Know Your Heifer

Optimizing Replacement Beef Heifer Development in Florida

Final Report and Florida Ranking

2020-2021

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UF | IFAS Extension
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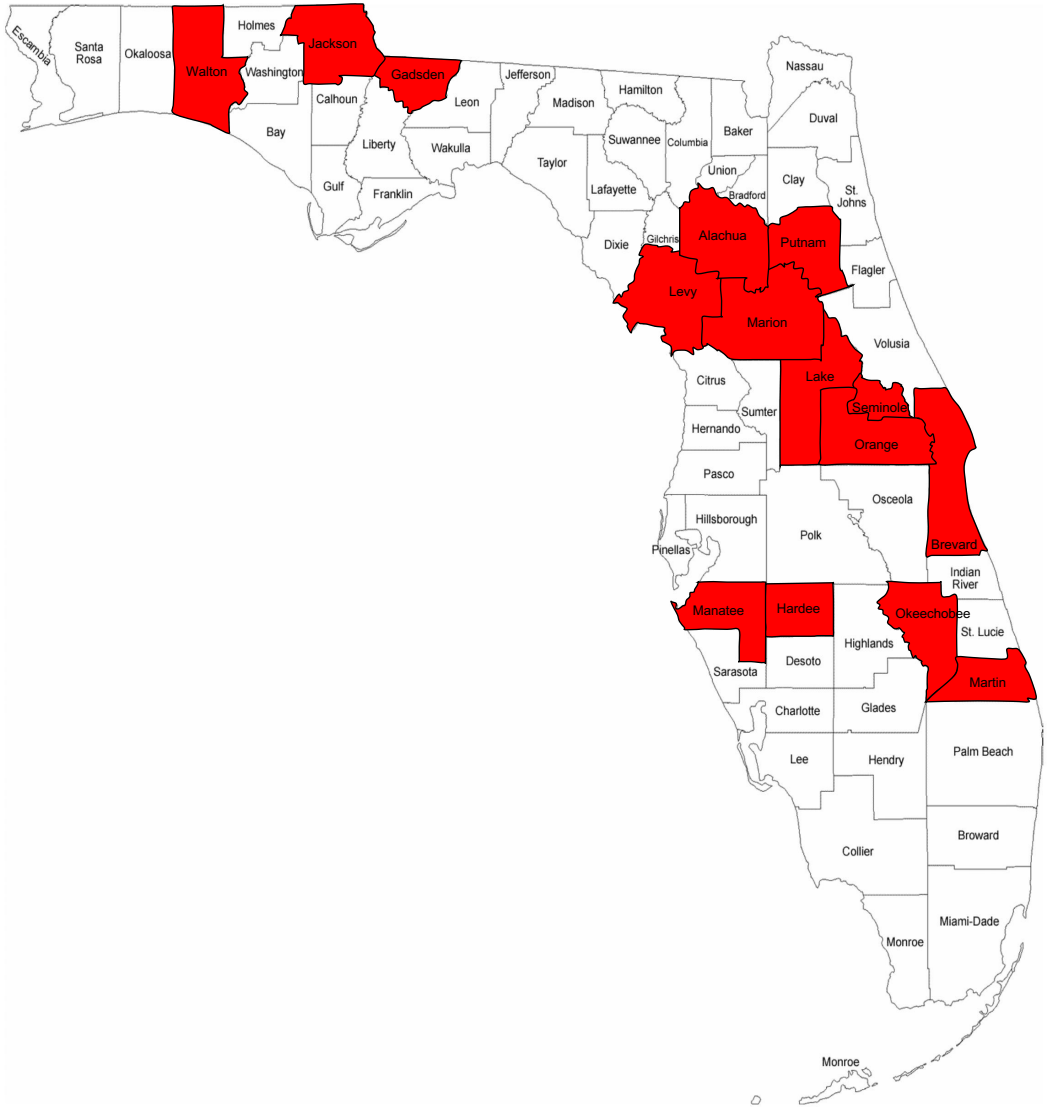
Florida CATTLEMEN'S ASSOCIATION

Objective

- To establish a statewide system to generate information on the reproductive potential and performance of replacement beef heifers.

