform activities such as: preparing and analyzing data and figures; transcribing; viewing a computer terminal; extensive reading; visual inspection; using measurement devices.
  - H. Be able to deal effectively with the public and present the program and ADGA in a positive and educational manner.
  - I. Have knowledge of dairy goats and be trainable to using the program's methods of measurements and evaluation.
  - J. Be able to commit to large blocks of time for appraisal trips from April through October.
- 6.3 Those not meeting the above criteria may request a discussion as to their eligibility as a candidate with the Performance Programs Manager and the Linear Appraisal committee chair(s).

## 7.0 MINIMUM PERSONNEL TRAINING & CONTINUING EDUCATION (CE) REQUIREMENTS

- 7.1 Completion of a training workshop with a recommendation from the Performance Programs Manager, committee chair(s), committee members in attendance at the workshop, and senior appraisers at the workshop to continue for additional training. Experience as a linear appraiser committee member may be substituted for the workshop with recommendation from the PPC, an appraiser or a committee member with approval from the committee.
- 7.2 Attendance is expected at a pre-refresher training day along with attending the entire annual refresher. The training day may be scheduled within the refresher rather than the day prior as needed.
- 7.3 Field training will consist of a minimum of 3 sessions with more than one senior appraisers with each session lasting 3-5 days for a total of no less than 10 days. Training generally takes place between April and October.
- 7.4 The minimum requirements for appraisers without immediate supervision include demonstrated knowledge of (1) appraisal techniques, (2) data entry, and (3) the ADGA guidelines.
- 7.5 Refresher sessions are to be provided annually. All appraisers are expected to attend the full duration of the annual refresher session. See employee hand book for more information
- 7.6 Appraisers must obtain CE or attend a refresher session annually.
- 7.7 Training Host Herd requirements – The Committee will make final decisions based on best fit of meeting criteria. Preference is given to those using ADGA Performance Programs. Availability of animals/breeds, access to major airport, facility appropriateness for time of year, availability of handlers, etc. are all to be taken into account.

## 8.0 EQUIPMENT AND SUPPLIES

- 8.1 Equipment needed for collection of type data includes:
  - A. measuring device(s)
  - B. digital camera + back-up disposable
  - C. electronic field device (as available)
  - D. field data sheets
- 8.2 **Stature and rump width will be measured by the appraiser using an ADGA Linear Appraisal Committee approved device (See Appendix E). The device used must belong to the appraiser. The appraiser needs to be consistent with the employment of the devices within herd. In the case of failure of the approved devices, other devices may be used in an emergency.** [2018]

## 9.0 SESSION PREPARATION

- 9.1 Determine the extent of the trip, the sampling methods to be employed, and which equipment and supplies are needed.
- 9.2 Obtain necessary sampling and/or measuring equipment.
- 9.3 Coordinate with herdowner and office, if appropriate. Allow 2 weeks minimum for notification.
- 9.4 Coordinate trip, transportation & lodging.
- 9.5 Udder instruction for owners: Does are best prepared by having them uddered to the point of functional capacity with consideration to udder texture, elasticity and the doe's ease and comfort while on the move and at rest.

## 10.0 BIOSECURITY

- 10.1 Every effort will be made by the appraiser to ensure reasonable biosecurity measures.
- 10.2 Specific measures are the responsibility of the herdowner and should be communicated to the appraiser or to the Performance Programs Manager prior to the session.

