EPDs have changed for this application period and must be current as of October 1, 2023.

REQUIREMENTS - BULLS

- 1. BVD-PI test negative test results required see vet at time of BSE & 840 EID
- 2. **840 EID tag** "840" are first 3 digits see vet at time of BSE, BVD-PI, and Trich testing
- 3. **BSE** performed by a licensed veterinarian within 90 days of purchase or reimbursement
- 4. EPD, Genomic, Index, Accuracy and Pedigree Print Date requirements read below
- 5. **Receipt** seller name, address, and phone, bull ID, price, sale date, and buyer name

Buyer must communicate with the seller prior to purchasing to ensure the bull meets all TAEP eligibility requirements. Bulls that do not meet all eligibility requirements between October 1, 2023 and date of purchase will be denied cost share reimbursement.

RECOMMENDED - BULLS

- Trichomoniasis testing "Trich" is a venereal disease of cattle caused by the protozoan Tritrichomoanas foetus, which is transmitted from cow to cow by infected bulls. This disease reduces calf production by decreasing fertility and inducing abortions. While heifers usually rid themselves of Trichomoniasis in three to six months, bulls carry the infection for life without showing any symptoms. With no medically approved cures available, detection and control of infected bulls is key to containing the disease. An official sample must be done by an accredited veterinarian who has been approved by the state. Trichomoniasis testing is recommended during BSE exam along with submitting ear notch sample for BVD-PI test and securing 840 EID tag for bull.
- Trichomoniasis testing is highly recommended for non-virgin bulls during the BSE **Exam.** All bulls purchased from out of state sources must meet import requirements as set forth by the State Veterinarian's Office.

Producers are encouraged to purchase registered bulls from trusted seedstock breeders who provide buyers with complete reimbursement documentation at the point of sale. Complete TAEP reimbursement documentation includes: receipt, 840 EID tag, BSE, negative BVD-PI test results and pedigree with eligible current EPDs (printed between October 1, 2023 and **date of purchase**), index values, accuracies, genomic status and performance data, TAEP bull type.

Visit with your local veterinarian about Trich testing.

EPD, GENOMIC, INDEX, ACCURACY & PEDIGREE PRINT DATE REQUIREMENTS

REQUIRED: TAEP has added **Index Values** as an additional option to meet requirements based on a breed association pedigree printed between October 1, 2023 and **date of purchase**. A bull must meet or exceed EPD or Index, plus Genomic or Accuracy requirements in **each of 2** Index/EPD groups (**Calving Ease + Index or Growth**) for one of the following three (1 of 3) bull types:

- Calving Ease/Maternal Bull Type: CED + (Maternal Index or WW or YW)
 - For breeding replacement heifers
- Balanced Trait/Maternal Bull Type: CED + (Maternal Index or WW or YW)
 - For breeding a combination of mature cows and a few replacement heifers
- End Product/Terminal Bull Type: CED + (Terminal Index or WW or YW)
 - For breeding mature cows only
 - *Not recommended to breed to heifers

SUGGESTED: A *suggested* **Milk EPD range** lists the 15% - 85% Milk EPD values for each breed. Optimal Milk EPD range may be a useful tool for producers in selecting functional replacement females with appropriate maintenance requirements consistent with standard production systems.

SUGGESTED: A *suggested* **Docility EPD (Doc)** lists the 70th percentile Doc EPD value for each available breed. Selecting for bulls with a Doc EPD higher than the minimum *suggested* value may improve or maintain disposition by not utilizing bulls in the low 30% of their breed for docility.

EPD, Genomic, Index, Accuracy, and Pedigree Print Date Information

Eligible beef breeds for the TAEP Genetics program must have a national breed performance testing program that participates in a National Cattle Evaluation (NCE) program recognized by the Beef Improvement Federation. Genomic Enhanced or true NCE EPDs must be calculated and printed from the most prominent breed association.

TAEP 2023-2024 EPD, Genomic, Index, Accuracy, & Pedigree Print Date Requirements will be posted in September 2023 at www.tn.gov/taep in Producer Programs under Genetics and will be included in the reimbursement packet.

\$2,000 Maximum Reimbursement — Bulls must have eligible **Genomic Enhanced EPDs (GE-EPDs) and Indexes** on breed association pedigree between October 1, 2023 & **date of purchase** <u>and</u> meet TAEP EPD/Index requirements for one of the three eligible bull types to be eligible for cost share reimbursement.