Counties we visited:









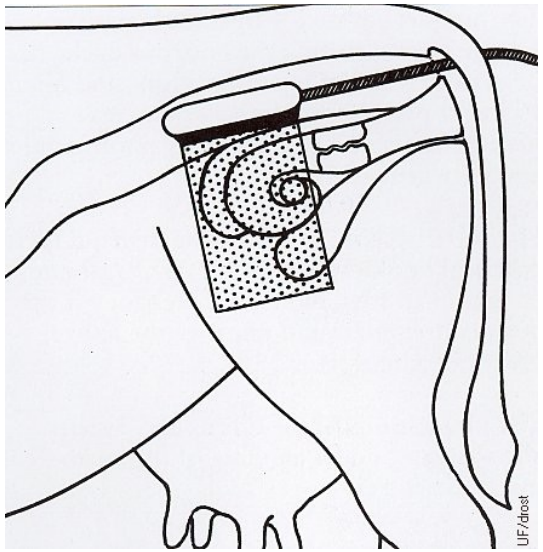





Activities

1. Rancher Enrolls via online system
2. First visit: we evaluate reproductive maturity of heifers via the RTS system
3. Rancher receives First Report
4. Breeding season starts (A.I. or bulls in)
5. (Optional pregnancy test)
6. Breeding season ends (bulls out)
7. Second visit: pregnancy test
8. Rancher receives Second Report
9. All ranchers receive Final Report and Florida Ranking

RTS: Reproductive Tract Score



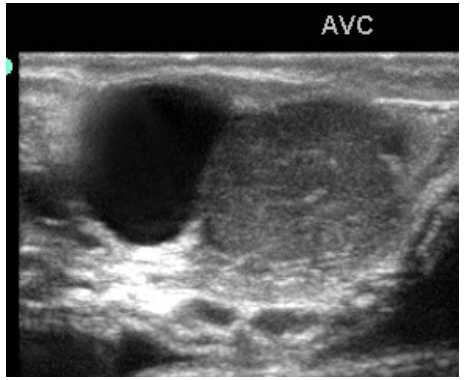
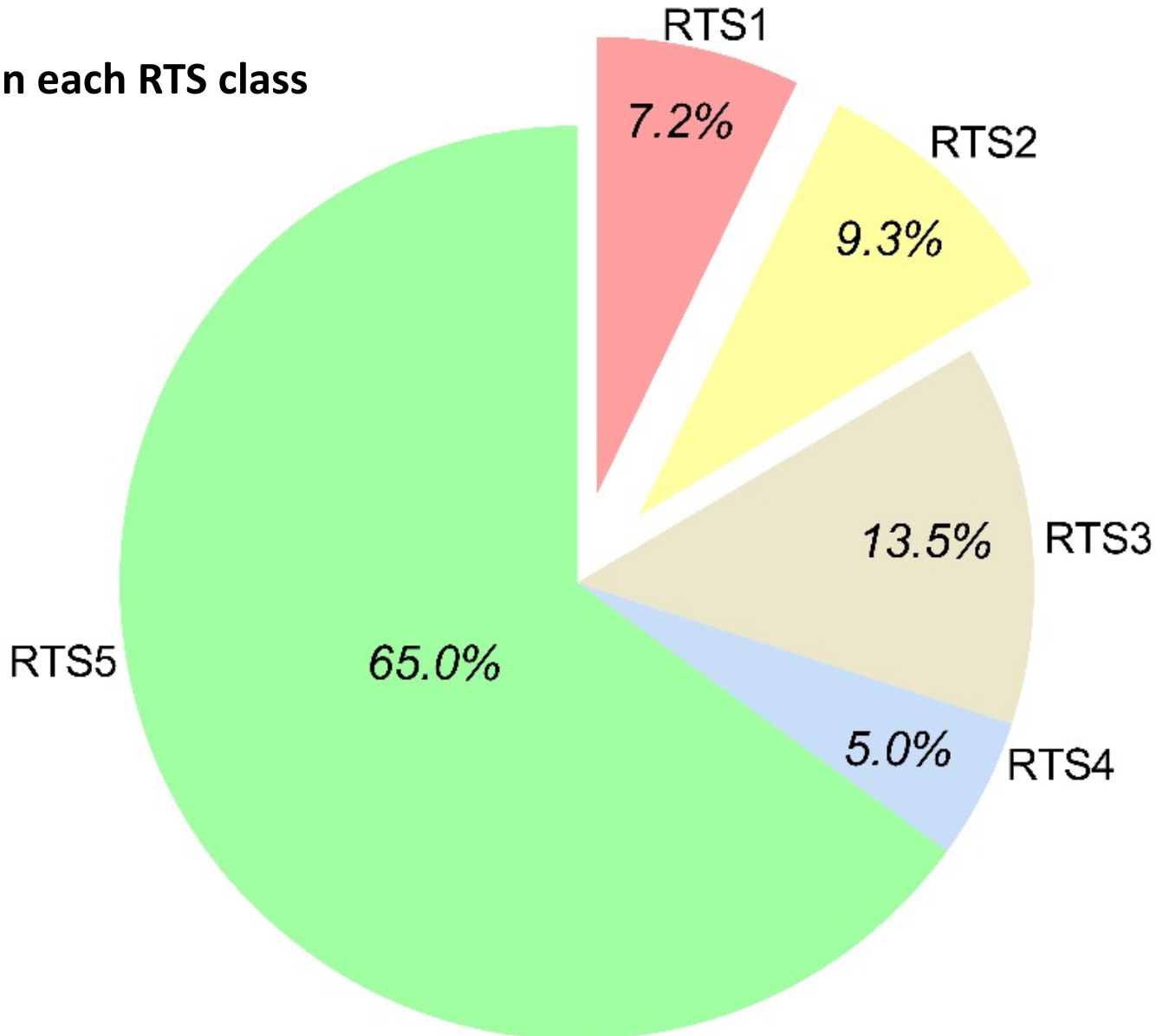


