Heifer Reproduction

Relationship to growth and weights

Identify Data to be Recorded

Item Data

- Calving Ease
  - EASE – type 1
- Birth Weight
  - BWT – type 1
  - ADG/ADGI – type 22
- IGG
  - IGG – type 8
- Total Protein
  - TPRO – type 8
- Colostrum score/Brix value
- Time to colostrum
- Person that worked with calf

Event Data

- Body weights and/or heights
  - WEIGHT/MEASURE
- Pneumonia/Respiratory
  - PNEU or RESP
- Diarrhea/Scours
  - DIARHEA/SCOURS
- Lung Scores
  - LUNGUS
- Vaccinations
- Others
  - NAVEL, JOINT, BLOAT, INJURY, EARS, LAME, ILLMISC, TEMP

Additional Items of Use

- Calculated items that reference events
  - First or last event date – type 70
  - Age in days up to an event – type 71
  - Days since an event – type 72
  - First or last event remark – type 73
  - Count of events – type 74
  - ADG at age – type 150
  - ADGI at age – type 151
- Stored items to push calculated values to for use after LACT=0
  - PXPNE – previous lactation times PNEU, type 1

Setup of DC305 for Recording

- Commands:
  - EPLOT\M
    - Used to setup format of weight/height data recorded
  - EPLOT\S
    - Used to calculate the new ADG and ADGI values after weights have been entered

Analyzing Data- GUIDE

GUIDE : VAS COWVAL Demo Herd

Data Checks | Overview | Reproduction | Transition | Mastitis | Production | Lameness | Parlor | **Replacements** | Misc | USER

- **Replacements**
  - General Data Checks [Heifers only, no bulls or freemartins]
  - Replacement Inventories
  - Sales and Deaths
  - Disease
  - Reproduction
  - Growth [In Development]
    - Data Checks
    - Analysis [Preliminary]
      - Composite data
      - Are age-adjusted weights acceptable?
        - Birth adjusted weights   (Weighed 0-13d)?
        - 2Mon adjusted weights   (Weighed 49d-73d)?
        - 3Mon adjusted weights (Weighed 73d-109d)?
        - 4Mon adjusted weights (Weighed 98d-146d)?
        - 6Mon adjusted weights (Weighed 147d-219d)?
        - 8Mon adjusted weights (Weighed 196d-292d)?
        - 12Mon adjusted weights (Weighed 330d-402d)?
      - Are age-adjusted overall curent daily gains acceptable?
  - Future Use

Analyzing Data- GUIDE

12Mon adj current daily gains (weighed 330d-402d)?