## 11.0 SESSION GUIDELINES

- 11.1 Arrive at the farm at the scheduled time or, if late arrival is anticipated, call the herd owner as far in advance as possible.
- 11.2 During the Linear Appraisal Session, the appraiser will interact with the herd owner or handler in a positive manner giving brief notations while scoring to help the herd owner understand the process. The appraiser should speak loudly and clearly, and give an opening explanation or introduction of the ADGA Linear Appraisal Program to the herd owner.
- 11.3 Always be willing to explain why you evaluated a goat as you did. If questions are raised, do not assume your judgment is being questioned. With the growth of the program, many breeders are still in a learning situation and are quite sincere in their desire to learn.
- 11.4 Proceed to appraise the herd allowing the breeder ample opportunity for discussion.
- 11.5 Make sure the owner can hear your explanations. Explain observations carefully, particularly pointing out those faults or strengths that you suspect the owner may not have seen.
- 11.6 Never lose sight of the fact that you are evaluations are for the owner and be sure you direct most of your attention to him/her.
- 11.7 Appraisers should not evaluate animals that were judged by them within a two-week period prior to and after the appraiser session, except at the discretion of the Performance Programs Manager in cases where no other appraiser is available.
- 11.8 Note the condition of the herd. It is important to not discriminate against herds that are not prepared (groomed, uddered, etc.) as much as others.
- 11.9 No test reports, former scores, records or photos should be used by the appraiser in scoring.
- 11.10 Avoid giving your impression of a sire's strong or weak points when appraising offspring. Your comments are usually interpreted as biased for or against all daughters of that sire.
- 11.11 Tattoos (or approved EID) are to be read before scoring and must meet all of the requirements of the ADGA animal identification (tattoo/EID) policy. <sup>[2017]</sup>
- 11.12 Owners should be aware that they will be charged for any animal presented with an illegible or incorrect tattoo or EID, although the animal cannot be scored. **Charges are adjusted at the ADGA office.**
- 11.13 The appraiser must avoid discrimination against animals because of adverse weather, sickness, injury or other similar type of conditions. If the appraiser is unable to place an accurate score on an animal because one or more of these conditions exists, or because the animal is uncooperative, the animal shall be ranked "Not in Condition" (NIC) on the score sheet. In all cases, whether or not the animal is in condition to be appraised is to be determined by the linear appraiser.
- 11.14 Appraisers are encouraged to employ the "Not in Condition" clause for does that have been dry for an extended period (that is, over 1 year), for does that are too newly fresh as a first freshener and for animals that cannot be controlled enough to assess for an evaluation. <sup>[2013]</sup> This is to be determined by the appraiser.
- 11.15 There will be no charge for animals marked "Not in Condition."
- 11.16 The appraiser has the option of recalling any animal in a herd for reconsideration at any time that herd is being evaluated. No score is final until the worksheet is signed by the appraiser.
- 11.17 The number of animals to be appraised in one day is not limited, but 60-80 per day is the recommended **maximum** number.
- 11.18 If the appraiser notes more animals of the breed group being evaluated that are on the premises and are not being presented the appraiser will:
  - A. Explain the rule and ask to evaluate the animals.
  - B. If the owner cannot explain the situation adequately and/or refuses to present the animals, the incident is to be reported to the ADGA Performance Programs Manager for further investigation.
  - C. The ADGA Performance Programs Manager will report any infractions to the Committee for action.
- 11.19 Appraisers can stop an appraisal session under situations where their personal safety is at risk. Documentation of such instances should be promptly submitted to the ADGA Performance Programs Manager or the ADGA office, for action and may result in the permanent loss of linear appraisal privileges for a herd owner at fault.
- 11.20 Whenever an appraisal session is not completed, the appraiser should sign the linear appraisal worksheet and leave a copy with the herd owner, just as they would for a completed session.

- 11.21 Appraisers will do the recording on the Linear Appraisal sheet themselves. If they are unable to do so, they should have prior approval of the Performance Programs Manager and/or the Committee Chairperson to use a clerk, naming a specific person.
- 11.22 Traveling companions are the responsibility of the Appraiser. If a traveling companion's behavior is problematic and documented complaints are received by the Performance Programs Manager or the Committee Chairperson, the Appraiser will be asked not to bring that person to Linear Appraisal sessions. All traveling companions should stay out of the area where the Linear Appraisal sessions are being conducted unless specifically invited to observe by the individual herd owner. All herd owners have the right to a private appraisal session including those at congregate sites.
- 12.0 **DATA COLLECTION –SCORING**  
Actual measurements will be taken periodically throughout the session for those traits that can be quantified for calibration purposes.
- 12.1 Springing does that have never freshened or does that have never been milked regularly may not be evaluated regardless of their proximity to freshening. Springing does under two years of age may be scored in the Young Stock program.
- 12.2 **A.** A doe must have freshened at least once (as allowed only under 12.2.B) to be scored excellent.  
**B.** A first freshener may be scored excellent if she has been in milk for 365 days or more and is in milk at the time of appraisal. The appraiser will record a Final Score of 89 and note that a higher score may be given if verification of lactation length is confirmed by Performance Programs Manager. Verification must be confirmed by official DHI records, offspring registration or other verifiable information.
- 12.3 All animals being scored must be observed on the walk or as they come to rest when appropriate for the trait.
- 12.4 Mature (4years of age) <sup>[2017]</sup> standard breed animals under minimum breed standard for height or weight, or miniature breed does that are over maximum height for breed standards, that are otherwise exceptional in type could be "Excellent" overall, but cannot be "Excellent" in General Appearance. Bucks with a breed specific disqualification cannot be Excellent overall.
- 12.5 A dry milker cannot receive an "excellent" for udder texture. For a fresh doe to receive an E in udder texture the doe must be milked out. <sup>[2015]</sup>
- 12.6 The appraiser may request that over-uddered does be milked by the owner to allow a more accurate evaluation.
- 12.7 Does with dry mammary systems are eligible to receive a mammary score in the Excellent range.
- 12.8 Stature and Rump Width on Nigerian Dwarf goats will be evaluated on a linear scale. <sup>[2009]</sup>
- 12.9 All evaluation of animals with differences between sides of the goat due to health or injury will be done using the unaffected side. Other differences will be averaged, or in the case of udder depth and medial, the functional appearing half will be used. <sup>[2017]</sup>
- 12.10 Foreudder evaluation will use the plumb line from the hip as a starting reference point of **30** <sup>[2018]</sup>, but also taking into account the amount of udder forward of the teats, the extension of the lateral and the length across the lateral.
- 12.11 Twisted udders will be evaluated 3 dimensionally so that side profile and rear view are taken into account.
- 12.12 Goats with short, bulgy, or loose fore udders, low, narrow, loose, or pinched rear udders, and udders that are tilted or pendulous are rated Fair or Poor.
- 12.13 Does with a bilateral mastectomy will not be scored <sup>[2014]</sup>.
- 12.14 Udder Depth, viewed at eye level, is evaluated as the vertical distance between the floor of the udder and the point of hock. For miniature breeds, this, along with medial suspensory ligament will be evaluated at ½" increments – see scale below.
- 12.15 Rear udder arch is measured at the area of width where height is assessed. If the udder is carried too far forward, rear udder arch may need to be evaluated as the animal moves. If the arch still has the look of a point at center-top, it will evaluate at a 19 or under. Once rounded the score is 20 or over.
- 12.16 Rear udder height:  
**A.** Is not scored on bucks and escutcheon height is not scored on youngstock. <sup>[2017]</sup>  
**B.** For mature does, as ADGA recognizes multiple sized breeds with different body frames, absolute measurement is not the most accurate assessment of the trait. This trait will be scored on the height in relation to the body rather than be based on conversion of a measurement to the linear score. The Rear Udder Height linear trait is scored by the appraiser by visually assessing the halfway spot between the base of the vulva and the point of hock. This point, called the midpoint, is a score of 15 on the linear scale. The appraiser then determines where the milk secretory tissue begins and for each inch above or below the midpoint in the standard breeds equals +/- 5 points on the linear scales from the midpoint of 15. For miniature breeds the measurement would be 1/2, so that each inch above or below the midpoint of 15 would equal +/- 10 points on the linear scale.