Table 1. Reproductive tract score (RTS) system (Anderson et al., 1991)

		Ovary			
RTS	Uterine horn	Length, mm	Height, mm	Width, mm	Ovarian structures
1	Immature <20-mm diameter, no tone	15	10	8	No palpable structures
2	20- to 25-mm diameter, no tone	18	12	10	8-mm follicles
3	25- to 30-mm diameter, slight tone	22	15	10	8- to 10-mm follicles
4	30-mm diameter, good tone	30	16	12	>10-mm follicles, corpus luteum possible
5	>30-mm diameter, good tone, erect	>32	20	15	>10-mm follicles, corpus luteum present

Proportion of heifers in each RTS class



Total= 3075

Table 1. Ranking of Florida operations according to the proportion of heifers with RTS 4 and 5 **(Proportion RTS4-5, %).** Orange represents operations ranked on the top 10%, Blue represents operations ranked on the top 25% and Green represents operations ranked on the top 50%.

Ranch	Code	Number of head	Duration of the Breeding season, days	Program	Protocol	Service	RTS1-2*	Proportion RTS4–5, %	Pregnancy 30d, %	Final Pregnancy, %
	4	24	89.0	KYH	None	Bullonly	None	95.8	.	95.8
	31	22	72.0	KYH	Long-CIDR	AI+Bull	None	95.5	.	72.7
	6	90	82.0	KYH	CIDR	AI+Bull	Noncull	90.0	48.3	93.3
	9	107	63.0	KYH	MGA	Bullonly	Noncull	89.7	.	91.6
	16	152	90.0	Study	CIDR	AI+Bull	Noncull	88.2	44.1	87.4
	3	64	100.0	KYH	CIDR	AI+Bull	Cull 1	85.9	50.0	98.4
	12	154	67.8	Study	CIDR	AI+Bull	Noncull	85.7	39.0	90.3
	11	137	73.0	Study	MGA	AI+Bull	Noncull	83.9	45.2	90.5
	22	67	64.0	KYH	CIDR	Bullonly	Noncull	83.6	.	83.6
	17	96	64.0	KYH	MGA	AI+Bull	Noncull	83.3	50.0	86.5
	8	66	90.0	Study	CIDR	Bullonly	Noncull	81.8	.	92.3
	18	66	92.0	Study	CIDR	AI+Bull	Noncull	81.8	43.9	84.8
	20	126	61.0	KYH	MGA	AI+Bull	None	81.7	37.3	84.1
	13	59	62.5	Study	CIDR	Bullonly	Noncull	79.7	38.9	89.7
	15	93	86.0	KYH	Long-CIDR	AI+Bull	Noncull	78.5	.	89.1
	14	163	91.0	KYH	CIDR	AI+Bull	Cull 2	77.9	35.1	89.6
	30	171	65.2	KYH	MGA	Bullonly	Noncull	75.4	.	73.5
	26	63	113.0	Study	CIDR	AI+Bull	Noncull	74.6	36.5	79.4
	25	101	94.0	Study	CIDR	AI+Bull	Noncull	69.3	40.6	81.2
	33	94	92.0	KYH	CIDR	AI+Bull	Noncull	69.1	26.6	66.7
	24	64	59.0	KYH	Long-CIDR	AI+Bull	Cull 2	68.8	.	81.8
	21	129	60.0	KYH	MGA	AI+Bull	Cull 1	67.4	40.2	83.9
	5	54	119.0	KYH	CIDR	Bullonly	Cull 1	66.7	.	93.5
	32	92	60.0	KYH	None	Bullonly	Noncull	62.0	.	71.7
	2	5	94.0	KYH	CIDR	AI+Bull	Cull 2	60.0	.	100.0
	19	318	74.0	KYH	CIDR	AI+Bull	Cull 1	54.4	.	84.5
	28	96	69.0	Study	CIDR	AI+Bull	Noncull	52.1	30.2	79.2
	23	33	63.0	KYH	CIDR	Bullonly	Cull 1	51.5	.	81.8
	34	141	60.0	Study	CIDR/None	Bullonly	Noncull	40.4	20.1	61.4
	7	74	77.0	Study	CIDR	AI+Bull	Noncull	37.8	43.2	93.1
	27	87	86.0	Study	CIDR	AI+Bull	Noncull	36.8	39.1	79.3
	29	40	63.0	KYH	CIDR	Bullonly	Noncull	22.5	.	75.0
	1	16	.	KYH	None	None	.	0.0	.	.
	10	11	79.0	KYH	Long-CIDR	AI+Bull	Noncull	0.0	.	90.9
Total	.	**3075**	**76.0**	**.**	**.**	**.**	**.**	**70.1**	**38.6**	**83.7**

*Noncull: no heifers culled due to RTS; Cull 1: culled heifers that scored RTS1; Cull 2: culled heifers that scored RTS1 and RTS2; None: all heifers were RTS3 and above, none were culled.

Pregnancy rates measured 30 days after the beginning of the breeding season according to the RTS measured prior to the breeding season in Florida operations. There was a significant effect of RTS class on pregnancy rates ($P < 0.001$). Pregnancy rate of RTS5 heifers was greater than every other RTS classes ($P < 0.05$).