Breeds with GE-EPDs:

- Angus
- Beefmaster
- Black Hereford
- Brahman
- Brangus (Black, Red & Ultrablack)
- Braunvieh
- Charolais
- Gelbvieh & Balancer
- Hereford
- Limousin & Lim-Flex
- Red Angus
- Santa Gertrudis
- Shorthorn
- Simmental & Hybrid
- Wagyu
- Breed association pedigree must be submitted with reimbursement request and include eligible GE-EPDs, Indexes, accuracies, genomic status, and have a printed date between October 1, 2023 and date of purchase.
- Reimbursement will be calculated based on purchase price at either 35% or 50% up to \$2,000 maximum.
- Payment for these breeds will be denied if individual bulls do not have eligible Genomic Enhanced EPDs (GE-EPDs) & Indexes calculated by their breed association between October 1, 2023 and date of purchase.

\$1,000 Maximum Reimbursement — Bulls must have eligible **true NCE EPDs with minimum 0.15 accuracies** on breed association pedigree between October 1, 2023 & **date of purchase** and meet TAEP EPD requirements for one of the three eligible bull types to be eligible for cost share reimbursement. These EPDs must meet or exceed minimum TAEP EPD requirements. *Interim EPDs, pedigree estimates, pedigree index (ex. I, I+, P, P+, or 0.05 Accuracy), or parental averages are not eligible for reimbursement.*

- Breeds with true NCE EPDs minimum 0.15 accuracy required:
 - Akaushi
 - Chiangus & Chianina
 - Maine-Anjou & MaineTainer
 - Salers & Optimizer
 - Senepol
 - South Devon
- Breed association pedigree must be submitted with reimbursement request and include eligible EPDs, accuracies, and have a printed date between October 1, 2023 and date of purchase.
- Reimbursement will be calculated based on purchase price at either 35% or 50% up to \$1,000 maximum.
- Payment for these breeds will be denied if individual bulls do not have eligible true NCE EPDs with minimum 0.15 accuracies calculated by their breed association between October 1, 2023 and date of purchase.

Bull Type Options

Bulls and semen must meet or exceed EPD/Index requirements in each of the two (2) EPD/Index groups (Calving Ease + Index or Growth) for one of the following three bull types:

- Calving Ease/Maternal must meet CED + (Maternal Index or WW or YW)
- Balanced Trait/Maternal must meet **CED** + (**Maternal Index** <u>or</u> **WW** <u>or</u> **YW**)
- End Product/Terminal must meet CED + (Terminal Index or WW or YW)

QUESTIONS

Genetics Coordinator: Ryan Betzelberger

Phone: 615-837-5382

Email: <u>livestock.genetics@tn.gov</u>

Breeds eligible for TAEP cost-share

Breed	Maternal Index	Terminal Index	Docility	GE-EPDs	Reimb. Max.
British breeds - Materna	al & Terminal Index	xes, Genomic Enha	nced EPDs (G	E-EPD) - page	6
Angus	\$M	\$B	Doc	GE-EPDs	\$2,000
Hereford	\$BMI	\$CHB	-	GE-EPDs	\$2,000
Red Angus	\$HB	\$GM	-	GE-EPDs	\$2,000
Shorthorn	\$BMI	\$F	-	GE-EPDs	\$2,000
Continental, Hybrid bre	eds - Maternal, Te	rminal Indexes, Ge	nomic Enhan	ced EPDs (GE-E	(PD) - page 7
Gelbvieh & Balancer	\$Cow	\$FPI	Doc	GE-EPDs	\$2,000
Simmental & Hybrid	\$API	\$TI	Doc	GE-EPDs	\$2,000
Braunvieh	\$API	\$TI	Doc	GE-EPDs	\$2,000
Brahman Hybrid breeds	- Maternal & Terr	ninal Indexes, Gen	omic Enhance	d EPDs (GE-EP	D) - page 8
Brangus (Black)	\$Fertility	\$TI -		GE-EPDs	\$2,000
Red Brangus	\$Fertility	\$TI	-	GE-EPDs	\$2,000
Ultrablack	\$Fertility	\$TI	-	GE-EPDs	\$2,000
Beefmaster	\$M	\$TI	-	GE-EPDs	\$2,000
Brahman, Hybrid, AOB	- Maternal & Term	inal Indexes, Geno	mic Enhancea	EPDs (GE-EPD)) - page 9
Santa Gertrudis	\$Cow/Calf	\$TI	-	GE-EPDs	\$2,000
Brahman	\$Queen	\$Bull	Doc	GE-EPDs	\$2,000
Black Hereford	\$API	\$TI	Doc	GE-EPDs	\$2,000
Continental, Hybrid, Jap	panese breeds - Ge	enomic Enhanced E	PDs (GE-EPD)	, Terminal Inde	ex - page 10
Charolais	-	\$TSI	-	GE-EPDs	\$2,000
Limousin & Lim-Flex	-	\$MTI	Doc	GE-EPDs	\$2,000
Wagyu	-	-	-	GE-EPDs	\$2,000

