
United States Cattle Movement Survey

2015

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Introduction

New emerging diseases and the potential introduction of a foreign animal disease into the United States pose major threats to the health of livestock herds. A rapid response is paramount to minimize the spread and impact. Knowledge of livestock movement is important in planning effective response strategies. Estimates of interstate cattle movements are in existence; however, there are not good estimates of intrastate cattle movements or the relative amount of intra- to interstate shipments. The United States Cattle Movement Survey was conducted to improve estimates of intra- versus interstate cattle shipments across different sectors of the cattle industry and across different states. The estimates will provide information on the differences in out of state cattle shipments between states and regions. Additionally, these estimates can be used in areas where newly emerging diseases may spread, and to determine most effective response strategies in the event of a foreign animal disease.

In this report, the survey results from all participating states and territories are presented. In total, 51 experts from 19 states and territories participated in the survey. Results for each survey question are shown as both the median and the weighted mean number of farms that ship out of state out of 100, or shipments that leave the state out of 100, depending on the question. For each question the aggregated (national or regional) result across states weights the mean by number of cattle in the state. Further details on the weighted means can be found in Appendix II. Additional information on the survey estimates will be provided in state-specific reports to states with three or more survey participants. For confidentiality reasons states that have less than three survey participants will not receive state-specific reports.

National Beef Results

The results from the beef section of the Cattle Movement Survey showed geographic variation and regional differences in the median number of interstate shipments. Neighboring states generally estimate similar levels of interstate shipments (Figure 1).

In general, the Western states (e.g. California, Montana, Nevada) and the Southeastern states (North Carolina, Tennessee, and Virginia) estimated higher numbers of interstate shipments than other regions. The Plains states (Colorado, Nebraska, Oklahoma, and Texas) estimated lower numbers of interstate shipments than other regions. States in the Upper Midwest (Iowa, Minnesota, and Wisconsin) also estimated low to medium levels of shipments leaving their respective states. The estimates from the Northeastern states (New York and Pennsylvania) had the most within region variation, with New York estimating high levels of interstate beef shipments and Pennsylvania estimating low levels. A table with the estimated median number of beef shipments is provided in Appendix I.

In addition to the contiguous states discussed above; the survey also included Alaska and the US Virgin Islands. The overall median number of interstate beef shipments for both non-contiguous locations was zero, or an estimate that all shipments would remain in the state. However, in the US Virgin Islands certain types of beef shipments showed low levels of interstate shipments.

The national and regional level results for each survey question are presented in Appendices II & III. The range of estimates for many questions is large, particularly at the national level. The reason for high variation at the national level is caused by different estimates from the participating states. Estimates of interstate shipment numbers differ substantially between states and regions in the country. One question that had a large range of estimates at the state, regional and national levels asked for the number of interstate shipments moving to graze on public land (question 11). This type of movement may be less well understood by respondents than other movements included in the survey.