- 12.17** Rear udder side view will have a reference point of 19 when the udder cannot be viewed behind the leg. [2018]
- 12.18** Teat Length (TL) is assessed at eye level or from a distance that allows accurate evaluation [2017], and is the length of the teat from the base where it meets the udder where teat diameter is assessed, to the end of the teat when evaluated from the rear. It is a visual assessment converting inches to a scale [2018] for the purpose of data collection started in 2015. The distance can be assessed at side profile should it be necessary.
- 12.19** Dairyness is to be assessed primarily as a visual evaluation (from side view) by the appraiser, using the "Dairyness" description from the LA Handbook as a guide (from coarseness to extreme sharpness). The appraiser has the option of handling animals to clarify their placement within the Linear range. Round boned coarse animals that lack angularity can only score Fair and Poor in the final category score for Dairy Strength. [2017]
- 12.20** Goats with a narrow pinched heart girth, overall frailness, short ribs, or ribs that are close together, resulting in a short, cramped body may only be rated Fair or Poor in the final category score for Body Capacity. [2017]
- 12.21** Rear leg side view should be evaluated as the animal comes to a stop.
- 12.22** Rump width should be measured from the rear between the thurls, measuring from the top, outermost portion of the bone, not in the hollow. Use a crosspiece indicating levelness of measurement.
- 12.23** All data and information must be documented on field data sheets. Missing data must be verified.
- 12.24** Final Score must conform to calculation.
- 12.25** Linear and Structural categories will be evaluated without adjusting for age, stage of lactation or number of lactations. These adjustments will be accounted for in the final categories. An exception is made if the doe is 6 or fewer weeks fresh – the appraiser may evaluate the dorsal process with this information.
- 12.26** Young Stock:
- A. Linear traits evaluated will be stature, strength, dairyness, rump angle, rump length, rear legs – side view, and escutcheon arch. Stature and rump width will be recorded in actual measurements in inches; the remaining traits will be scored in the 1-50 point range like the adult program.
  - B. Structural/functional categories and scoring are the same as the adult program minus mammary categories.
  - C. Final score will be a category rating and not a number.
- 12.27** Bucks must be 2 years of age or older before a final score of 90, Excellent can be awarded. (2010)

### **13.0 DATA COLLECTION - LINEAR APPRAISAL SCORING RANGE DEFINITIONS**

- 13.1** Definition of FUNCTION: The ability to be productive, relative to age, without significant detriment to strength, soundness, dairy form, or mobility into reasonable maturity.
- A. **59 and below = Poor** Animals in this category demonstrate an inability to function. A poor animal possesses severe structural defects in multiple categories inhibiting productivity at any stage of maturity.
  - B. **60-69 = Fair** Animals in this category demonstrate an inability to sustain function through maturity or a loss of function with maturity. A fair animal possesses serious structural defects significantly limiting longevity and productivity.
  - C. **70-79 = Acceptable** Animals in this category demonstrate form conducive to adequate longevity and productivity. An acceptable animal possesses moderate defects related to function. The defects may be attributed to immaturity in younger animals or undesirable wear in more mature animals yet evidence a minimal standard of longevity and productivity.
  - D. **80-84 = Good Plus** Animals in this category demonstrate the potential for or evidence of commendable lifetime performance. A good plus animal may display immaturity in structural trait characteristics or age-related wear at the current appraisal yet indicates a tendency towards full productivity. A good plus animal may also display full productivity yet still possess minor defects preventing advancement to a higher category. Regardless, the defects set relatively marginal limitations on the ability of the animal to sustain function over an extended period.
  - E. **85-89 = Very Good** Animals in this category demonstrate form indicative of the ability to function at a high level over an extended period. A very good animal possesses conformation and dairy quality enabling superior lifetime performance. Younger animals in this category excel in most if not all structural categories permitting them to perform at a high level respective to their stage of maturity. More mature animals in this category display form indicating a high level of function over a long productive life coupled with only minor primarily age-related defects.

