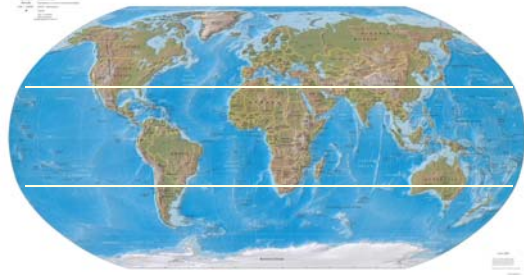


Beef Production in Tropical and Subtropical Environments

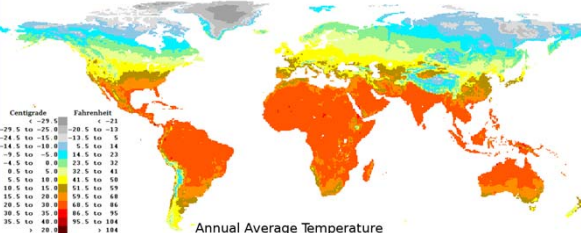
Joe Vendramini
University of Florida
Range Cattle Research and Education Center, Ona

Introduction



Introduction

Average Temperature



Annual Average Temperature

Centigrade	Fahrenheit
-29.5 to -29.0	-21.5 to -21.0
-24.5 to -15.0	-13.0 to 5.0
-9.5 to -0.5	14.5 to 23.0
4.5 to 9.5	22.5 to 27.0
9.5 to 14.5	27.0 to 31.5
14.5 to 19.5	31.5 to 36.0
19.5 to 24.5	35.0 to 39.0
24.5 to 29.5	39.0 to 43.0
29.5 to 34.5	43.0 to 47.0
34.5 to 39.5	47.0 to 51.0
39.5 to 44.5	51.0 to 55.0
44.5 to 49.5	55.0 to 59.0
49.5 to 54.5	59.0 to 63.0
54.5 to 59.5	63.0 to 67.0
59.5 to 64.5	67.0 to 71.0
64.5 to 69.5	71.0 to 75.0
69.5 to 74.5	75.0 to 79.0
74.5 to 79.5	79.0 to 83.0
79.5 to 84.5	83.0 to 87.0
84.5 to 89.5	87.0 to 91.0
89.5 to 94.5	91.0 to 95.0
94.5 to 99.5	95.0 to 99.0
99.5 to 104.5	99.0 to 103.0
104.5 to 109.5	103.0 to 107.0
109.5 to 114.5	107.0 to 111.0
114.5 to 119.5	111.0 to 115.0
119.5 to 124.5	115.0 to 119.0
124.5 to 129.5	119.0 to 123.0
129.5 to 134.5	123.0 to 127.0
134.5 to 139.5	127.0 to 131.0
139.5 to 144.5	131.0 to 135.0
144.5 to 149.5	135.0 to 139.0
149.5 to 154.5	139.0 to 143.0
154.5 to 159.5	143.0 to 147.0
159.5 to 164.5	147.0 to 151.0
164.5 to 169.5	151.0 to 155.0
169.5 to 174.5	155.0 to 159.0
174.5 to 179.5	159.0 to 163.0
179.5 to 184.5	163.0 to 167.0
184.5 to 189.5	167.0 to 171.0
189.5 to 194.5	171.0 to 175.0
194.5 to 199.5	175.0 to 179.0
199.5 to 204.5	179.0 to 183.0
204.5 to 209.5	183.0 to 187.0
209.5 to 214.5	187.0 to 191.0
214.5 to 219.5	191.0 to 195.0
219.5 to 224.5	195.0 to 199.0
224.5 to 229.5	199.0 to 203.0
229.5 to 234.5	203.0 to 207.0
234.5 to 239.5	207.0 to 211.0
239.5 to 244.5	211.0 to 215.0
244.5 to 249.5	215.0 to 219.0
249.5 to 254.5	219.0 to 223.0
254.5 to 259.5	223.0 to 227.0
259.5 to 264.5	227.0 to 231.0
264.5 to 269.5	231.0 to 235.0
269.5 to 274.5	235.0 to 239.0
274.5 to 279.5	239.0 to 243.0
279.5 to 284.5	243.0 to 247.0
284.5 to 289.5	247.0 to 251.0
289.5 to 294.5	251.0 to 255.0
294.5 to 299.5	255.0 to 259.0