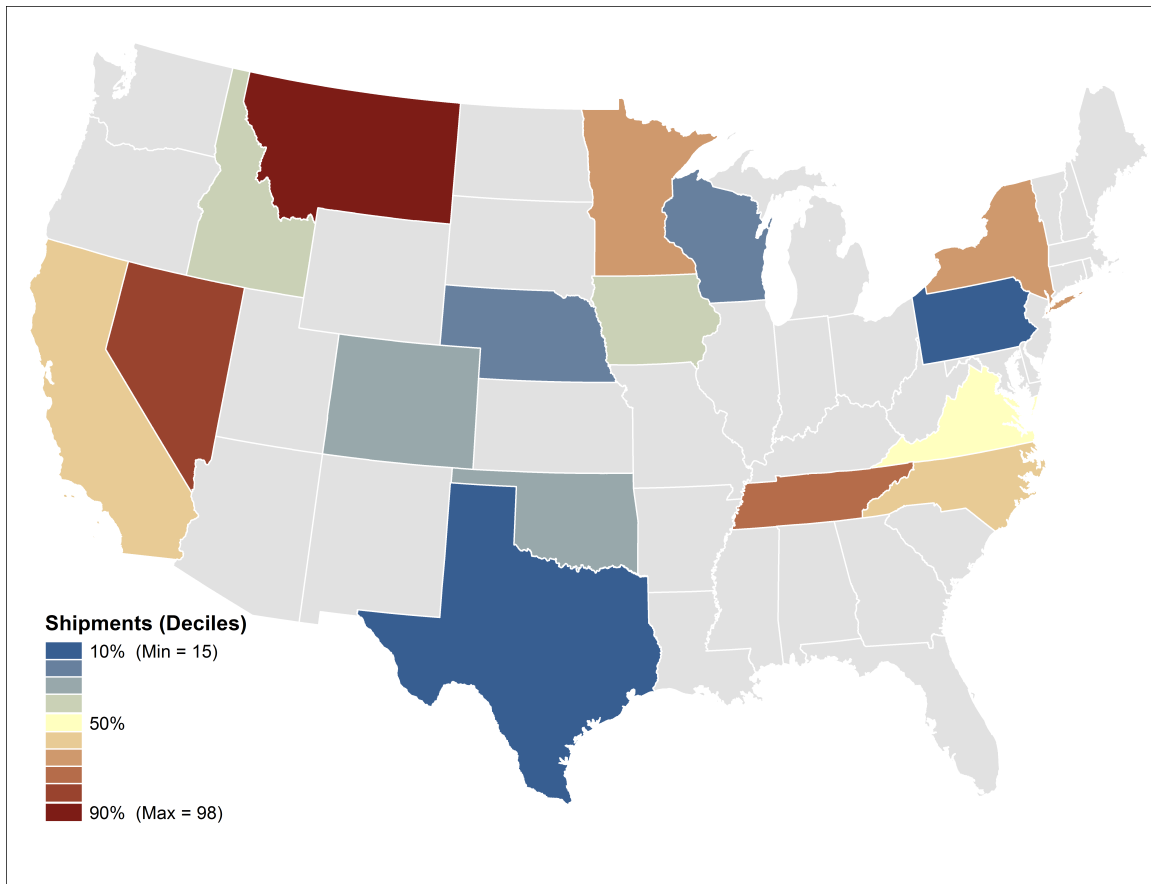


Figure 1: **Median number of interstate beef shipments.** This figure shows the estimated median number of beef shipments that left the state out of every 100 shipments. The shading shows the level of interstate shipments, with dark blue representing fewer interstate shipments and dark brown representing more interstate shipments. States shaded in gray did not participate in the study.

National Dairy Results

The results from the dairy section of the Cattle Movement Survey showed some geographic variation in the median number of interstate shipments (Figure 2). The results show fewer clearly defined regions than the results from the beef survey.

In general, the Southeastern states (e.g. Mississippi, North Carolina, Tennessee) estimated higher numbers of interstate dairy shipments than the other regions. The Plains states (Colorado, Nebraska, Oklahoma, and Texas) and the Upper Midwest states (Iowa, Minnesota, and Wisconsin) appear to group together into a single region, with low to medium levels of interstate dairy shipments. The estimates from Northeastern states (New York and Pennsylvania) show a more uniform regional estimate in dairy, with both states estimating low to medium levels of interstate dairy shipments. The Western states (California, Idaho and Nevada) are the least uniform regionally, with Nevada estimating high levels of interstate dairy shipments and California and Idaho estimating low levels. A table with the estimated median number of dairy shipments is provided in Appendix I.

The national level survey responses by survey question are reported in Appendices II & III. The range of estimates for many questions is large, particularly at the national level. The reason for high variation at the national level is caused by different estimates from the participating states. Estimates of interstate shipment numbers differ substantially between states and regions in the country.

