# AMERICAN BERKSHIRE —ASSOCIATION—

# 2024

# Berkshire Progeny Test Sire Summary

*The most extensive evaluation of offspring from Berkshire pigs to assess and improve desirable traits in the breed.*

# A Look at the 2024 Berkshire Progeny Test

The 2024 Berkshire Sire Progeny Test continues to serve as the most comprehensive and unbiased evaluation of progeny performance for purebred Berkshire swine breeders. In keeping with the standards set by the previous 27 progeny tests, this year's program records data across twelve performance measures for every pig completing the testing period. These include carcass composition, growth performance, meat quality, and eating quality. The collected data are returned to participating breeders for integration into their breeding or marketing strategies. However, given the extensive nature of the data, an effective summarization method is necessary to accurately assess the performance of individual sires.

## Addressing Evolving Industry Needs

Shifts within the U.S. swine industry have introduced diverse production and marketing approaches among purebred breeding herds. These variations complicate the application of a single index to meet the objectives of all breeders. Generally, the goals of breeders utilizing progeny test data fall into two categories:

- Mainstream pork production, focusing on efficient lean meat production.
- Enhanced eating quality production, prioritizing superior meat quality.

Both systems require balance: mainstream production must emphasize eating quality to maintain consumer trust, while quality-focused systems must ensure sufficient lean growth for long-term profitability.

To accommodate these needs, this year's test evaluates sires based on both production systems, recognizing those excelling in one or both categories. Sires achieving exceptional performance in mainstream pork traits will earn the 100% Berkshire Performance Sire Index Award, formerly known as the SUPER Sire Award, while those excelling in eating quality traits will receive the 100% Berkshire Prime Pork Index Award, formerly known as PORQUE Award (PORk QUality Excellence).

## Sire Ranking Objectives

Sires are ranked based on two primary objectives, emphasizing:

1. Lean gain per day on test (LGOT), calculated using the methods outlined in the Pork Composition and Quality Assessment Procedures Manual from the National Pork Producers Council.
2. Consumer acceptance (CA), determined by assessing nine meat and eating quality traits measured during the progeny test. CA reflects the consensus on the impact of each trait on overall consumer preference.

Performance Index Breakdown

**100% Berkshire Performance Sire Index**
Designed for mainstream pork production.
- 90% weight: Lean gain traits.
- 10% weight: Meat quality traits affecting consumer acceptance of pork loins.

**100% Berkshire Prime Pork Index**
Designed for quality-focused production systems.
- 10% weight: Lean gain traits.
- 90% weight: Meat quality traits affecting consumer acceptance of pork loins.

This dual-index approach ensures that breeders have actionable insights to optimize their breeding programs while addressing both production efficiency and consumer satisfaction.

Relative contribution of traits within each component group described above:

| Lean Gain Factor | | Consumer Acceptance Factor | |
|---|---|---|---|
| Average Daily Gain | 57% | pH | 43% |
| 10$^{th}$ Rib Backfat | 34% | Instron Tenderness | 30% |
| Loin Muscle Area | 6% | Intramuscular Fat | 10% |
| All Other Traits | 3% | Sensory Panel | 10% |
| | | All Other Traits | 7% |

(i.e., ADG comprises 57% of the weighting in "Lean Gain". The entire collection of traits in "Lean Gain" is then in turn weighted at 90% of the value of the 100% Berkshire Performance Sire Index or 10% value of the 100% Berkshire Prime Pork Index).

Traits are adjusted for gender and contemporary group effect (defined as off-test group) when appropriate. Carcass composition traits such as loin eye area and backfat are adjusted to 290 lbs., while average daily gain is adjusted to 90 lb. on-test weight. The contemporary group effect included in the evaluation of meat and eating quality traits, assists in accounting for the environmental differences that may exist between harvest day environments as well as the differences that may occur in the weekly sensory taste panels.

Soundness scores (1-5, 5=best) are assigned to each pig separately for front and rear leg structure/movement. Individual pigs that have an average score of less than 1.5 are disqualified. In order for a sire to be eligible for 100% Berkshire Performance Sire Index or 100% Berkshire Prime Pork Index recognition, the sire group must meet entry requirements, including at least six pigs that completed the testing period that were not disqualified for soundness and reached a market weight of at least 220 lbs. The top 25% sires for each index will be awarded.