Exceptional younger animals in this category are not eligible for a higher score in accordance with Rule 12.2 SOP.

**F. 90 and above = Excellent**

1. **90:** Animals at this score demonstrate exceptional qualities in many categories and have proven their functionality and productivity into at least their second lactation or have milked 365 days in their first lactation.
2. **91:** Animals at this score are exceptional overall and are extremely correct as evidenced by ease of movement with full function and productivity. Animals in advanced maturity are maintaining a high level of function although may start showing some age related defects.
3. **92:** Animals at this score are more extreme in some of their exceptional traits resulting in greater productivity and function. This includes a higher degree of structural correctness, style, and balance evidenced on the move and at rest.
4. **93:** Animals are approaching or have reached their full maturity at this score and exhibit a combination of exceptional characteristics including desirability of dairy form, structural correctness, strength and capacity. Animals at this elite score are moving with ease and balance while maintaining a mammary system that is exceptional in its structure, functionality, and productivity.
5. **94:** Animals at this score have exceptional movement, smoothness, and correlation of parts and exhibit exceptional qualities in all categories. Animals at this score are expected to demonstrate a high level of functionality and productivity appropriate to their advancing level of maturity.
6. **95 to 100:** Animals scoring in this elite category will possess traits exceeding all other levels of excellence previously established in the Excellent range. Approaching even greater perfection in the minor traits and with few age related changes. Demonstrating extremely high functionality and apparent productivity, this score requires verifiable evidence of production.

**14.0 DATA COLLECTION – MISCELLANEOUS CODES**

- 14.1 Miscellaneous Codes can be found in Appendix A.
- 14.2 Descriptive Coding is used to provide additional information to the herd owner regarding specific Traits and can be used in any category.
- 14.3 When a miscellaneous code is considered functional in its effect, the trait must be coded Acceptable, Fair or Poor. A functional trait should be used only if it is 70% or less than ideal.
- 14.4 Caution should be used when applying codes 75 or 76 to very young (yearling) or very old animals and only after direct examination of the teeth and dental pad. Position of contact of the incisor teeth with the dental pad may change before and during permanent incisor eruption in younger goats (yearlings) or with shifting or missing incisors in goats of advanced age.
- 14.5 The 02 - stale code may be applied to does whose apparent evidence of function is significantly influenced by extended, as indicated by body condition, state of udder involution, etc. This code may be used only for does more than 305 days in milk or for does with current lactation initiated by abortion. ADGA guidebook definition of an aborted doe is a doe that has given birth to a kid or fetus at less than 141 days of gestation. The 04 code is used for an abnormal kidding.
- 14.6 Record all pertinent data on a field data sheet. Functional codes should be listed in order of importance. Descriptive traits are circled on owner sheets and prefaced with a '9' on final worksheets.
- 14.7 Functional miscellaneous codes only will be published in the Performance Volumes, ADGA Genetics web site, and approved media.

**15.0 DATA COLLECTION - HEIGHT**

- 15.1 Dairy goats are to be measured at the highest point of their withers. The front legs shall be set as squarely as possible underneath the withers. The rear legs shall be set so that when an imaginary line is drawn from the pin bone to the ground, it passes through the hock.
- 15.2 The handler shall have one hand on the goat's collar and the other hand not touching the goat. The head shall be held up alertly, but not stretched up to artificially reach a minimum height or pushed down to artificially remain under a maximum height.
- 15.3 The goat shall be measured on a solid, level surface. The measuring device should have a base so that it may sit squarely on the ground. The device shall be placed parallel to the goat's front leg. The device shall have a cross bar to extend over the withers. It is important that the cross bar be as level as possible and that the entire device be held as straight as possible to obtain the most accurate measurement. Horizontal and vertical levelness should be ensured.
- 15.4 Measurements for miniature breeds are to be to the nearest ¼ inch.