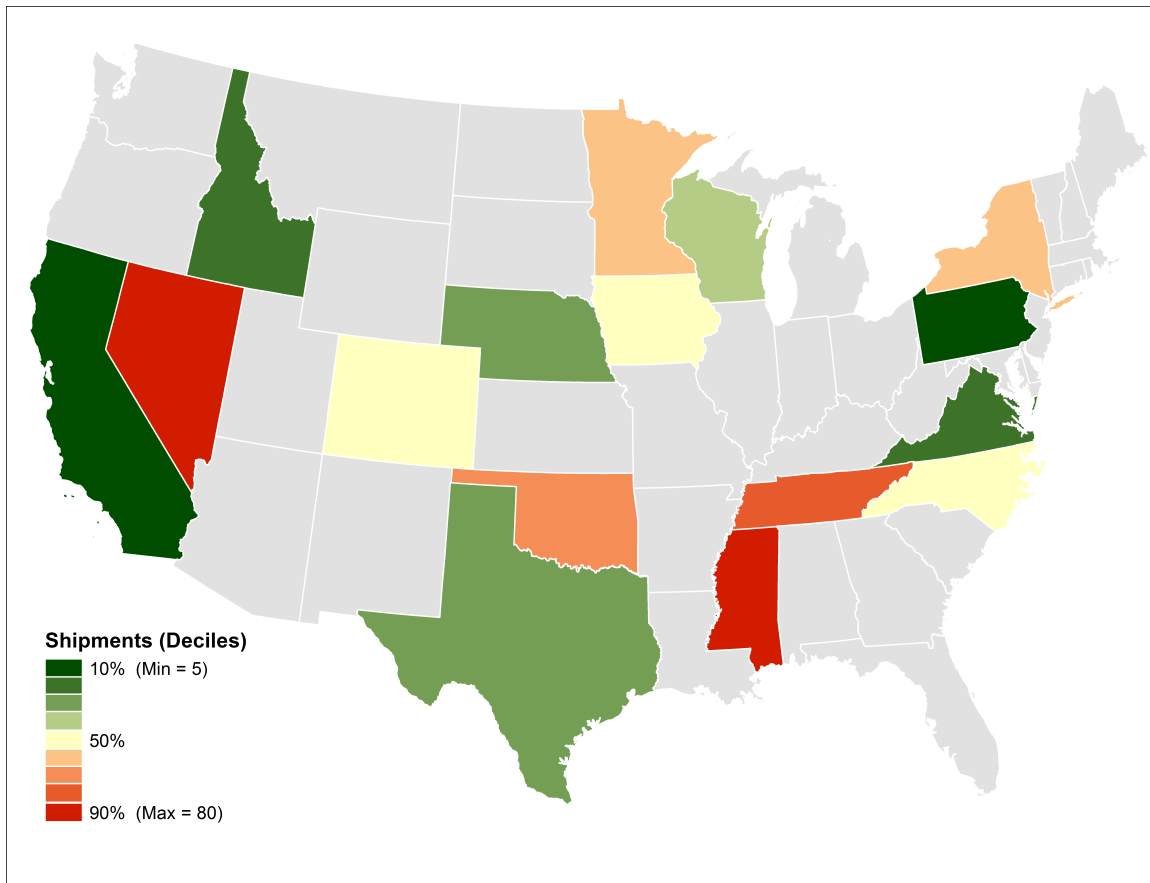


Figure 2: **Median number of interstate dairy shipments.** This figure shows the estimated median number of dairy shipments that left the state out of every 100 shipments. The shading shows the level of interstate shipments, with dark green representing fewer interstate shipments and dark red representing more interstate shipments. States shaded in gray did not participate in the study.

Acknowledgements

This work is supported by the Department of Homeland Security Science and Technology Directorate under contract number HSHQDC-13-C-B0028 and the United States Department of Agriculture under cooperative agreement 12-9208-0344-CA. We thank Dave Dargatz, Lori Gustafson, and Jason Lombard for invaluable feedback on the design and implementation of this survey.

We extend a particular thank you to the experts who participated in this survey. Without the support of the 51 experts who participated, this survey would not have been a success.

Appendix I:

Median number of interstate shipments by state

Table 1: **Median number of interstate beef shipments by state.** This table shows the first and third quartiles and the median estimated overall number of interstate beef shipments by state.

State	First Quartile	Median	Third Quartile
Alaska	0	0	0
California	27.5	45	75
Colorado	25.5	35	44.5
Iowa	30	40	50
Idaho	12.5	37.5	50
Minnesota	21.5	50	75
Montana	75	98	98
North Carolina	20	45	85
Nebraska	12.5	18.5	35
Nevada	70	85	90
New York	40	52.5	65
Oklahoma	20	30	50
Pennsylvania	12.5	17.5	26.5
Tennessee	53	64.5	85
Texas	7.5	15	22.5
US Virgin Islands	0	0	1
Virginia	17.5	42.5	51
Wisconsin	20	25	30

Table 2: **Median number of interstate dairy shipments by state.** This table shows the first and third quartiles and the median estimated overall number of interstate dairy shipments by state.

