

Ultrasound Protocol

Association provides breeder protocol for submitting ultrasound data.

To assist producers in getting the most meaningful data — and therefore the best return on the money invested in ultrasound scanning — the American Angus Association has released the following protocol for obtaining ultrasound scans. This information is available online with helpful links at www.angus.org by choosing “Performance/AHIRSM/BRS” from the left navigation bar, then clicking “Ultrasound,” then “Breeder Protocol.”

Refer to Fig. 1 (see page 68) for a visual flow chart.

CONTINUED ON PAGE 68

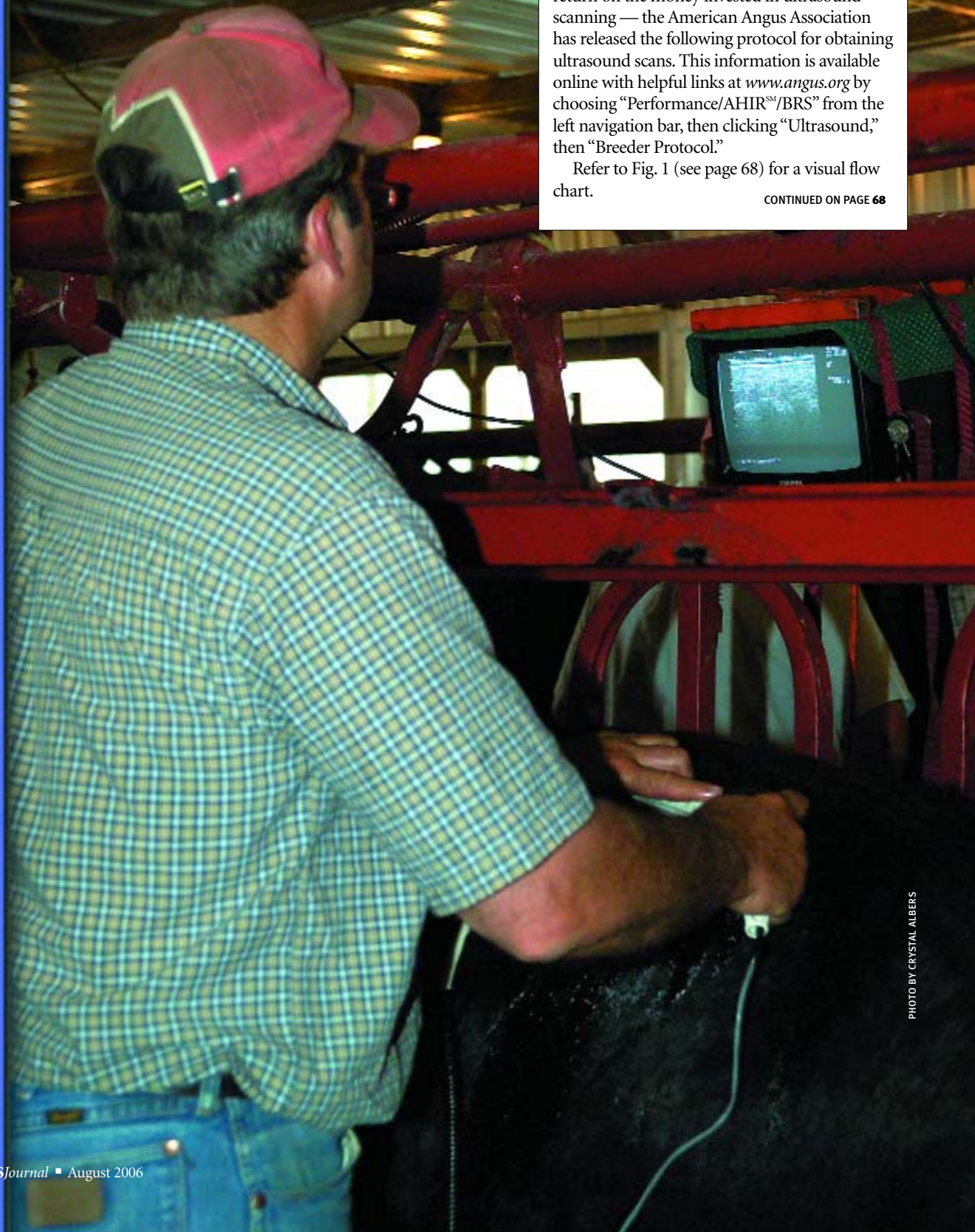
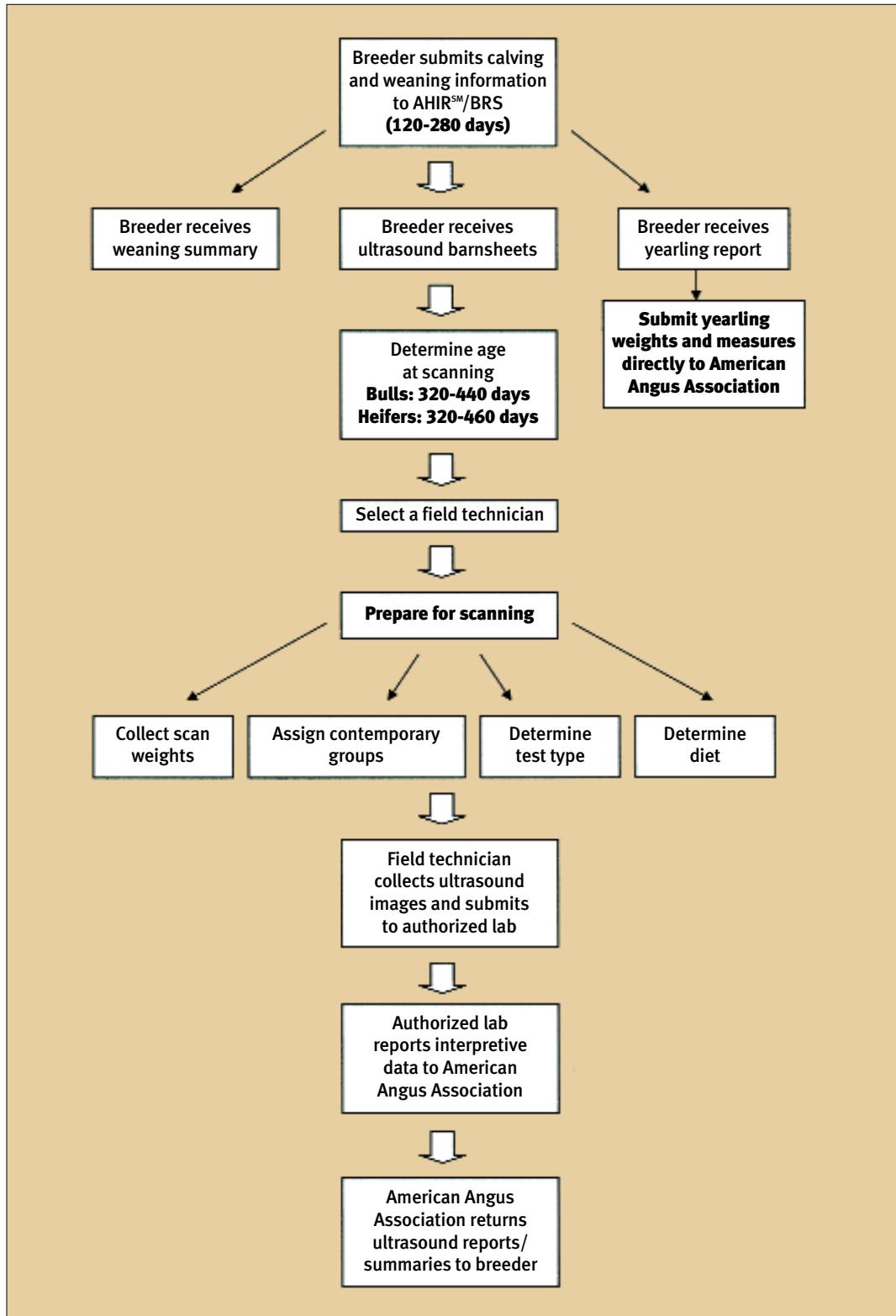


PHOTO BY CRYSTAL ALBERS

Fig. 1: Flow chart for handling ultrasound data



Submit weaning weights to obtain barnsheet

Weaning weights must be submitted prior to ultrasound scanning. Weaning weights must be taken when an individual calf is between 120 and 280 days old. Submit a calving and weaning report to the Performance Programs Department when a group of calves is near an average age of 205 days old. Refer to www.angus.org/performance/documents/guidelines_bif_ahir_brs.html for information on submitting performance data.