- 15.5** If overheight for a miniature breed, the general appearance score should reflect that score and the appropriate miscellaneous code used.
- 16.0 DATA COLLECTION – VERIFICATION PROCEDURES, HIGH SCORE**
- 16.1** When an animal is considered for a Final Score meeting or exceeding 93 the appraiser will record trait breakdowns and structural category scores and assign a maximum final score of 93 that day. Category Scores shall also contain the numerical score that was used to calculate the Final Score, i.e., FS: E 93 GA:E 92 DC:E 92 BC: E 95 MA:E 93 or FS: E 93 GA: E 93 DC: E 93 BC: E 95 MA: E 94. The LA worksheet left with herd owner must have the customary letter scores and the owner will not be made aware of the potential higher score.
- 16.2** For assigning a Final Score of 93 or greater, the appraiser will also submit the following unposed digital photographs for the verification/archival procedure. Photos of the animal will be taken immediately after assigning the Final Score on a hard, level surface.
- |               |                           |
|---------------|---------------------------|
| A. Front View | E. Oblique                |
| B. Top View   | F. Rear View – with milk  |
| C. Right Side | G. Rear View – milked out |
| D. Left Side  |                           |
- H. Video Clip – moving Left to Right, Right to Left, away & towards the appraiser, both in milk & milked out.
- 16.3** The appraiser will obtain a signature from the owner releasing the photos for use in the verification/archival process if not already on file with the original application. Photos of Verification Animals shall remain the property of ADGA.
- 16.4** The appraiser will then contact the Performance Programs Manager as soon as possible and identify the animal under consideration. The appraiser will also submit the following information/data to the Performance Programs Manager within 10 days of the session.
- Digital photos
  - Complete breakdown of animal
    - Linear Breakdown
    - Structural Category Scores
    - Remarks, Defects, Miscellaneous coding
  - Registration number, number of lactations, freshening date, number of hours of milk, and any other extenuating circumstances that might affect score (mastitis, scar tissue, injury).
  - Numerical Breakdown of Category Scores and Final Score
    - Does: FS, GA, DC, BC, MA
    - Bucks: FS, GA, DC, BC
- 16.5** Upon initial notification of the animal under consideration, the Performance Programs Manager will randomly select two Senior Appraisers to review the data. They will confer with the on-farm appraiser and reach a simple majority opinion and notify the Performance Programs Manager of the results within thirty (30) days from the date the material is mailed from the office.
- 16.6** The owner will be notified of a decision to raise the score from 93 to the higher value immediately by letter from the Performance Programs Manager.
- 16.7** Possible outcomes from the Verification Procedure are:
- Score of greater than 93 verified and certified – new Final Score assigned from category average and official.
  - Score (93) verified and category score average not certified – Final Score remains at initially assigned score of 93 with category scores of “E”.
- 16.8** Digital Cameras and/or memory cards will be provided by ADGA.
- 17.0 REPORTS and RECORDS**
- 17.1** Completed appraisal reports on all animals evaluated shall be mailed or sent to the Performance Programs Clerk within ten (10) days of completion of the assignment.
- 17.2** Reports of any irregularities concerned with appraisal found during herd visits should be included in reporting.
- 17.3** Retention of records:
- Field Sheets – until December 31<sup>st</sup> of the year of appraisal – as verified received by the ADGA office.
  - Photos – 5 years
  - Verification Documentation – 5 years
  - Program Evaluations – 10 years



**17.4 Appraisers will provide a photograph release form for any photographs taken for use in the Linear Appraisal Program**

**18.0 QUALITY CONTROL (QC) AND QUALITY ASSURANCE (QA)**

Purpose - To ensure the program and staff have performance monitored and feedback provided, the ADGA Performance Programs Manager or an individual designated by the ADGA Association Manager or ADGA Board of Directors, will conduct a self-audit of selected areas of ADGA Linear Appraiser program performance, at both the field and office levels, on an annual basis. In particular, they will inspect those areas for which non-conformities may have been identified on a repetitive basis, to determine whether plans for meeting performance requirements are effective. Results will be the subject of discussion between the ADGA Performance Programs Manager and the ADGA Linear Appraisal Committee to identify those issues that require improved performance.