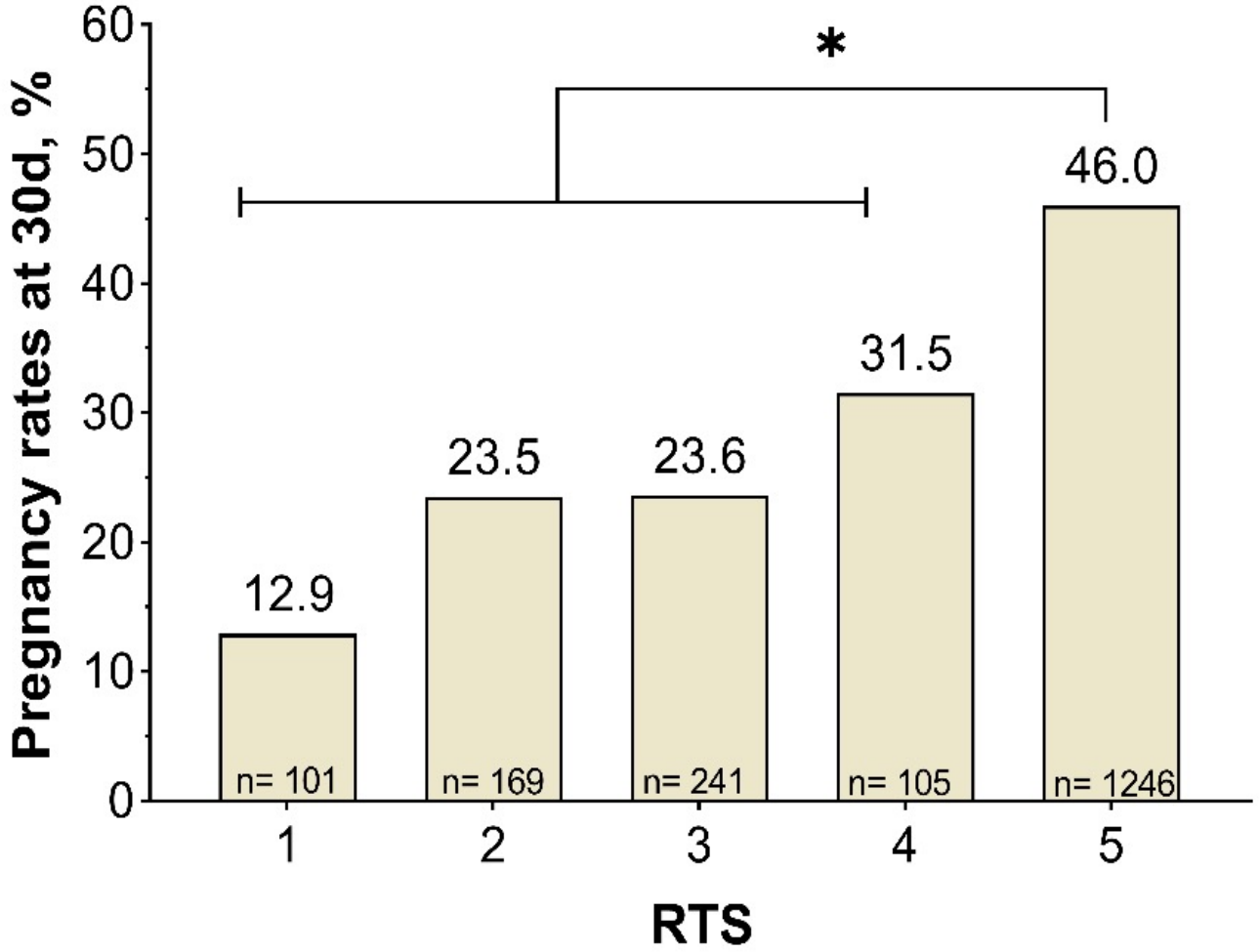


Table 2. Ranking of Florida operations according to pregnancy rates measured 30 days after the beginning of the breeding season **(Pregnancy 30d, %).** These are usually for operations that performed AI. Orange represents operations ranked on the top 10%, Blue represents operations ranked on the top 25% and Green represents operations ranked on the top 50%.

Ranch	Code	Number of head	Duration of the Breeding season, days	Program	Protocol	Service	RTS1-2*	Proportion RTS4–5, %	Pregnancy 30d, %	Final Pregnancy, %
	3	64	100.0	KYH	CIDR	AI+Bull	Cull 1	85.9	50.0	98.4
	17	96	64.0	KYH	MGA	AI+Bull	Noncull	83.3	50.0	86.5
	6	90	82.0	KYH	CIDR	AI+Bull	Noncull	90.0	48.3	93.3
	11	137	73.0	Study	MGA	AI+Bull	Noncull	83.9	45.2	90.5
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	13	59	62.5	Study	CIDR	Bullonly	Noncull	79.7	38.9	89.7
	20	126	61.0	KYH	MGA	AI+Bull	None	81.7	37.3	84.1
	26	63	113.0	Study	CIDR	AI+Bull	Noncull	74.6	36.5	79.4
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	33	94	92.0	KYH	CIDR	AI+Bull	Noncull	69.1	26.6	66.7
	34	141	60.0	Study	CIDR/None	Bullonly	Noncull	40.4	20.1	61.4
Total	.	**1892**	**80**	.	.	.	.	**71.4**	**38.6**	**83.7**

*Noncull: no heifers culled due to RTS; Cull 1: culled heifers that scored RTS1; Cull 2: culled heifers that scored RTS1 and RTS2; None: all heifers were RTS3 and above, none were culled.

Pregnancy rates measured 30 days after the end of the breeding season according to the RTS measured prior to the breeding season in Florida operations. There was a significant effect of RTS class on pregnancy rates ($P < 0.001$). Pregnancy rate of RTS5 heifers was greater than that on RTS classes 1 to 3 ($P < 0.05$), but similar to the RTS4.