12/30/17   Purina Demo Hfr Herd

CDG12 = -11.4 + 0.00031 * Birth Date   R squared = 0.05

Review outliers & fix or remove
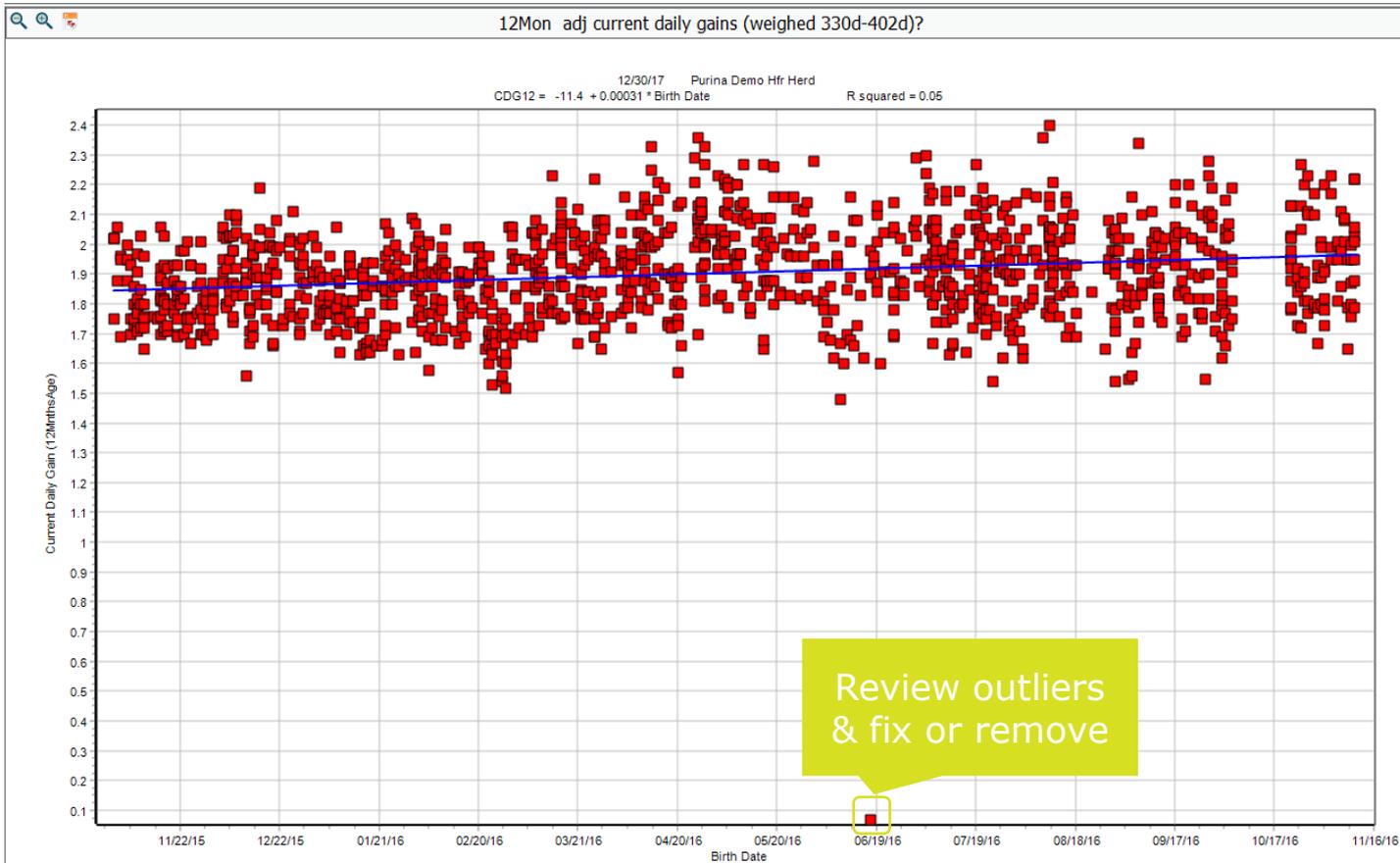
Analyzing Data

Heifer Growth Data

- ADG can be passed on to next lactation for analysis

- SUM command can break data into quartiles for analysis
  - SUM ADG FSTPJ ME305 DIMFB FOR LACT=1 ADG>0 BY ADG\Q4

- Determine how many times you want to weigh the calf; ie BIRTH, WEANING, 4/6 MONTH, 1st BREEDING, @ PREGNANCY, etc…

Analyzing Data

Using SUM to evaluate data

- SUM WMK2 WMK4 WMK8 FSTPJ 305ME PEAK FOR LACT=1 ADG>0 BY ADG \Q4

- SUM WMK2 WMK4 WMK8 FSTPJ 305ME PEAK FOR LACT=1 TPRO>0 BY TPRO \Q4

- SUM WMK2 WMK4 WMK8 FSTPJ 305ME PEAK FOR LACT=1 WTG>0 BY WTG \Q4 (WTG = weight groups, manually set)

- SUM WMK2 WMK4 WMK8 FSTPJ 305ME PEAK FOR LACT=1 BY PXPNE \Q4 (PXPNE = times PNEU last lactation)