If you have any questions regarding the Berkshire progeny test in general, please contact the American Berkshire Association, 765-497-3618 – www.americanberkshire.com.

# 2024 Berkshire Progeny Test Terms

| Measurement | Description |
|---|---|
| **ADG** | Average Daily Gain reported in lbs / day.  Adjusted for sex and adjusted to a 90 lb on-test weight before sire average was calculated. |
| **BF10** | Backfat reported in inches.  Measured off mid-line at the tenth rib.  Adjusted for sex and adjusted to a 290 lb live weight before sire average was calculated. |
| **LEA** | Loin eye area reported in square inches.  Measured at the tenth rib.  Adjusted for sex and adjusted to a 290 lb live weight before sire average was calculated. |
| **Leg Soundness** | Front and back legs were scored by an independent evaluator for movement and structure on a scale of 1 to 5, where: 1 = very unsound and 5 = very sound.  Front and back leg scores were then added together to compute an overall soundness score.  For example, if a pig had a front leg score of 2 and a back leg score of 3, this resulted in a leg soundness score of 5. |
| **Ultimate pH** | Loin pH measured 48 hours postmortem.  Higher pH is associated with less drip loss and darker color.  The National Pork Board has defined the target for ultimate pH to be 5.6 to 5.9. |
| **Minolta Y** | Loin muscle color measured at 48 hours postmortem by Y values for light reflectance with a colorimeter.  Lower values indicate darker color. |
| **Minolta L*** | Loin muscle color measured at 48 hours postmortem by L* values with a colorimeter on a scale of 0 to 100, where 100 = white and 0 = black.  The lower the value, the darker the color.  The National Pork Board target for L* values are 37 to 49.  See the National Pork Board's color standards for more details. |
| **IMF** | Percent marbling or intramuscular fat (total lipids) content of the loin.  The National Pork Board target for intramuscular fat is 2 to 4%.  See the National Pork Board's marbling standards for more details. |
| **Instron Tenderness** | Amount of pressure in kilograms required by a Star probe to puncture and compress cooked loin chops to 20% of their original height.  Lower pressure indicates more tenderness.  The National Pork Board target for mechanical tenderness translates to instron values $\leq 4.5$ kg. |
| **Sensory Tenderness** | Sensory panel score of cooked loin tenderness on a scale of 1 to 10.  Higher scores are more tender. |
| **Sensory Juiciness** | Sensory panel score of cooked loin juiciness on a scale of 1 to 10.  Higher scores are more juicy. |
| **Cooking Loss** | Loin chop weight loss from cooking (expressed as a percentage).  Lower values are better. |

# 2024 Berkshire Progeny Test Ranking

*Traits adjusted for sex and weight.*

## 100% Berkshire Performance Sire Index

Awards are listed in BOLD.

100% Berkshire Performance Sire Index represents
90% weight on Lean Growth measures and 10% weight on Eating Quality measures.