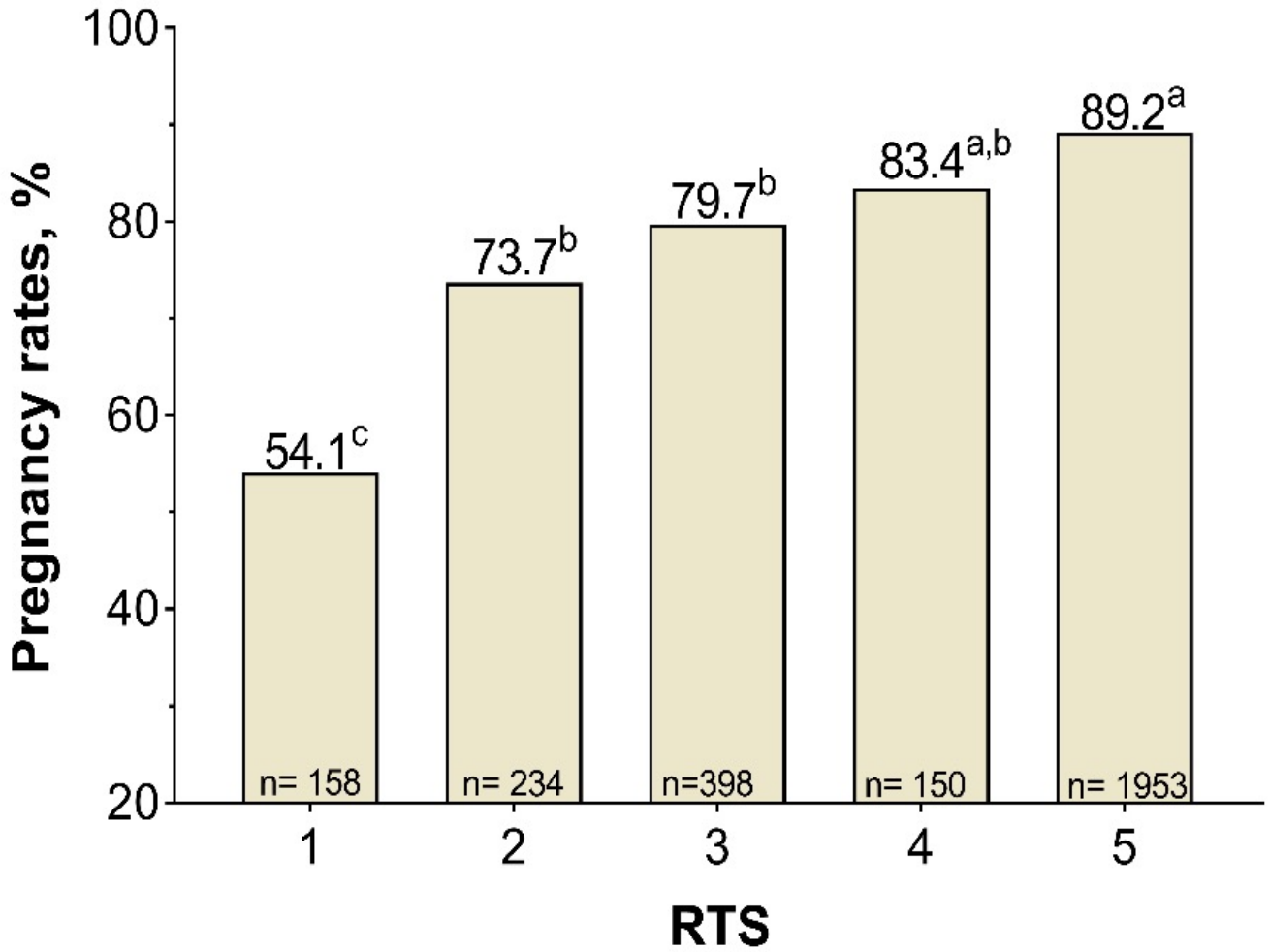

Table 3. Ranking of Florida operations according to pregnancy rates measured 30 days after the end of the breeding season **(Final Pregnancy, %).** Orange represents operations ranked on the top 10%, Blue represents operations ranked on the top 25% and Green represents operations ranked on the top 50%.