Age @First Breeding (Heifers)
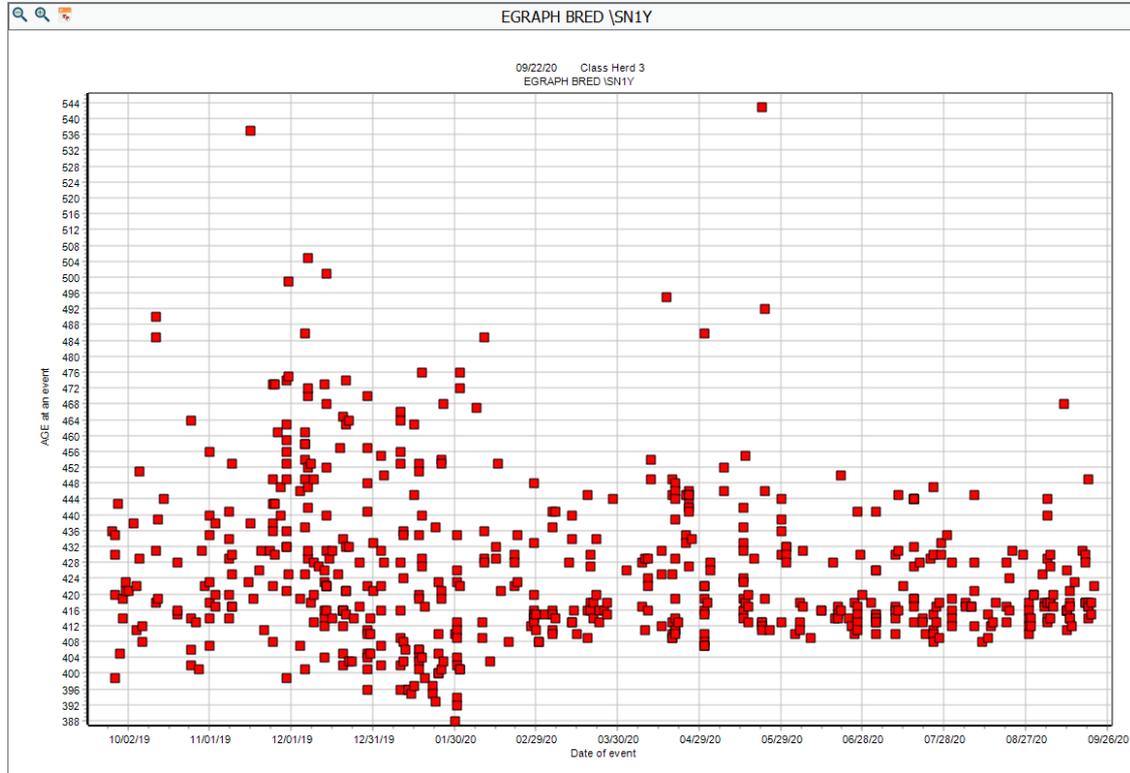
BREDSUM - Heifer AIDAT Setup

Item Definitions	Item Types	Item Map	Errors

Name △	Index	Loc/Op1	Len/Op2	Type	Pulse ID	Desc
AIDAT	**253**	**234**	**2**	**18**	**0**	**Ai eligibility**

ALTER4 : Pens

Notepad | Save | Find [F9] | Print | Options | Alter Menu...

Pens
- Change [F2]
- Delete [Del]
- Add [Ins]
- Change Multiple

Advanced
- Heifer AI:AIDAT
- Pen change:

Pen ▲	Label	Bull	AI	Milk	Dry	Hosp	Calf	User
0								
1			AI	MILK				
2			AI	MILK				
3			AI	MILK				
4			AI	MILK				
5			AI	MILK				
6				MILK				
7				MILK				
8				MILK				
9				MILK				
10				MILK				
11	Prefresh				DRY			USER
12	Far Off Dry				DRY		CALF	
15	Hospital			MILK		HOSP		
17	Bed Pack			MILK		HOSP		
20	Newborns						CALF	
21	Youngstock						CALF	
23	Springers						CALF	USER
27	AI Pen		AI				CALF	
29	Beef						CALF	

Add AIDAT to track date heifers move into the AI Pen and use that date instead of age to determine when the eligibility starts for their pregnancy risk calculation