State	First Quartile	Median	Third Quartile
California	0	5	10
Colorado	20	30	45
Iowa	25	30	30
Idaho	5	10	20
Minnesota	15	32.5	50
Mississippi	80	80	100
North Carolina	20	30	50
Nebraska	9.75	20	67.5
Nevada	75	80	85
New York	15	40	67.5
Oklahoma	31.5	47.5	62
Pennsylvania	6.5	7.5	11.75
Tennessee	50	60	80.75
Texas	12.5	15	20
Virginia	5	10	80
Wisconsin	16.25	22.5	25

Appendix II:

National cattle movement results by survey question

Overview: At the national level there were 51 experts from 19 states and territories participating in the Cattle Movement Survey including Alaska, California, Colorado, Iowa, Idaho, Minnesota, Mississippi, Montana, North Carolina, Nebraska, Nevada, New York, Oklahoma, Pennsylvania, Tennessee, Texas, US Virgin Islands, Virginia and Wisconsin. We separated the national results into results from five regions, the Northeast, which includes New York and Pennsylvania, the Southeast, which includes, Mississippi, North Carolina, Tennessee, and Virginia, the Upper Midwest, which includes Iowa, Minnesota, and Wisconsin, the Plains, which includes Colorado, Nebraska, Oklahoma, and Texas, and the West, which includes California, Idaho, Montana, and Wyoming. There were 7 experts participating in the Northeast region, 9 experts in the Southeast, 12 in the Upper Midwest, 15 in the Plains, and 5 in the West. The results from the survey at the national level (which in this report includes only the contiguous states) and at the regional level are presented below. For each question the national and regional results are presented in separate color-coded box plots showing the number of out-of-state shipments. Additionally, the median and weighted mean are presented in a table for each question in the survey. Explanations of the box plots (Figure 3) and weighted means can be found below. The first question reported in the results is question 6 because the first 5 questions dealt with participant information.

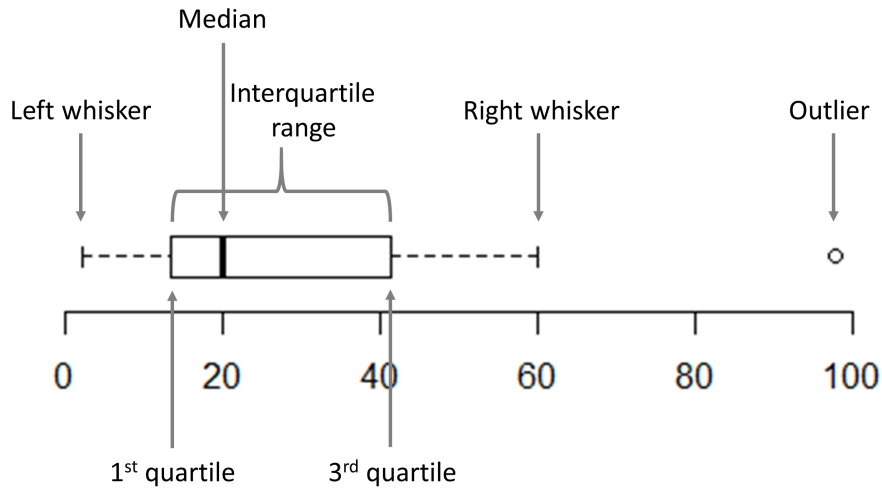


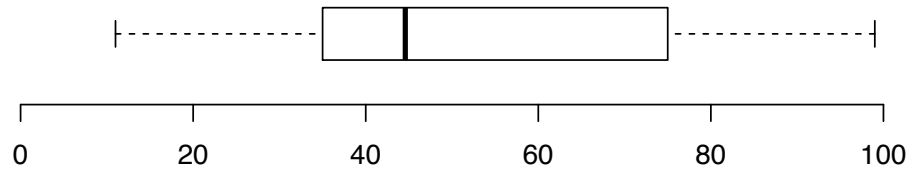
Figure 3: **Example box plot.** The box plots in this report are on a scale from 0 to 100. The national box plots are black, the Northeast plots are blue, the Southeast plots are green, the Upper Midwest plots are purple, the Plains plots are orange and the West plots are brown. The center bar of the box represents the median and the edges of the box show the 1st and 3rd quartiles. The left and right whiskers extend to points that are no more than 1.5 times the interquartile range from the edge of the box. Points outside this range are considered outliers and are shown as open circles. Box plots without whiskers do not have points that extend beyond the 1st and or 3rd quartiles.