| Breeder | Sire | ADG | BF10 | LEA | Soundness | Prime Pork Index | Performance Index |
|---|---|---|---|---|---|---|---|
| **Fly'n K Berkshires** | **FKB2 SEAL Team 6 26-8 (A)** | **2.03** | **1.24** | **7.77** | **5.90** | **106.9** | **109.0** |
| **Fly'n K Berkshires** | **FKB2 SEAL Team 6 26-8 (B)** | **2.15** | **1.31** | **8.27** | **5.22** | **101.6** | **107.0** |
| **Fly'n K Berkshires** | **DKNS3 Django 7-3 (B)** | **2.03** | **1.17** | **8.42** | **2.95** | **100.4** | **105.6** |
| Fly'n K Berkshires | DKNS3 Django 7-3 (A) | 1.96 | 1.14 | 8.37 | 4.55 | 98.9 | 102.5 |
| AJC Berkshires | JBM2 Machine 30-1 | 1.81 | 1.10 | 9.09 | 7.38 | 99.2 | 102.1 |
| Fly'n K Berkshires | KURO1 Rumbolds Peter Lad 14 15-9 | 2.04 | 1.30 | 8.01 | 7.48 | 99.6 | 101.6 |
| KJR Berkshires | KURO2 Black Stallion 58-9 | 1.75 | 1.20 | 8.30 | 6.41 | 100.6 | 97.0 |
| KJR Berkshires | KURO3 Rosette Count 11-9 | 1.74 | 1.13 | 8.36 | 5.35 | 97.1 | 94.0 |
| Fly'n K Berkshires | FKB1 Lakota 17-4 | 1.68 | 1.23 | 8.53 | 4.80 | 99.1 | 92.3 |
| Fly'n K Berkshires | KURO0 Saki II 95-9 | 1.84 | 1.38 | 7.69 | 6.18 | 98.8 | 91.8 |
| **2024 Berkshire Test Averages** | | **1.90** | **1.22** | **8.29** | **5.61** | **100.0** | **100.0** |

# 2024 Berkshire Progeny Test Ranking
*Traits adjusted for sex and weight.*

## 100% Berkshire Prime Pork Index
Awards are listed in BOLD.

100% Berkshire Prime Pork Index represents
10% weight on Lean Growth measures and 90% weight on Eating Quality measures.

| Breeder | Sire | Ultimate pH | Minolta Y | Minolta L* | IMF, % | Instron Tenderness | Cooking Loss | Sensory Juiciness | Sensory Tenderness | Performance Index | Prime Pork Index |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Fly'n K Berkshires** | **FKB2 SEAL Team 6 26-8 (A)** | **6.07** | **17.77** | **49.07** | **2.32** | **5.15** | **13.25** | **4.69** | **5.90** | **109.0** | **106.9** |
| **Fly'n K Berkshires** | **FKB2 SEAL Team 6 26-8 (B)** | **5.86** | **18.84** | **50.17** | **1.89** | **5.74** | **16.20** | **4.38** | **5.19** | **107.0** | **101.6** |
| **KJR Berkshires** | **KURO2 Black Stallion 58-9** | **5.56** | **23.88** | **55.68** | **2.81** | **5.50** | **21.53** | **3.13** | **4.39** | **97.0** | **100.6** |
| Fly'n K Berkshires | DKNS3 Django 7-3 (B) | 5.74 | 18.77 | 50.27 | 1.49 | 5.45 | 19.76 | 3.73 | 5.19 | 105.6 | 100.4 |
| Fly'n K Berkshires | KURO1 Rumbolds Peter Lad 14 15-9 | 5.79 | 20.18 | 51.74 | 2.09 | 5.82 | 19.33 | 3.88 | 4.48 | 101.6 | 99.6 |
| AJC Berkshires | JBM2 Machine 30-1 | 5.54 | 25.90 | 57.87 | 2.08 | 5.70 | 21.57 | 2.87 | 4.81 | 102.1 | 99.2 |
| Fly'n K Berkshires | FKB1 Lakota 17-4 | 5.69 | 19.01 | 50.50 | 2.08 | 5.79 | 17.93 | 3.49 | 4.49 | 92.3 | 99.1 |
| Fly'n K Berkshires | DKNS3 Django 7-3 (A) | 5.66 | 21.74 | 53.58 | 1.93 | 5.72 | 21.98 | 3.32 | 4.57 | 102.5 | 98.9 |
| Fly'n K Berkshires | KURO0 Saki II 95-9 | 5.59 | 23.16 | 54.85 | 2.27 | 5.78 | 17.76 | 2.80 | 4.20 | 91.8 | 98.8 |
| KJR Berkshires | KURO3 Rosette Count 11-9 | 5.55 | 23.34 | 55.14 | 1.54 | 5.73 | 21.66 | 2.86 | 3.86 | 94.0 | 97.1 |
| **2024 Berkshire Test Averages** | | **5.70** | **21.35** | **52.99** | **2.03** | **5.65** | **19.26** | **3.48** | **4.67** | **100.0** | **100.0** |

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