Establishing proper contemporary groups is essential in providing accurate and predictable performance records necessary to generate expected progeny differences (EPDs). A contemporary group is a set of two or more calves of the same sex and similar age that have been managed under similar practices. Contemporary groups should include as many animals as can be accurately compared. For more information on contemporary groups, refer to "By the Numbers: Understanding contemporary grouping" on page 144 of the May 2005 *Angus Journal* or go to www.angus.org/performance/documents/contemporary_grp.html.

The Performance Programs Department will process the calving and weaning information as part of the Association's database. Ultrasound barnsheets are included with the weaning reports and summaries once the data has been processed. Barnsheets must be completed by the breeder and given to the technician at time of scanning to be included with the scans when they are sent to an authorized lab for processing. (See

page 20 of the *Resource Edition*, inserted in this issue, for a list of authorized labs.)

Barnsheets

The preprinted barnsheet that is included with the weaning reports/summaries includes herd identification (ID), tattoo, sex, birth date, registration number of calf (if available), dam's tag, and dam's registration number. Every animal scanned must be on the barnsheet. If an animal does not appear on the barnsheet, the breeder must provide this information to the field technician for inclusion on the barnsheet at the time of scanning.

Barnsheets may also be created and printed through AAA Login. To preview your barnsheet, enter the beginning and ending birth dates, specify animal sex, and sort order of animals. Printing instructions are located above the search criteria.

If you do not have a barnsheet, contact the Performance Programs Department at (816) 383-5100. See Fig. 2 for a sample barnsheet.

Steps for image collection

Determine age at scanning. In order to process ultrasound data, animals must be scanned within the proper age window.

- Angus bulls 320-440 days of age
- Angus heifers 320-460 days of age

CONTINUED ON PAGE 72

Fig. 2: Sample barnsheet

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Angus Centralized Ultrasound Processing Barn Worksheet

Customer: _____

Animal Identification				Scanning Technician _____							
Herd ID		Birth Date	Dam Herd ID	Scan		Scan	Grp	Test	Scan		
Tattoo	Sex	Assn Number	Assn Number	Wt	Wt Date	Date	Code	Type	Sex	Diet	Remarks
SAMPLE											

TEST TYPE: R. MANCH TEST C. CENTRAL TEST D. DEVELOPING HEIFER F. FEED LOT	DIET: 0. UNKNOWN 1. 0% CONCENTRATE 2. \leq50% CONCENTRATE 3. \geq50% CONCENTRATE	Group Code - Breeders are to use a single digit letter (A, B, C, etc.) group code to distinguish how the animals listed on this barnsheet are to be grouped into contemporary groups. Only animals that are reared together and managed in the same manner (diet, health practices, etc.) are to be in the same contemporary group. Diet - A diet consisting of 0% concentrate contains no grain. Animals on pasture, and perhaps supplemented with hay, are on a 0% concentrate diet. Whole plant corn silage, without the addition of more corn or other grains, would describe a 50% concentrate diet. If the whole plant corn silage diet was also supplemented with hay, then the diet would be \leq 50% concentrate. A whole plant corn silage diet supplemented with corn or other grains would be > 50% concentrate. An earlage diet would be approximately a 75% concentrate diet.
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Select a field technician. An ultrasound image that is to be interpreted by an authorized processing lab must be collected by a certified field technician. A list of field technicians can be found on page 20 of the *Resource Edition* inserted in this issue or online at www.angus.org/performance/. The technicians listed have been certified by the Ultrasound Guidelines Council (UGC) and have met the technical requirements with respect to the collection of ultrasound images.