299.5 to 304.5	259.0 to 263.0
304.5 to 309.5	263.0 to 267.0
309.5 to 314.5	267.0 to 271.0
314.5 to 319.5	271.0 to 275.0
319.5 to 324.5	275.0 to 279.0
324.5 to 329.5	279.0 to 283.0
329.5 to 334.5	283.0 to 287.0
334.5 to 339.5	287.0 to 291.0
339.5 to 344.5	291.0 to 295.0
344.5 to 349.5	295.0 to 299.0
349.5 to 354.5	299.0 to 303.0
354.5 to 359.5	303.0 to 307.0
359.5 to 364.5	307.0 to 311.0
364.5 to 369.5	311.0 to 315.0
369.5 to 374.5	315.0 to 319.0
374.5 to 379.5	319.0 to 323.0
379.5 to 384.5	323.0 to 327.0
384.5 to 389.5	327.0 to 331.0
389.5 to 394.5	331.0 to 335.0
394.5 to 399.5	335.0 to 339.0
399.5 to 404.5	339.0 to 343.0
404.5 to 409.5	343.0 to 347.0
409.5 to 414.5	347.0 to 351.0
414.5 to 419.5	351.0 to 355.0
419.5 to 424.5	355.0 to 359.0
424.5 to 429.5	359.0 to 363.0
429.5 to 434.5	363.0 to 367.0
434.5 to 439.5	367.0 to 371.0
439.5 to 444.5	371.0 to 375.0
444.5 to 449.5	375.0 to 379.0
449.5 to 454.5	379.0 to 383.0
454.5 to 459.5	383.0 to 387.0
459.5 to 464.5	387.0 to 391.0
464.5 to 469.5	391.0 to 395.0
469.5 to 474.5	395.0 to 399.0
474.5 to 479.5	399.0 to 403.0
479.5 to 484.5	403.0 to 407.0
484.5 to 489.5	407.0 to 411.0
489.5 to 494.5	411.0 to 415.0
494.5 to 499.5	415.0 to 419.0
499.5 to 504.5	419.0 to 423.0
504.5 to 509.5	423.0 to 427.0
509.5 to 514.5	427.0 to 431.0
514.5 to 519.5	431.0 to 435.0
519.5 to 524.5	435.0 to 439.0
524.5 to 529.5	439.0 to 443.0
529.5 to 534.5	443.0 to 447.0
534.5 to 539.5	447.0 to 451.0
539.5 to 544.5	451.0 to 455.0
544.5 to 549.5	455.0 to 459.0
549.5 to 554.5	459.0 to 463.0
554.5 to 559.5	463.0 to 467.0
559.5 to 564.5	467.0 to 471.0
564.5 to 569.5	471.0 to 475.0
569.5 to 574.5	475.0 to 479.0
574.5 to 579.5	479.0 to 483.0
579.5 to 584.5	483.0 to 487.0
584.5 to 589.5	487.0 to 491.0
589.5 to 594.5	491.0 to 495.0
594.5 to 599.5	495.0 to 499.0
599.5 to 604.5	499.0 to 503.0
604.5 to 609.5	503.0 to 507.0
609.5 to 614.5	507.0 to 511.0
614.5 to 619.5	511.0 to 515.0
619.5 to 624.5	515.0 to 519.0
624.5 to 629.5	519.0 to 523.0
629.5 to 634.5	523.0 to 527.0
634.5 to 639.5	527.0 to 531.0
639.5 to 644.5	531.0 to 535.0
644.5 to 649.5	535.0 to 539.0