All other breeds - True NCE EPDs (minimum 0.15 accuracy required) - page 11					
Akaushi	-	-	-	-	\$1,000
Chiangus & Chianina	-	-	Doc	-	\$1,000
Maine-Anjou & Tainer	-	-	-	-	\$1,000
Salers & Optimizer	-	-	Doc	-	\$1,000
Senepol	-	-	-	-	\$1,000
South Devon	-	-	Doc	-	\$1,000

FY2023-2024 TAEP - EPD, Genomic, Index, Accuracy - breed minimum requirements

British breeds - Maternal & Terminal Indexes, Genomic Enhanced EPDs (GE-EPD)

GE-EPDs required; printed between 10/1/2023 - purchase date; All Breeds listed on this page.

35% Standard Producer / 50% Master Producer cost share up to \$2,000 reimbursement max.

Use CED from the Calving Ease/Maternal bull type for Bred Beef Heifer Service Sire.

<u>ANGUS</u>
GE-EPDs Required
Calving Ease / Maternal
Balanced Trait / Maternal
End Product / Terminal

CALVING EASE
CED
7
4
-1

ı	INDEX	or	(GROWTH	
ı			ww		YW
I	\$M ≥ 64	or	49	or	82
I	\$M ≥ 64	or	56	or	88
I	\$B≥138	or	64	or	109

Suggested Milk EPD range: 21 - 32

Suggested Docility EPD: Doc = 15 +

HEREFORD
GE-EPDs Required
Calving Ease / Maternal
Balanced Trait / Maternal
End Product / Terminal

CALVING EASE
CED
6
0
-4

INDEX	or	9	GROWTH	<u> </u>
		ww		YW
\$BMI ≥ 350	or	48	or	75
\$BMI ≥ 350	or	51	or	80
\$CHB ≥ 113	or	59	or	94

Suggested Milk EPD range: 20 - 33

RED ANGUS
GE-EPDs Required
Calving Ease / Maternal
Balanced Trait / Maternal
End Product / Terminal

CALVING EASE
CED
13
11
8
Ü

INDEX	or	9	GROWTI	<u> </u>
		ww		YW
\$HB ≥ 55	or	51	or	79
\$HB ≥ 55	or	55	or	81
\$GM ≥ 37	or	64	or	104

Suggested Milk EPD range: 21 - 30

<u>SHORTHORN</u>		
GE-EPDs Required		
Calving Ease / Maternal		
Balanced Trait / Maternal		
End Product / Terminal		

CALVING EASE
CED
14
9
4

+	INDEX	or		GROWTH	
			ww		YW
+	\$BMI ≥ 116	or	39	or	59
+	\$BMI ≥ 116	or	42	or	61
+	\$F≥50	or	49	or	75

Suggested Milk EPD range: 19 - 27

<u>FY2023-2024 TAEP - EPD, Genomic, Index, Accuracy - breed minimum requirements</u>

<u>Continental, Hybrid breeds</u> - Maternal & Terminal Indexes, Genomic Enhanced EPDs (GE-EPD)

GE-EPDs required; printed between 10/1/2023 - purchase date; All Breeds listed on this page.

35% Standard Producer / 50% Master Producer cost share up to \$2,000 reimbursement max.

Use CED from the Calving Ease/Maternal bull type for Bred Beef Heifer Service Sire.