Scanning fees are determined by the ultrasound field technician. The field technician will invoice the breeder directly for the scanning fees. There is no charge for processing ultrasound data at the Association.

Prepare for scanning. It is suggested that all animals be scanned in a squeeze chute, with side panel doors, to ensure image quality and ease of scanning.

Cattle must be dry in the region of scanning and out of direct/bright sunlight to allow the field technician to see the images on the monitor.

Provide a grounded 110-volt outlet.

Cattle must be clipped and cleaned in the region of scanning, with no more than a 1/2 inch of hair in scanning area.

If the outside temperature is too cold, supplemental heat must be provided for equipment and oil.

Collect scan weights. The breeder must collect individual weights within seven days of when the animals are scanned. Weights are to be taken in the morning prior to any feeding. The animals should not have access to overnight feed prior to weight collection. It is preferred that animals be held off of both feed and water overnight. This weight is to be used in the prediction of empty-body weight, so gut fill should be minimized. The weights are to be recorded on the barnsheets and given to the technician for submission to the authorized lab along with the ultrasound images.

Assign contemporary groups. Each contemporary group should encompass the same sex of calves, managed and treated alike, from the same weaning contemporary group, to be considered a proper contemporary group for ultrasound. All animals within a contemporary group are to be scanned on the same day or no more than three consecutive days. An example would be as follows: If 10 animals from the same weaning contemporary group are scanned on the same day, they will be in the same contemporary group for ultrasound.

Yearling bulls and heifers that are sent to a central test can be included in national cattle evaluation (NCE) procedures for ultrasound EPDs. To be evaluated, the test animals must be in a proper ultrasound contemporary group. Two or more bulls from the same weaning contemporary group taken to a central bull test will have ultrasound EPDs generated relative to their weaning group.

In contrast, if just one bull is sent to a bull test, that bull will be evaluated as a contemporary group of one. If two bulls from separate weaning contemporary groups are sent to a bull test, those two bulls will be evaluated as separate contemporary groups of one. It is important to note that the bull's own scan record will not be used to calculate EPDs if the bull is a single animal in a contemporary group. Thus, if any parent of the bull has interims, the bull will have no ultrasound EPDs.

Many breeders will scan their yearling animals at the same

time other yearling traits are being measured. If the scan weight is to be used as a yearling weight, the breeder is responsible for submitting the weight as a yearling weight to the Association. The scan weight will not automatically be used as a yearling weight.

Determine test type. Test type describes the management of the animals.

R = ranch test (bulls)

C = central test (bull test)

D = developing heifers

F = feedlot

Determine diet. The diet code describes how the animals were fed.

0 = unknown

1 = 0% concentrate (no grain, on pasture, some hay)

2 = Less than or equal to (\leq) 50% concentrate

(Example: whole corn silage, or supplemented with hay)

3 = Greater than ($>$) 50% concentrate

(Example: full feed, show feed, bull test)

Field technician submits images

Ultrasound scans collected by a field technician on each animal include rump fat thickness, rib fat thickness, ribeye area and percent intramuscular fat (marbling).

After ultrasound images have been collected, it is the responsibility of the field technician to submit the images, along with a completed barnsheet, to an authorized lab for interpretation. Assuming no errors are found, the average processing time for images to be interpreted and the data submitted to the Association is seven working days. The interpretive data from the scans are then sent to the Association for adjustments, EPD calculations and summaries that are provided to the breeders.

Association returns reports, summaries

Once the ultrasound data have been received by the Association, the breeder will be contacted by an Association representative if errors are present. (Example: missing weaning weights or animals not found in the system.) If no errors are present, the data are processed and posted on AAA Login the next business day.

Ultrasound summaries are mailed to the breeder. The data can also be e-mailed if the field technician has included such information as forwarding instructions to the authorized lab.

The breeder will receive ultrasound summaries for Herd ID Order and Sire Order along with average progeny ratios for both sires and dams.

Individual ultrasound measurements are adjusted to 365 days for bulls and 390 days for heifers. Those measures are used as part of the EPD calculations.

If you have any questions, contact the Association at (816) 383-5100 or ahir@angus.org.



Editor's Note: This article was provided by the American Angus Association.