649.5 to 654.5	539.0 to 543.0
654.5 to 659.5	543.0 to 547.0
659.5 to 664.5	547.0 to 551.0
664.5 to 669.5	551.0 to 555.0
669.5 to 674.5	555.0 to 559.0
674.5 to 679.5	559.0 to 563.0
679.5 to 684.5	563.0 to 567.0
684.5 to 689.5	567.0 to 571.0
689.5 to 694.5	571.0 to 575.0
694.5 to 699.5	575.0 to 579.0
699.5 to 704.5	579.0 to 583.0
704.5 to 709.5	583.0 to 587.0
709.5 to 714.5	587.0 to 591.0
714.5 to 719.5	591.0 to 595.0
719.5 to 724.5	595.0 to 599.0
724.5 to 729.5	599.0 to 603.0
729.5 to 734.5	603.0 to 607.0
734.5 to 739.5	607.0 to 611.0
739.5 to 744.5	611.0 to 615.0
744.5 to 749.5	615.0 to 619.0
749.5 to 754.5	619.0 to 623.0
754.5 to 759.5	623.0 to 627.0
759.5 to 764.5	627.0 to 631.0
764.5 to 769.5	631.0 to 635.0
769.5 to 774.5	635.0 to 639.0
774.5 to 779.5	639.0 to 643.0
779.5 to 784.5	643.0 to 647.0
784.5 to 789.5	647.0 to 651.0
789.5 to 794.5	651.0 to 655.0
794.5 to 799.5	655.0 to 659.0
799.5 to 804.5	659.0 to 663.0
804.5 to 809.5	663.0 to 667.0
809.5 to 814.5	667.0 to 671.0
814.5 to 819.5	671.0 to 675.0
819.5 to 824.5	675.0 to 679.0
824.5 to 829.5	679.0 to 683.0
829.5 to 834.5	683.0 to 687.0
834.5 to 839.5	687.0 to 691.0
839.5 to 844.5	691.0 to 695.0
844.5 to 849.5	695.0 to 699.0
849.5 to 854.5	699.0 to 703.0
854.5 to 859.5	703.0 to 707.0
859.5 to 864.5	707.0 to 711.0
864.5 to 869.5	711.0 to 715.0
869.5 to 874.5	715.0 to 719.0
874.5 to 879.5	719.0 to 723.0
879.5 to 884.5	723.0 to 727.0
884.5 to 889.5	727.0 to 731.0
889.5 to 894.5	731.0 to 735.0
894.5 to 899.5	735.0 to 739.0
899.5 to 904.5	739.0 to 743.0
904.5 to 909.5	743.0 to 747.0
909.5 to 914.5	747.0 to 751.0
914.5 to 919.5	751.0 to 755.0
919.5 to 924.5	755.0 to 759.0
924.5 to 929.5	759.0 to 763.0
929.5 to 934.5	763.0 to 767.0
934.5 to 939.5	767.0 to 771.0
939.5 to 944.5	771.0 to 775.0
944.5 to 949.5	775.0 to 779.0
949.5 to 954.5	779.0 to 783.0
954.5 to 959.5	783.0 to 787.0
959.5 to 964.5	787.0 to 791.0
964.5 to 969.5	791.0 to 795.0
969.5 to 974.5	795.0 to 799.0
974.5 to 979.5	799.0 to 803.0
979.5 to 984.5	803.0 to 807.0
984.5 to 989.5	807.0 to 811.0
989.5 to 994.5	811.0 to 815.0
994.5 to 999.5	815.0 to 819.0