BREDSUM\EY – Using AIDAT

ds AIDAT	Br Elig	Bred	Pct	Pg Elig		Preg	Pct	Aborts
				21 day pregnancy risk|Wait Period AIDAT				
9/10/19	69	43	62		69	36	52	0
10/01/19	33	25	76		33	17	52	1
10/22/19	62	34	55		62	23	37	1
11/12/19	39	25	64		39	22	56	0
12/03/19	45	26	58		45	18	40	0
12/24/19	28	16	57		28	13	46	0
1/14/20	64	40	62		64	28	44	0
2/04/20	36	25	69		36	17	47	0
2/25/20	56	38	68		56	29	52	0
3/17/20	93	30	32		93	28	30	1
4/07/20	65	20	31		65	13	20	0
4/28/20	52	30	58		50	22	44	0
5/19/20	71	26	37		71	24	34	0
6/09/20	117	39	33		117	33	28	0
6/30/20	83	39	47		76	25	33	0
7/21/20	89	47	53	*	50	0	0	0
8/11/20	102	41	40		0	0	0	0
9/01/20	67	36	54		0	0	0	0
Total	1002	503	50		954	348	36	3

BREDSUM\BY

Heifers with no Scours Events

BREDSUM\BY FOR XSCRS=0

Bred Number	95% CI	%Conc	#Preg	#Open	Other	Abort	Total	%Tot	SPC
1	49-59	54	202	171	1	7	374	56	1.8
2	43-58	51	86	84	0	0	170	25	2.0
3	45-66	56	46	36	0	1	82	12	1.8
4	46-76	62	23	14	0	0	37	5	1.6
5	-	100	10	0	0	0	10	1	1.0
TOTALS	51-58	55	367	305	1	8	673	100	1.8

By Times Bred from 2/17/21 through 2/17/22

Heifers with at least 1 Scours Event

BREDSUM\BY FOR XSCRS>0

Bred Number	95% CI	%Conc	#Preg	#Open	Other	Abort	Total	%Tot	SPC
1	34-61	47	23	26	1	0	50	59	2.1
2	47-82	67	16	8	0	0	24	28	1.5
3	-	57	4	3	0	0	7	8	1.8
4	-	67	2	1	0	0	3	4	1.5
5	-	100	1	0	0	0	1	1	1.0
TOTALS	44-65	55	46	38	1	0	85	100	1.8

By Times Bred from 2/17/21 through 2/17/22

Cow Reproduction

BREDSUM

Which BredSum Option ?

```
1   Exit
2   Sire
3   Stud Code
4   Technician
5   breeding cOde
6   number times Bred
7   Q-sum graph
8   Heat efficiency
9   Interval analysis
A   Prostaglandin analysis
B   day of the Week
C   Calendar month
D   cycle Number
E   21 day pregnancy risk
F   multi-v\riate adjustment
G   Sexed Code
```
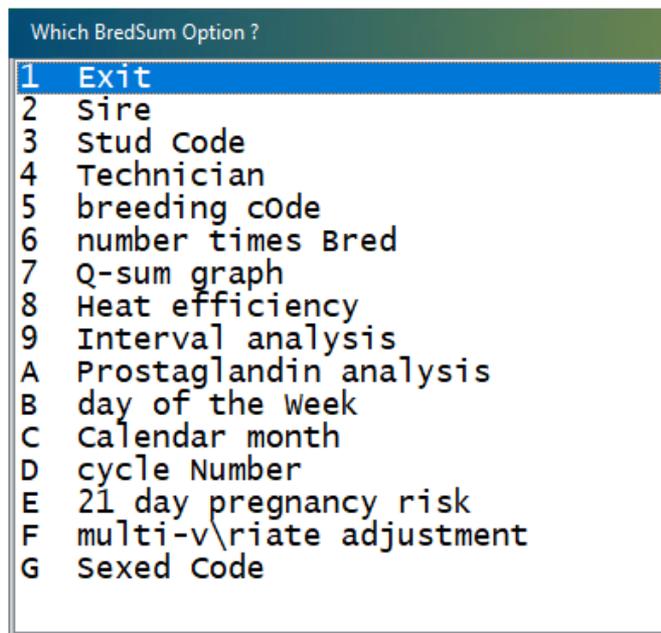
BREDSUM Switches

