

NSIP Carcass Ultrasound Certification Standards

Approved June 12, 2014 by NSIP Board of Directors

A) NSIP Certification Requirements for Carcass Ultrasound Data Submittal.

- a. Data submitted to NSIP must either be collected by a certified scanner from an approved NSIP Certification School or be traced at a certified laboratory, as described below. This requirement is effective January 1, 2016.
- b. Loin Eye Area must be converted to Loin Eye Depth, or preferably collected as Depth, as LambPlan only accepts LE depth.

B) Scanning and Certification Procedures for Certification Schools.

1. Scan twenty (20) lambs twice.
2. Data from two reference scanners or carcass data collected by trained university personnel utilized to determine the Standard Error of Prediction.
 - a. A Reference Scanner is defined as someone who has achieved NSIP Carcass Ultrasound Certification.
3. Recertification every five (5) years.
4. Certification school must be approved by the NSIP Carcass Ultrasound Committee, and results and statistics reported to the Chair of the Carcass Ultrasound Committee.
 - a. Provisional Accreditation: can be achieved by submitting an individual data set of 20 lambs scanned twice, with reference scanner data submitted (2 reference scanners) or carcass data from trained university personnel. Provisionally accredited scanners must attend the next available NSIP Carcass Ultrasound Certification School.
 - b. Individuals desiring LambPlan certification can request their results to be sent to LambPlan for evaluation. LambPlan will evaluate their results to determine certification eligibility.
5. The length of the school is up to the entity putting on the school. It is encouraged that the ultrasound school train for the collection of loin eye area, loin eye depth, and back fat, however, as LambPlan only recognized loin eye depth, loin eye area will not be evaluated for certification.
6. NSIP Certified Carcass Ultrasound Scanners must meet the following requirements:
 - a. Depth: Standard Error of Prediction: < 0.15 ;
Standard Error of Repeatability: < 0.15
 - b. Fat: Standard Error of Prediction: < 0.075 ;
Standard Error of Repeatability: < 0.075
7. The NSIP Ultrasound Training Committee will maintain the list of Certified Scanners.

C) Certified Laboratory.

- a. Certified Laboratories will be determined by the Ultrasound Guidelines Council.
- b. The NSIP Ultrasound Training Committee will maintain a list of Certified Laboratories.

NSIP, LambPlan, BIF, and NSIF Certification Standards

Item	Technician Bias (TB) ^a	Standard Error of Prediction (SEP) ^b	Standard Error of Repeatability (SER) ^c
<i>Loin Eye Area industry standards</i>			
NSIP			
LambPlan			
BIF (Beef cattle)	1.20	1.20	1.20
NSIF (swine)	0.50	0.50	0.40
<i>Loin Eye Depth industry standards</i>			
NSIP		0.15	0.15
LambPlan		0.039	0.75 (Corr)
<i>Back Fat industry standard</i>			
NSIP		0.075	0.075
LambPlan		0.039	0.75 (Corr)
BIF (Beef cattle)	0.10	0.10	0.10
NSIF (swine)	0.15	0.15	0.10

^aThe means or averages of two measurements are compared to establish **TB**. For example, if the carcass ribeye area measurements averaged 2.7 square inches and ultrasonic ribeye measurements averaged 2.6 square inches, the technician bias would be 0.1 square inches. In other words, the technician typically underestimates ribeye area by an average of one tenth of a square inch.

^bThe **SEP** is a statistic used to evaluate ultrasound technician accuracy. This statistic establishes an amount we would expect individual ultrasonic measurements to differ from carcass measurements. For a technician with a SEP for back fat of .07 inches, we would expect two thirds of his ultrasonic back fat measurements to be within .07 inches of the carcass measurements.

^cThe **SER** statistic establishes an amount we expect repeated measurements on the same animal to differ. A technician with a SER for ribeye area of 0.2 square inch would be expected to arrive at two measurements on the same animal within 0.2 square inch of each other, at least two thirds of the time.