Introduction

Rank	Country	World Head	% Of Total
1	India	301,100,000	31.21%
2	Brazil	213,035,000	22.08%
3	China	100,550,000	10.42%
4	United States	89,800,000	9.31%
5	European Union	88,150,000	9.14%
6	Argentina	51,895,000	5.38%
7	Australia	27,600,000	2.86%
8	Russia	19,132,000	1.98%
9	Mexico	17,120,000	1.77%
10	Uruguay	12,108,000	1.26%
11	Canada	11,915,000	1.24%
12	New Zealand	9,938,000	1.03%
13	Egypt	6,485,000	0.67%
14	Ukraine	4,408,000	0.46%
15	Belarus	4,364,000	0.45%
16	Japan	3,850,000	0.40%
17	South Korea	3,190,000	0.33%

Source: FAS/USDA

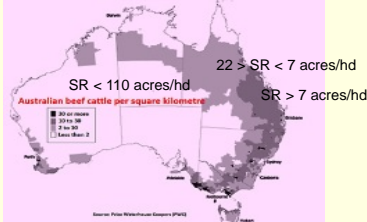
Characteristics Beef Cattle Production in Warm Climates

- Extensive production systems with predominant use of *Bos indicus* cattle grazing warm-season grasses



Characteristics Beef Cattle Production in Warm Climates

- Extensive production systems with predominant use of *Bos indicus* cattle grazing warm-season grasses



Characteristics of Beef Cattle Production in Warm Climates

- Approximately 90% of the beef cattle slaughtered in tropical and subtropical regions are finished on pasture
- Slaughter age is approximately 3 years of age
- The production system is not segmented. There are cow-calf, stockers, pasture and feedlot finished cattle in the same operation

Characteristics of Beef Cattle Production in Warm Climates

- Animals are sold by liveweight or carcass weight
- There are distinct prices for steers, bulls, heifers, and cows
- In general, there is a minimum slaughter weight for males (~ 1000 lb liveweight) and females (~ 660 lb liveweight)

Challenges in Beef Cattle Production in Warm Climates



Challenges in Beef Cattle Production in Warm Climates

- Environmental regulations limit the expansion of beef cattle production to new native areas



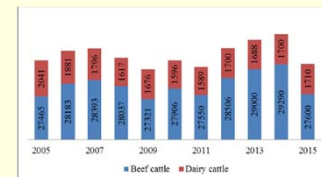
Challenges in Beef Cattle Production in Warm Climates

- Sugarcane and row crops are replacing areas formerly occupied by beef cattle



Challenges in Beef Cattle Production in Warm Climates

- Climatic variations limit the potential for herd expansion



Therefore.....

- There is a need to improve productivity and have greater beef production in less land
- Crossbreeding is one potential management practice to improve beef cattle productivity

Cattle Breeds in Australia



Cattle Breeds in Australia



Cattle Breeds in Australia



Cattle Breeds in Australia



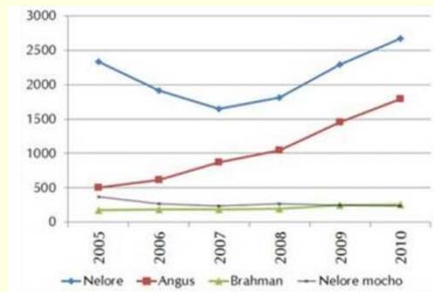
Cattle Breeds in Australia



Brazilian Beef Cattle Production



Brazilian Beef Cattle Production



Brazilian Beef Cattle Production

Semen sold in Brazil in 2013

	Year 2013	
	Nellore	Angus
Semen (million doses)	2921	3697

Animal Performance of Crossbred Cattle in Florida



Animal Performance of Crossbred Cattle in Florida

	Location	
	Ona	Marianna
<i>Forage</i>		
CP (%)	18.3	18.0
Digestibility (%)	67.0	65.3
<i>Animal Performance</i>		
ADG, lb/d (NRC)	2.0	2.0
ADG, lb/d (Observed)	0.5	1.7

Inyang et al. (2010) and Vendramini et al. (2012)

Thank you for your attention



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