\B	Number times bred
\C	Calendar month
\D	Select date range
\E	21 day preg risk
\G	Breeding time gap
\I	Interval analysis
\M	Manufacturer (stud)
\N	Cycle number
\O	Breeding code
\R	Week of insemination

\S	Service sire
\T	Technician
\U	21 day bullpen preg risk
\V	Voluntary wait period
\W	Day of week
\X	Cross table analysis
\Y	Youngstock only
\Z	By breed of sire
*	By semen type

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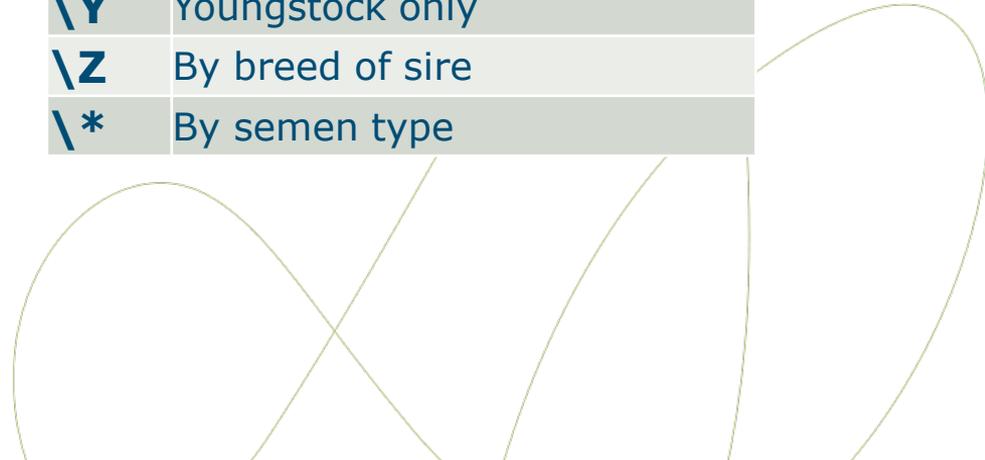
BREDSUM by breeding number (\B)

Bred Number	95% CI	%Conc	#Preg	#Open	Other	Abort	Total	%Tot	SPC
				By Times Bred from 6/29/21 through 6/29/22					
1	50-54	52	1429	1327	26	163	2782	50	1.9
2	41-47	44	620	792	12	64	1424	25	2.3
3	42-49	46	361	426	6	31	793	14	2.2
4	38-48	43	153	206	4	13	363	6	2.3
5	26-40	33	56	115	5	8	176	3	3.1
6	28-54	40	21	31	1	1	53	1	2.5
7	-	38	6	10	0	1	16	0	2.7
8	-	0	0	3	0	0	3	0	
TOTALS	46-49	48	2646	2910	54	281	5610	100	2.1

BREDSUM by breed of service sire (\Z)

Breed	95% CI	%Conc	#Preg	#Open	Other	Abort	Total	%Tot	SPC
					By Breed from 6/29/21 through 6/29/22				
H	46-49	47	2015	2235	51	214	4301	76	2.1
A	46-51	48	630	671	25	67	1326	24	2.1
B	-	20	1	4	1	0	6	0	5.0
TOTALS	46-49	48	2646	2910	77	281	5633	100	2.1

BREDSUM by semen type (*)

Calf Sex	95% CI	%Conc	#Preg	#Open	Other	Abort	Total	%Tot	SPC
		By Calf Sex from 6/29/21 through 6/29/22							
Unsexed	46-49	47	1676	1877	47	180	3600	64	2.1
Sexed	45-52	48	340	362	5	34	707	13	2.1
Beef	46-51	48	630	671	25	67	1326	24	2.1
TOTALS	46-49	48	2646	2910	77	281	5633	100	2.1