Ranch	Code	Number of head	Duration of the Breeding season, days	Program	Protocol	Service	RTS1-2*	Proportion RTS4–5, %	Pregnancy 30d, %	Final Pregnancy, %
	1	16	.	KYH	None	None	.	0.0	.	.
	2	5	94.0	KYH	CIDR	AI+Bull	Cull 2	60.0	.	100.0
	3	64	100.0	KYH	CIDR	AI+Bull	Cull 1	85.9	50.0	98.4
	4	24	89.0	KYH	None	Bullonly	None	95.8	.	95.8
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	12	154	67.8	Study	CIDR	AI+Bull	Noncull	85.7	39.0	90.3
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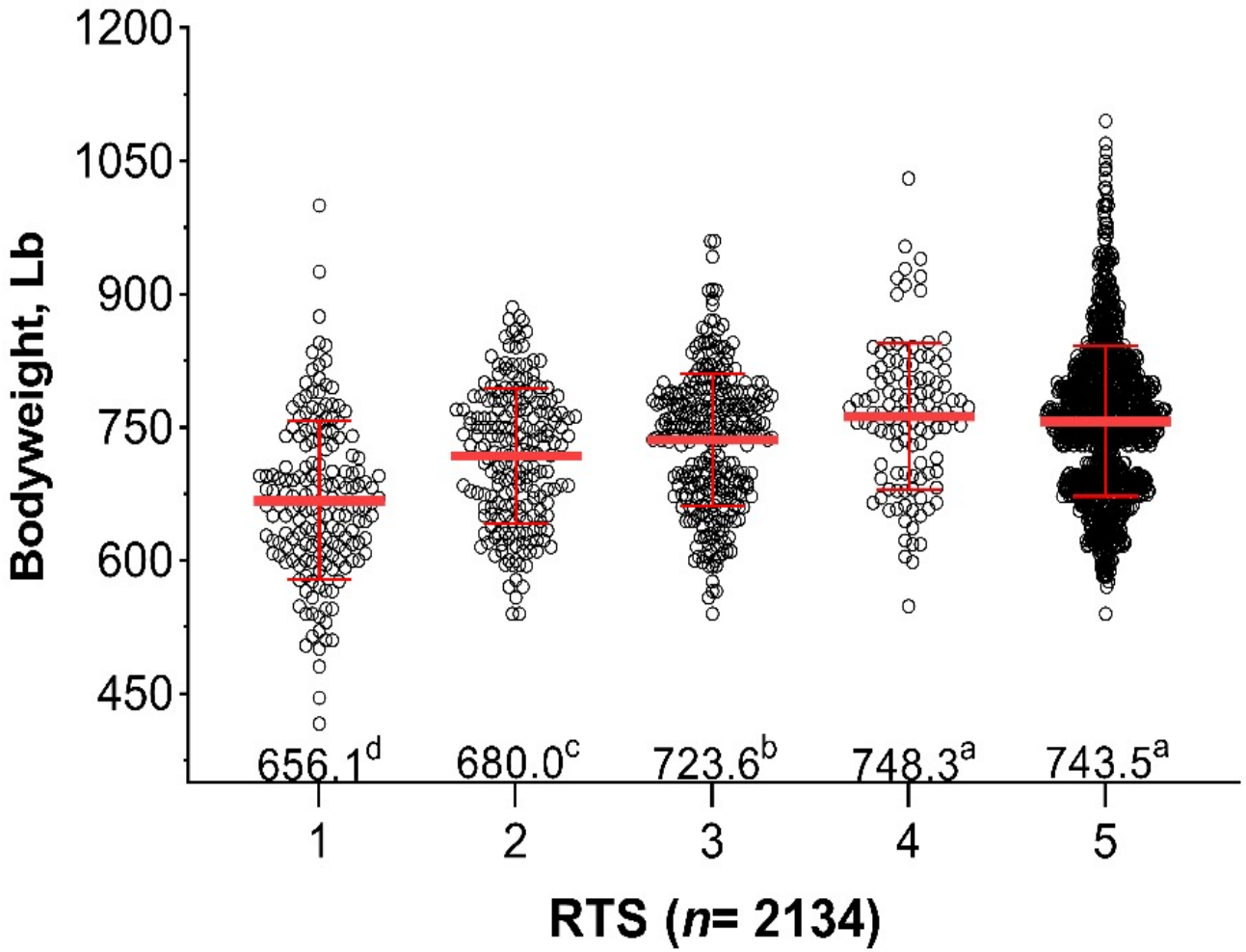
Individual body weights of heifers according to the RTS, in all operations. Number at the bottom is the average body weight for each RTS class. Means with different superscripts are statistically different (P < 0.01).



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