GELBVIEH & BALANCER			
GE-EPDs Required			
Calving Ease / Maternal			
Balanced Trait / Maternal			
End Product / Terminal			

CALVING EASE
CED
15
11
8

INDEX or GROWTH ww YW \$Cow ≥ 104 or 62 or \$Cow ≥ 104 64 or 88 \$FPI ≥ 75 72 106

Suggested Milk EPD range: 17 - 26

Suggested Docility EPD: Doc = 11 +

SIMMENTAL & HYBRID
GE-EPDs Required
Calving Ease / Maternal
Balanced Trait / Maternal
End Product / Terminal

CALVING EASE
CED
14
10
6

INDEX	or	<u>(</u>	GROWTH	Ī
		ww		YW
\$API ≥ 131	or	66	or	99
\$API ≥ 131	or	73	or	102
\$TI ≥ 78	or	80	or	118

Suggested Milk EPD range: 18 - 29

Suggested Docility EPD: Doc = 10 +

BRAUNVIEH GE-EPDs Required		
Calving Ease / Maternal		
Balanced Trait / Maternal		
End Product / Terminal		

CALVING EASE
CED
14
10
7

INDEX	or	9	GROWTH	<u> </u>
		ww		YW
\$API ≥ 113	or	47	or	64
\$API ≥ 113	or	49	or	67
\$TI ≥ 71	or	56	or	80

Suggested Milk EPD range: 9 - 17

Suggested Docility EPD: Doc = 9 +

FY2023-2024 TAEP - EPD, Genomic, Index, Accuracy - breed minimum requirements

Brahman Hybrid breeds - Maternal & Terminal Indexes, Genomic Enhanced EPDs (GE-EPD)

GE-EPDs required; printed between 10/1/2023 - purchase date; All Breeds listed on this page.

35% Standard Producer / 50% Master Producer cost share up to \$2,000 reimbursement max.

Use CED from the Calving Ease/Maternal bull type for Bred Beef Heifer Service Sire.

BRANGUS (Black)		
GE-EPDs Required		
Calving Ease / Maternal		
Balanced Trait / Maternal		
End Product / Terminal		

CALVING EASE
CED
6
4
2

-	INDEX	or	<u>.</u>	GROWTH	<u> </u>
			ww		YW
٠	\$Fert≥2	or	14	or	31
٠	\$Fert≥2	or	17	or	33
٠	\$TI ≥ 2	or	26	or	48

Suggested Milk EPD range: 4 - 13

BRANGUS (Red)		
GE-EPDs Required		
Calving Ease / Maternal		
Balanced Trait / Maternal		
End Product / Terminal		

CALVING EASE
CED
6
4
2

INDEX	or	<u>(</u>	GROWTH	<u> </u>
		ww		YW
\$Fert≥2	or	10	or	20
\$Fert≥2	or	12	or	22
\$TI ≥ 1	or	17	or	31

Suggested Milk EPD range: 3 - 10

<u>ULTRABLACK</u>
GE-EPDs Required
Calving Ease / Maternal
Balanced Trait / Maternal
End Product / Terminal

CALVING EASE
CED
6
4
2

٠	INDEX	or	9	GROWTH	
			ww		YW
٠	\$Fert≥2	or	25	or	47
٠	\$Fert≥2	or	28	or	51
ŀ	\$TI≥3	or	37	or	71

Suggested Milk EPD range: 4-11

BEEFMASTER
GE-EPDs Required
Calving Ease / Maternal
Balanced Trait / Maternal
End Product / Terminal

CALVING EASE		
CED		
5		
3		
1		

+	INDEX	or	9	GROWTH	<u> </u>
			ww		YW
+	\$M ≥ 15	or	14	or	28
+	\$M ≥ 15	or	16	or	30
+	\$TI ≥ 64	or	27	or	45

Suggested Milk EPD range: 7 - 12

FY2023-2024 TAEP - EPD, Genomic, Index, Accuracy - breed minimum requirements

Brahman, Hybrid, AOB - Maternal & Terminal Indexes, Genomic Enhanced EPDs (GE-EPD)

GE-EPDs required; printed between 10/1/2023 - purchase date; All Breeds listed on this page.

35% Standard Producer / 50% Master Producer cost share up to \$2,000 reimbursement max.

Use CED from the Calving Ease/Maternal bull type for Bred Beef Heifer Service Sire.