BREDSUM Conception Rate

Cross Table Analysis

- More advanced repro analysis
- Allows for analysis of 2 conception rate parameters on same report
- Format is BREDSUM\Xab
  - "a" is the first parameter
  - "b" is the second parameter
- Example is BREDSUM\XTO

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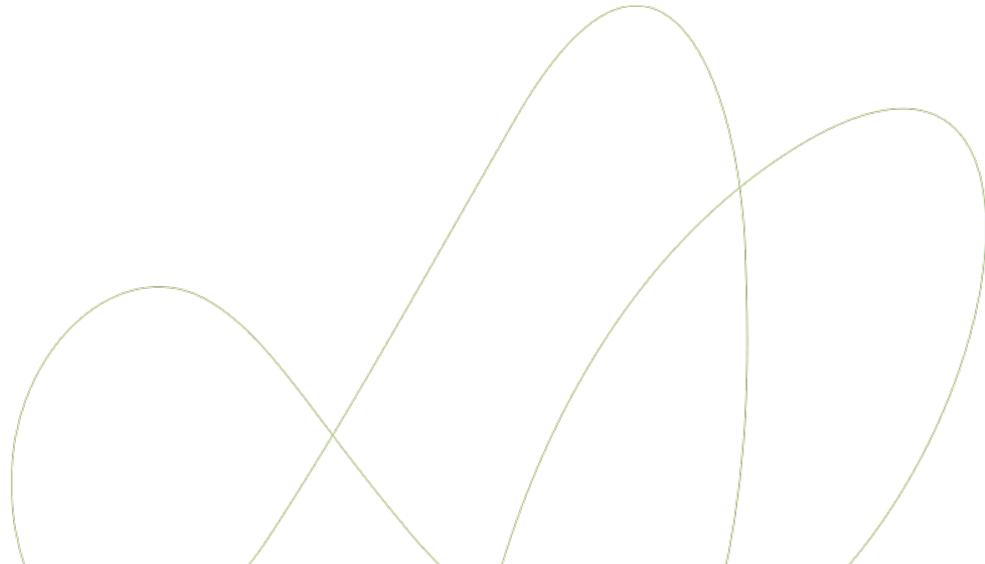
BREDSUM Comparisons

BREDSUM\X – Does Comparisons

- **BREDSUM\XB*** – by breeding number and semen type
- **BREDSUM\XTO** – by breeding codes and technician
- **BREDSUM\XBO** – by breeding number and breeding codes
- **BREDSUM\XCO** – by calendar month and breeding codes
- **BREDSUM\XTB** – by technician and breeding number

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BREDSUM\XB* – breeding number by semen type