- 18.1** The monitoring of staff, program goals and appraisal sessions provides a mechanism for the review of the effectiveness, objectivity, and clarity in maintaining the goals of the linear appraisal program, and ensure that staff is following their standard operating procedures. The review should consider the adequacy and results of the monitoring efforts to efficiently plan its peer review procedures, training and refresher sessions.
- 18.2** The program, staff and session procedures must be monitored on an annual basis. Review may need to be by direct observation and more frequent with newer personnel.
- 18.3** A variety of methods exist for the monitoring of the appraisal program.
- A. Appraiser report review - Documentation shall identify the session, dates sessions were performed, date report returned, name of the appraiser, results and acceptability of the report and actions taken in connection with any non-conformances noted.
  - B. Office support review - Documentation shall identify the quality and timeliness of final reports, scheduling efficiency and customer satisfaction. In addition, the confidence and accuracy in providing program information as well as appraiser satisfaction with scheduling and support while in the field can be monitored.
  - C. Review of written evaluations provided by participants - These critiques are conducted to verify the quality of work in progress; to identify conditions adverse to quality; to ensure that prompt action is taken by those responsible for performing the work; and to verify the timely implementation, adequacy, areas for improvements and effectiveness of training.
  - D. Review of comparison data
    - 1. Adequacy of resources and personnel provided to achieve and assure quality
    - 2. Accuracy of the evaluation data
    - 3. Effectiveness of the appraiser
    - 4. Consistency of the data
  - E. Documented direct communication with participant
  - F. Direct observation by staff or peer at a session, at refresher, or as a follow-up audit by staff or peer of a previously conducted session. Peer reviews shall be conducted when the adequacy of information cannot be established through reference to previously established standards and practices.
  - G. High Score Verification procedure as adopted October, 2006, described in 16.0.
- 18.4** Areas that should be evaluated as part of the overall QA plan include appearance, poise, accuracy, ability to present understandable information, clarity of communication, objectivity and a determination that the session is consistent with program goals. The review should be sufficiently comprehensive to provide a reasonable basis for concluding whether the Standard Operating procedures and program goals were complied with to provide the ADGA with reasonable assurance of conforming to professional standards in the conduct of LA sessions.
- 18.5** Follow-up shall be provided, both negative and positive.
- A. If the monitoring procedure provides a less than satisfactory review, a corrective action procedure shall be implemented and documented.
  - B. Each instance of monitoring will be documented and kept on file.
- 18.6** The Performance Programs Manager in conjunction with the LA committee and ADGA EC shall determine the need for and, as appropriate, shall initiate a peer review when the adequacy of information cannot be established by alternate means. This audit will be performed in a manner that ensures that the expertise and qualifications of the peer reviewer span the issues and areas involved in the work to be reviewed. The reviewer will be independent from the work under review. The Performance Programs Manager will ensure that the potential for technical or organizational partiality is minimized.
- 18.7** The following conditions are situations for which a peer review shall be considered:
- A. Evaluations will be made in the face of significant uncertainty.

- B. Decisions or interpretations having significant impact on assessment results have been made as determined by analysis of results.
- C. Reported results are not reproducible or repeatable, or interpretations are ambiguous.
- D. Data adequacy is questionable.

**18.8** All field QA/QC requirements of the ADGA Performance Programs must be followed.

**19.0 REFERENCES**

Dairy Goat Registry Guidebook, 2006  
Linear Appraisal System, June 2002



**LINEAR SCALE - STATURE**

Standard Inches	Miniature Inches	Linear Score
≤ 26"	17"	5
27"	18"	10
28"	19"	15
29"	20"	20
30"	21"	25
31"	22"	30
32"	23"	35
33"	24"	40
34"	25"	45

**LINEAR SCALE – RUMP WIDTH**

Standard Inches	Miniature Inches	Linear Score
≤ 5"	4.5"	5
5.5"	4.75"	10
6"	5"	15
6.5"	5.25"	20
7"	5.5"	25
7.5"	5.75"	30
8"	6"	35
8.5"	6.25"	40
9"	6.5"	45

**LINEAR SCALE – UDDER DEPTH**

Standard Inches	Miniature Inches	Linear Score
≤ -2"	-1"	5
-1½"	-¾"	10
-1"	-½"	15
0"	0"	20
2"	1"	25
3"	1½"	30
4"	2"	35
5"	2½"	40
6"	3"	45

**LINEAR SCALE – MEDIAL**

Standard Inches	Miniature Inches	Linear Score
-1"	-½"	5
0"	0"	15
1"	½"	25
2"	1"	35
3"	1½"	45

**LINEAR SCALE – TEAT DIAMETER**

**A very narrow teat, ½" (standard) ¼" (miniature) or less in diameter, is assigned 5 or less points; a teat that is intermediate in diameter 1½" (standard) ¾" (miniature) is assigned 25 points; and a teat that is very wide 2½" (standard) 1¼" (miniature) or more in diameter is assigned 45 or more points. A difference of ½" (standard) ¼" (miniature) in teat diameter, plus or minus, results in a difference of 10 points (2014).**

**LINEAR SCALE – TEAT LENGTH**

Standard Inches	Miniature Inches	Linear Score
5.0"	2.5"	50
4.5"	2.25"	45
4.0"	2.0"	40
3.5"	1.75"	35
3.0"	1.5"	30
2.5"	1.25"	25
2.0"	1.0"	20
1.5"	0.75"	15
1.0"	0.5"	10
0.5"	0.25	5

**Appendix B ADGA High Score Verification Form**

NAME:	
DATE:	
ADGA ID:	

**Required Photos:**

- Side View: Left     
  Side View: Right     
  Front End     
  Top  
 Oblique     
  Rear View w/ Milk     
  Rear View Milked out

**Required Video, both in milk & milked out:**

- Moving Left to Right   
  Right to Left,     
  Away & Towards the appraiser.