SANTA GERTRUDIS			
GE-EPDs Required			
Calving Ease / Maternal			
Balanced Trait / Maternal			
End Product / Terminal			

CALVING EASE		
BW (Max.)		
-0.7		
-0.1		
1.2		

٠	INDEX	or		GROWTH	
			ww		YW
٠	\$Cow/Calf ≥ 17	or	1	or	0
١	\$Cow/Calf ≥ 17	or	4	or	4
٠	\$TI ≥ 9	or	12	or	15

Suggested Milk EPD range: -4 - 3

BRAHMAN
GE-EPDs Required
Calving Ease / Maternal
Balanced Trait / Maternal
End Product / Terminal

CALVING EASE
CED
7
5
4

	INDEX	or		GROWTH	<u>!</u>
			ww		YW
-	\$Queen ≥ 29	or	13	or	25
-	\$Queen ≥ 29	or	14	or	27
+	\$Bull ≥ 55	or	23	or	41

Suggested Milk EPD range: 4-8

Suggested Docility EPD: Doc = 0 +

BLACK HEREFORD	
GE-EPDs Required	
Calving Ease / Maternal	
Balanced Trait / Maternal	
End Product / Terminal	

CALVING EA	SE
CED	
13	
10	
7	Ü

INDEX	or	<u>(</u>	SROWTH	1
		ww		YW
\$API ≥ 112	or	51	or	63
\$API ≥ 112	or	53	or	66
\$TI ≥ 68	or	60	or	78

Suggested Milk EPD range: 19 - 26

Suggested Docility EPD: Doc = 10 +

FY2023-2024 TAEP - EPD, Genomic, Index, Accuracy - breed minimum requirements

Continental, Hybrid, Japanese breeds - Genomic Enhanced EPDs (GE-EPD), Terminal Index

GE-EPDs required; printed between 10/1/2023 - purchase date; All Breeds listed on this page.

35% Standard Producer / 50% Master Producer cost share up to \$2,000 reimbursement max.

Use CED from the Calving Ease/Maternal bull type for Bred Beef Heifer Service Sire.

CHAROLAIS	
GE-EPDs Required	
Calving Ease / Maternal	
Balanced Trait / Maternal	
End Product / Terminal	

CALVING EASE
CED
14
10
5

-	INDEX	or	<u>(</u>	GROWTH	<u> </u>
			ww		YW
+	-		52	or	90
-	-		54	or	92
٠	\$TSI ≥ 252	or	63	or	109

Suggested Milk EPD range: 17 - 30

LIMOUSIN & LIM-FLEX
GE-EPDs Required
Calving Ease / Maternal
Balanced Trait / Maternal
End Product / Terminal

CALVING EASE
CED
15
10
6

INDEX	or	GROWTH		
		ww		YW
-		57	or	82
-		61	or	85
\$MTI ≥ 48	or	70	or	104

Suggested Milk EPD range: 18 - 27

Suggested Docility EPD: Doc = 12 +

<u>WAGYU</u>		
GE-EPDs Required		
Calving Ease / Maternal		
Balanced Trait / Maternal		
End Product / Terminal		

CALVING EASE			
BW (Max.)			
-1.4			
-0.1			
2.3			

٠	<u>G</u>	GROWTH		
	ww		YW	
-	-7	or	-9	
-	-4	or	-6	
-	3	or	5	
-				

Suggested Milk EPD range: -4 - 3

FY2023-2024 TAEP - EPD, Index, Accuracy - breed minimum requirements

All other breeds - True NCE EPDs (minimum 0.15 accuracy required)

Pedigree, qualifying EPDs, Accuracies required; printed between 10/1/2023 - purchase date

35% Standard / 50% Master Producer cost share up to \$1,000 reimbursement maximum

<u>AKAUSHI</u>		
True NCE EPDs required (0.15 acc)		
Calving Ease / Maternal		
Balanced Trait / Maternal		
End Product / Terminal		

CALVING EASE	+	GROWTH		
CED		ww		YW
0	+	42	or	78
-3	+	43	or	79
-5	+	47	or	84

Suggested					
Milk Range	26 - 29				

CHIANGUS & CHIANINA				
True NCE EPDs required (0.15 acc)				
Calving Ease / Maternal				
Balanced Trait / Maternal				
End Product / Terminal				