95% CI	Total	1	2	3	4	5	6	7	8
					Calf Sex by Bred Number from 6/29/21 through 6/29/22				
Unsexed	46-49	50-55	42-48	40-48	37-49	20-35	–	–	–
Sexed	45-52	46-53	27-50	–	–	–	–	–	–
Beef	46-51	50-58	38-48	44-57	32-52	32-59	–	–	–
TOTALS	46-49	50-54	41-47	42-49	38-48	26-40	28-54	–	–
Percent									
Unsexed	47	52	45	44	43	27			
Sexed	48	49	38						
Beef	48	54	43	51	41	45			
TOTALS	48	52	44	46	43	33	40		
Count									
Unsexed	3553	1597	975	544	263	119	42	12	1
Sexed	702	633	64	2	2	1			
Beef	1301	526	373	241	94	51	10	4	2
TOTALS	5556	2756	1412	787	359	171	52	16	3
Pregnant									
Unsexed	1676	833	435	238	113	32	20	5	
Sexed	340	313	24	1	1	1			
Beef	630	283	161	122	39	23	1	1	
TOTALS	2646	1429	620	361	153	56	21	6	
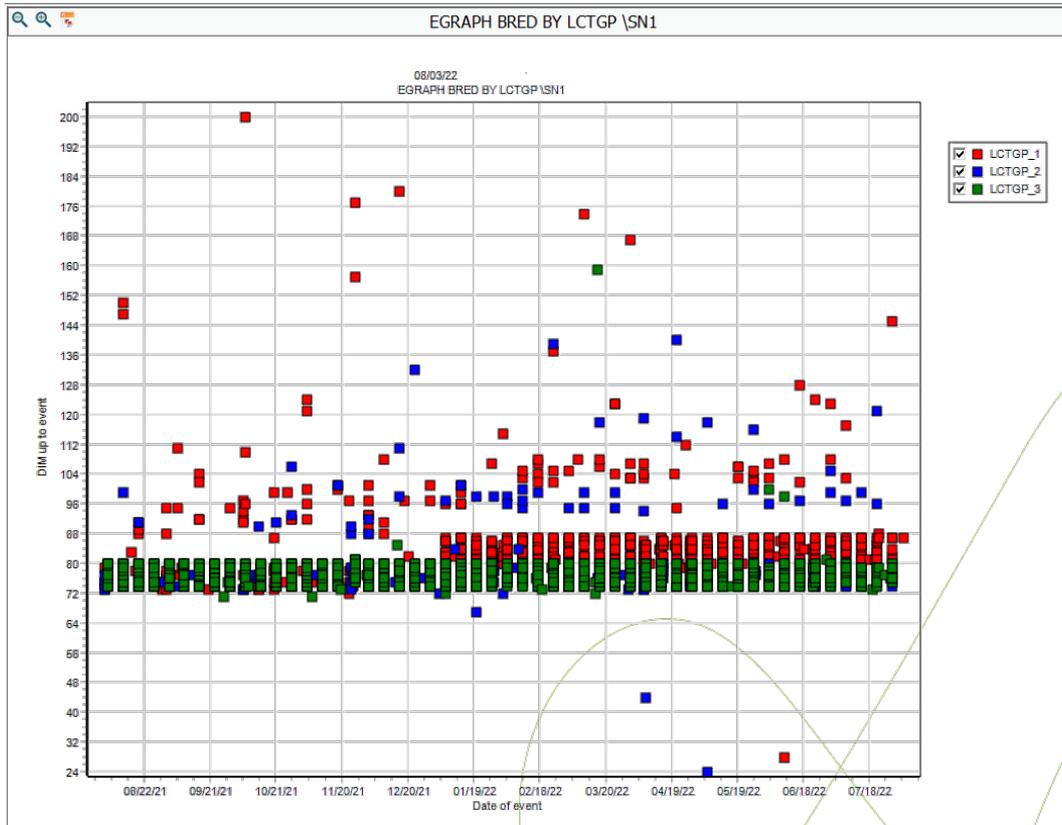
Test 21

DIM @ 1ˢᵗ Service

BREDSUM\EV70

Date	Br Elig	Bred	Pct	Pg Elig	Preg	Pct	Aborts
						21 day pregnancy risk|Wait Period 70	
7/21/21	341	213	62	338	79	23	9
8/11/21	404	312	77	400	121	30	13
9/01/21	461	340	74	457	157	34	27
9/22/21	445	342	77	441	165	37	21
10/13/21	423	308	73	420	116	28	22
11/03/21	458	329	72	455	141	31	25
11/24/21	421	289	69	417	114	27	12
12/15/21	423	273	65	421	135	32	11
1/05/22	416	286	69	412	140	34	18
1/26/22	434	304	70	432	150	35	7
2/16/22	431	303	70	428	147	34	19
3/09/22	428	288	67	426	138	32	13
3/30/22	454	330	73	452	138	31	14
4/20/22	478	342	72	477	151	32	19
5/11/22	455	322	71	452	145	32	12
6/01/22	426	301	71	421	140	33	10
6/22/22	395	258	65	0	0	0	1
7/13/22	335	254	76	0	0	0	0
Total	6898	4882	71	6849	2177	32	252

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