Reg. ID	# Lactations	Fresh Date	Hours in Milk	GA	DC	BC	MA	FS	Projecte d Score

**Comments/Extenuating Circumstances**

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**Appraiser Signature:** \_\_\_\_\_ **DATE:** \_\_\_\_\_

*Send with Photos to Performance Programs Manager along with LA worksheet for the herd. There is no need for a herd\_owner signature.*

**Office Use:**

**Results of Verification:**

- Verified & Certified, Official  
 Score: \_\_\_\_\_  Verified Only, Official Score: 93E

**2<sup>nd</sup> Appraiser**

**Signature:** \_\_\_\_\_  
 \_\_\_\_\_ **DATE:** \_\_\_\_\_

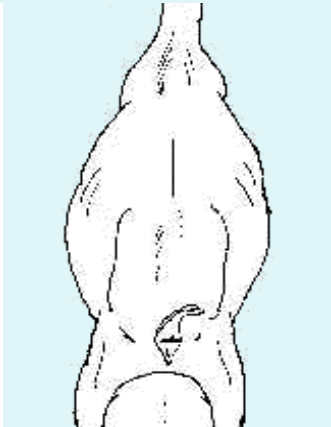
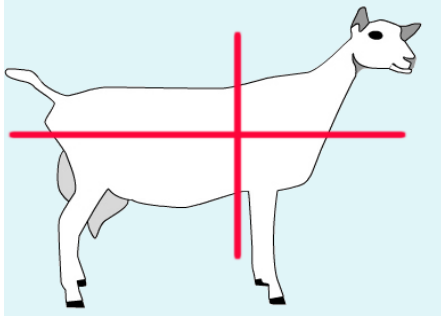
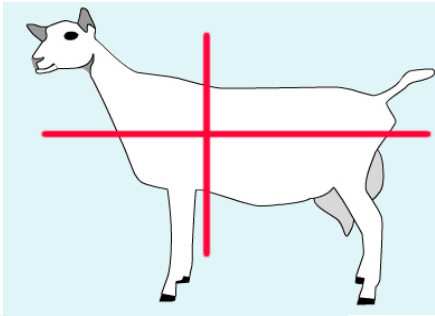
**3<sup>rd</sup> Appraiser**

**Signature:** \_\_\_\_\_  
 \_\_\_\_\_ **DATE:** \_\_\_\_\_

**Performance Programs Manager Signature:**

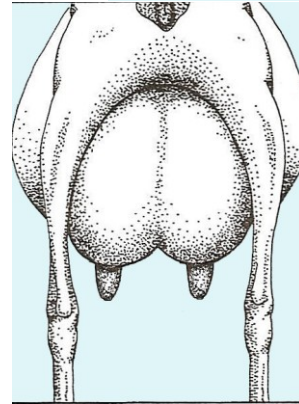
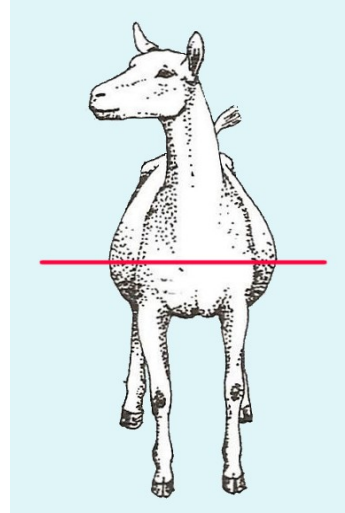
\_\_\_\_\_  
**DATE:** \_\_\_\_\_

VERIFICATION PHOTO TYPES – Appendix B  
continued



EACH SIDE

TOP



FRONT  
in MILK  
MILKED OUT

OBLIQUE

REAR  
&

Appendix C - ADGA® SCORECARD		POINTS		
		S R D O E	J R D O E	B U C K
A.	<b>GENERAL APPEARANCE</b> An attractive framework with femininity (masculinity in bucks), strength, upstandingness, length, and smoothness of blending throughout that create an impressive style and graceful walk.	35	55	55
	Stature—slightly taller at withers than at hips with long bone pattern throughout.	2	2	2
	Head & Breed Characteristics—clean-cut and balanced in length, width, and depth; broad muzzle with full nostrils; well-sculpted, alert eyes; strong jaw with angular lean junction to throat; appropriate size, color, ears, and nose to meet breed standard.	5	10	8
	Front End Assembly—prominent withers arched to point of shoulder with shoulder blade, point of shoulder, and point of elbow set tightly and smoothly against the chest wall both while at rest and in motion; deep and wide into chest floor with moderate strength of brisket.	5	8	10
	Back—strong and straight with well-defined vertebrae throughout and slightly uphill to withers; level chine with full crops into a straight, wide loin; wide hips smoothly set and level with back; strong rump which is uniformly wide and nearly level from hips to pinbones and thurl to thurl; thurls set two-thirds of the distance from hips to pinbones; well defined and wide pinbones set slightly lower than the hips; tailhead slightly above and smoothly set between pinbones; tail symmetrical to body and free from coarseness; vulva should be normal in size and shape in females (normal sheath and testes in males).	8	12	10
	Legs, Pasterns & Feet—bone flat and strong throughout leading to smooth, free motion; front legs with clean knees, straight, wide apart and squarely placed; rear legs wide apart and straight from the rear and well angulated in side profile through the stifle to cleanly molded hocks, nearly perpendicular from hock to strong, yet flexible pastern of medium length; strong feet with tight toes, pointed directly forward; deep heels with sole nearly uniform in depth from toe to heel.	15	23	25

