Calibration of Portable Scales

2024 Meter & Scale Technician Training School

Steven Sievert

Manager, Quality Certification Services Inc. Technical Director, National DHIA Chair, ICAR Subcommittee for Measuring, Recording and Sampling Devices



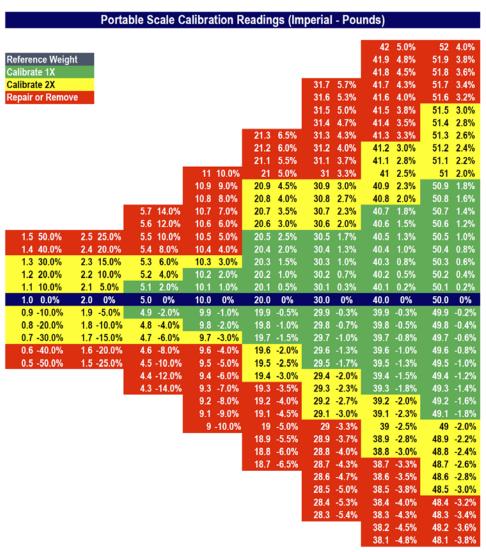
Scale Calibration Requirements



- All scales must be calibrated at least once every 12 months
- Calibrated to:
 - 2% accuracy on single weight
 - 3% accuracy on two consecutive weights
- Data is reported to QCS as part of annual field service audit



Scale Calibration Requirements



- Must calibrate at each of the following weights...
 - Dairy Cows
 - 10, 20, 30, 40, 50 lbs.
 - Dairy Goats/Sheep
 - 1, 2, 5, 10, 20 lbs.
- Refer to chart in MTTS Manual for acceptable weight readings



Scale Calibration Requirements



- Every scale must have unique serial number
- Each scale must be marked with calibration tag/sticker
 - Month & Year
 - Meter Center Used
 - Meter/Scale Technician

Reporting Scale Calibration Results to QCS



- Proper reporting improves audit efficiency
 - Unique serial number avoid alphanumeric values
 - Make and model of scale
 - Calibration date(s)
 - Meter center and technician name
 - Calibration weights at each level
 - Status during the audit period



Reporting Scale Calibration Results to QCS

- Suggested Status Codes for Scale Calibration Worksheets
 - Active
 - New (+ year) scale new from the box
 - Return (+ year) repaired scale or returned to active status
 - Storage calibrated scale not in active use (backup)
 - Out (+ year) scale taken out of service
 - Perm Out or POS broken scale that cannot be repaired
 - Goat scale that has only been calibrated for goats



Reporting Scale Calibration Results to Producer

DHIA Goat Milk Scale Calibration Record

DATE: Scale owner & herd name:			
Scale make and model number:		Scale ID number:	
digital? Y / N	on milk test? Y / N	Name of DHIA:	
Calibration readings:			
1.0		comments:	
2.0			
5.0			
10.0			
20.0			
Passed Y / N	Technician:		



SCALES SUITABLE FOR DHI PROGRAMS



Hanson Dairy Scale 600



- The old 'standard' for DHI milk weighing
- No longer manufactured
- Can reface the scale with new label contact auditor
- Maintains calibration over the weight range

Chatillon MD-60



- Designed specifically for dairy applications
- Easy to read
- Heavy gauge steel construction, baked enamel finish
- Expensive purchase price but durable
- Easy to calibrate



Detecto MCS-60M



- Designed specifically for dairy applications
- Accurate weighing at all levels
- Combination plastic and steel
- Expensive purchase price but durable
- Easy to calibrate



Pelouze (Viking) 7800 and 7842



- Low-cost scale
- Metal construction, baked enamel finish
- Moderately durable, can lose calibration easy
- Does not like travel
- Marketed by some dairy supply places as replacement for the Hanson scale



Salter Brecknell 235-Series



- Medium cost point
- Metal construction, baked enamel finish
- Moderately durable

Taylor 3460 and 3470



- Low-cost scale
- Combination plastic and thin steel
- NOT durable and loses calibration easy
- Does not like to travel
- Treat as disposable scale to send unsupervised/owner-sampler herds



American Weigh Scales: PK - SR Series





- Digital scale with low purchase price
- PK 110 (110 lb. capacity)
- SR 20 (44 lb. capacity)
- Easy to carry in computer bag
- Accurate but not legal for trade
- Can be calibrated
- Modern image for DHI providing accurate results

Kingon Hanging Scale



- Digital scale with low purchase price
- 110 lb. capacity
- Easy to carry in computer bag
- Accurate but not legal for trade
- Can be calibrated
- Modern image for DHI providing accurate results



Dr. Meter ES-PS01/FS-01



Total States

- Digital scale with low purchase price
- 110 lb. capacity
- Easy to carry in computer bag
- Accurate but not legal for trade
- Can be calibrated
- Modern image for DHI providing accurate results



EtekCity EHS-18



- Digital scale with low purchase price
- 110 lb. capacity
- Easy to carry in computer bag
- Accurate but not legal for trade
- Can be calibrated
- Modern image for DHI providing accurate results

Intelligent Weighing Technology AHS-60



- Digital scale with high purchase price
- 60 lb. capacity. 0.05 lb. increments
- Larger size scale, carrying case available.
- Uses 4 C batteries or AC adapter
- NTEP certified, NIST certificate available and legal for trade
- Can be easily calibrated