CALVING EASE	+	GROWTH		
CED		ww		YW
11	+	41	or	64
8	+	44	or	66
5	+	53	or	81

Suggested					
Milk Range	11 - 18				
Docility	Doc = 8 +				

CALVING EASE	+	GROWTH		
CED		ww		YW
11	+	37	or	47
6	+	39	or	50
-2	+	47	or	62

Sugges	ted
Milk Range	14 - 2 5

SALERS & OPTIMIZER			
True NCE EPDs required (0.15 acc)			
Calving Ease / Maternal			
Balanced Trait / Maternal			
End Product / Terminal			

CALVING EASE	+	GROWTH		
CED		ww		YW
14	+	43	or	60
11	+	48	or	63
7	+	56	or	81

Suggested			
22			
5+			

CALVING EASE	+	GROWTH		
BW (Max.)		ww		YW
-0.9	+	5	or	5
1.6	+	6	or	6
3.4	+	13	or	16

Suggested			
Milk Range	1 - 8		

SOUTH DEVON				
True NCE EPDs required (0.15 acc)				
Calving Ease / Maternal				
Balanced Trait / Maternal				
End Product / Terminal				

+	GROWTH		
	ww		YW
+	56	or	79
+	58	or	82
+	66 or		97
	+	+ 56 + 58	+ 56 or + 58 or

Suggested			
Milk Range	11 - 20		
Docility	Doc = 11 +		

Genetics Overview

\$2,000 Maximum Reimbursement

- Reimbursements will be based on maximum allowed per eligible item
- All items below can be combined for a maximum reimbursement of \$2,000
- Standard 35% cost share or Master 50% cost share

Item	Maximum Per Item*	
Bred Does/Ewes	\$200	
Bucks/Rams	\$500	
Bred Beef Heifers	\$500	
Bulls — true NCE EPDs per breed list	\$1,000	
Bulls – Genomic Enhanced EPDs (GE-EPD) per breed list	\$2,000	
Artificial Insemination	\$2,000	
* Items purchased must meet specified conditions to be eligible for the maximum.		

TAEP Bull Purchase Reimbursement Tool

The TAEP Bull Reimbursement Tool is an online aid to help in determining a bull's EPD, Index, Accuracy, Genomic & Pedigree Print Date qualification and potential TAEP reimbursement amount. This public service is provided by the UT Department of Animal Science and TAEP. This online tool is found on the **TAEP home webpage** (www.tn.gov/taep).

This tool is intended to be used as a guide to provide information based solely on pedigree data entered by the user. This tool is provided without any guarantees of acceptance. Pedigree must be submitted with reimbursement request and include GE-EPDs (or EPDs with 0.15 accuracies with breeds that do not offer GE-EPDs), indexes, accuracies, genomic verification (if applicable), and have a printed date between October 1, 2023 and the date of purchase.

In addition to a bull meeting EPD, Index, Accuracy, Genomic & Pedigree Print Date qualifications, the bull must also have an eligible BSE, 840 EID tag, and negative test result for BVD-PI.

Genetics and Herd Health Glossary

840 EID	Official USDA Electronic 15 digit ID beginning with "840"	Lepto HB	Leptospira Hardjo-Bovis
Acc	EPD Accuracy (0 – 1.0)	Lepto	Leptospirosis
AI	Artificial Insemination	LNM	Lifetime Net Merit
BRSV	Bovine Respiratory Syncytial Virus	NCE	National Cattle Evaluation
BSE	Breeding Soundness Evaluation	NN	Spider free results from the Spider Syndrome Genotype test
BVD	Bovine Viral Diarrhea Virus	PI	Production Index — Dairy (ex. TPI for Holstein/JPI for Jersey)
BVD-PI	Bovine Viral Diarrhea Virus Persistent Infection	PI,	Bovine Parainfluenza Type 3 Virus
CE	Calving Ease Direct EPD (Calving Ease group)	RR	Scrapie free results from the Scrapie Codon 171 Genotype test
CVI	Certificate of Veterinary Inspection	Trich	Trichomoniasis
EPD	Expected Progeny Difference	ww	Weaning Weight EPD (Growth group)
GE-EPD	Genomic Enhanced — Expected Progeny Difference	YW	Yearling Weight EPD (Growth group)
IBR	Infectious Bovine Rhinotracheitis		