B. DAIRY STRENGTH			
Angularity and openness with strong yet refined and clean bone structure, showing enough substance, but with freedom from coarseness and with evidence of milking ability giving due regard to stage of lactation (of breeding season in bucks). Neck—long, lean, and blending smoothly into the shoulders; clean-cut throat and brisket with adequate width of chest floor to support maintenance of body functions. Withers—prominent and wedge-shaped with the dorsal process arising slightly above the shoulder blades. Ribs—flat, flinty, wide apart, and long; lower rear ribs should angle to flank. Flank—deep, yet arched and free of excess tissue. Thighs—in side profile, moderately incurving from pinbone to stifle; from the rear, clean and wide apart, highly arched and out-curving into the escutcheon to provide ample room for the udder and its attachment. Skin—thin, loose, and pliable with soft, lustrous hair.	20	30	30

ADGA® SCORECARD	POINTS		
	S R D O E	J R D O E	B U C K
<b>C. BODY CAPACITY</b> Relatively large in proportion in size, age, and period of lactation of animal (of breeding season for bucks), providing ample capacity, strength, and vigor.	10	15	15
Chest—deep and wide, yet clean-cut, with well sprung fore ribs, full in crops and at point of elbow.	4	7	7
Barrel—strongly supported, long, deep, and wide; depth and spring of rib tending to increase into a deep yet refined flank	6	8	8
<b>D. MAMMARY SYSTEM</b> Strongly attached, elastic, well-balanced with adequate capacity, quality, ease of milking, and indicating heavy milk production over a long period of usefulness.	35		
Udder Support—strong medial suspensory ligament that clearly defines the udder halves, contributes to desirable shape and capacity, and holds the entire udder snugly to the body and well above the hocks. Fore, rear, and lateral attachments must be strong and smooth.	13		
Fore Udder—wide and full to the side and extending moderately forward without excess non-lactating tissue and indicating capacity, desirable shape, and productivity.	5		

Rear Udder—capacious, high, wide, and arched into the escutcheon; uniformly wide and deep to the floor; moderately curved in side profile without protruding beyond the vulva.	7		
Balanced, Symmetry & Quality—in side profile, one-third of the capacity visible in front of the leg, one-third under the leg, and one-third behind the leg; well-rounded with soft, pliable, and elastic texture that is well collapsed after milking, free of scar tissue, with halves evenly balanced.	6		
Teats—uniform size and of medium length and diameter in proportion to capacity of udder, cylindrical in shape, pointed nearly straight down or slightly forward, and situated two-thirds of the distance from the medial suspensory ligament on the floor of each udder-half to the side, indicating ease of milking.	4		
<b>TOTAL</b>	100	100	100



## Appendix D

### **LINEAR APPRAISAL EDUCATION PROGRAM**

**Definition:** A Linear Appraisal Education Program is a training program for breeders, youth, and possible future linear appraisers taught by an active linear appraiser or other person trained and authorized by ADGA to do so. The program consists of either one-half day or one full day of instruction. A full day will include all content; a half-day program will include content items 1-9.

Content:

1. Definition and discussion of the purpose of the linear appraisal program.
2. Discussion of eligibility, guidelines and rules of the program.
3. Description and discussion of the linear traits and how they are measured (using illustrations, photographs and applicable data collection sections of the Linear Appraisal Standard Operating Procedures [SOP]).
4. Description and discussion of the structural categories (using illustrations, photographs and applicable data collection sections of the Linear Appraisal Standard Operating Procedures [SOP]).
5. Explanation of the procedure used to obtain the major category scores and the final score, using the Scoring Range Definitions and miscellaneous codes and remarks.
6. Discussion of costs and the scheduling options (Individual, hosting, sire groups, special session?)
7. How should a herd owner prepare for a linear appraisal session? What is expected of the appraiser?
8. Discussion of linear appraisal information as it appears on a performance pedigree and on the genetics website. Discussion of trait averages by breed and how to use performance data in a breeding program.
9. Summary and questions
10. Exercises with 4-6 live animals. Several breeds should be represented by at least 3 does in milk and 1-2 young stock to illustrate data collection procedures and range (as possible) for the linear traits and structural categories. No official scores will be assigned at a Linear Appraisal Education Program.

**How to Arrange for a Linear Appraisal Education Program:** Any person or group wishing to conduct a Linear Appraisal Education Program should first contact the ADGA Performance Programs Manager to make arrangements for the time, fees, expense and to discuss needed facilities and equipment. If an instructor is available, the local group should secure local arrangements and set appropriate registration fees. It is strongly suggested that Linear Appraisal Education Programs be widely advertised so as many interested people as possible may attend.

### **Appendix E – Measuring Devices [2018]**

**Stature:** Ketchum Measuring Tape with level and crosspiece  
ADGA Measuring Stick

**Rump Width:** Ruler  
IGaging 8” Digital Calipers