Weighted means: The national and regional means presented in this report have been weighted, meaning that some data points contribute more than others to the overall mean. This was done to allow data points from states with larger cattle populations to have greater weight. Specifically, states were weighted by the beef and dairy cattle inventory data from the 2015 National Agricultural Statistics Service annual report.

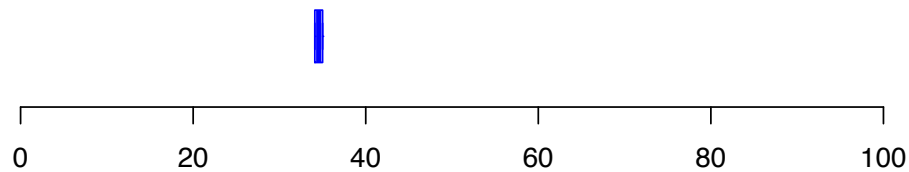
Beef Shipments

6. Consider 100 farms or ranches that have beef cattle. How many of these farms will routinely send cattle out of the state?

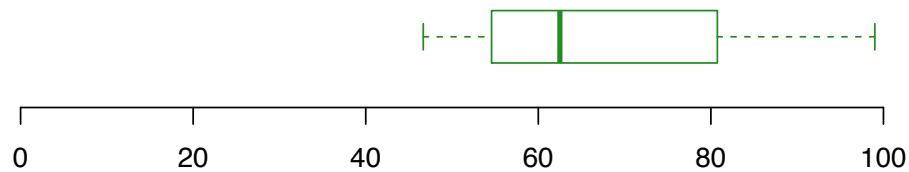
National, Median: 44.58; Weighted mean: 42.21



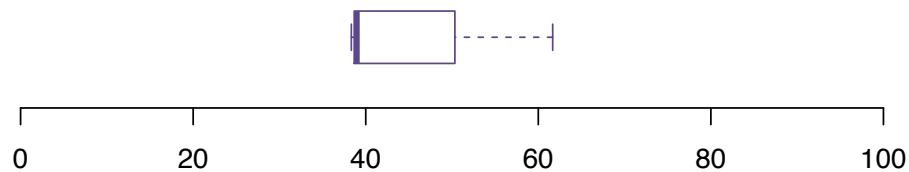
Northeast, Median: 34.55; Weighted mean: 34.61



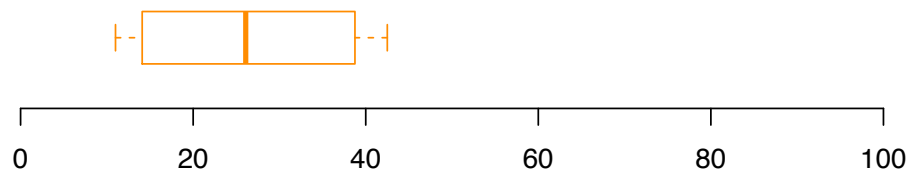
Southeast, Median: 62.5; Weighted mean: 62.11



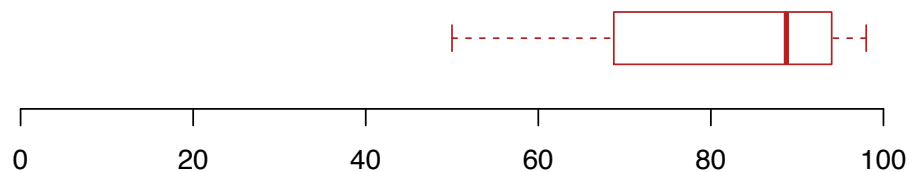
Upper Midwest, Median: 39; Weighted mean: 52.38



Plains, Median: 26.09; Weighted mean: 21.71



West, Median: 88.75; Weighted mean: 86.9

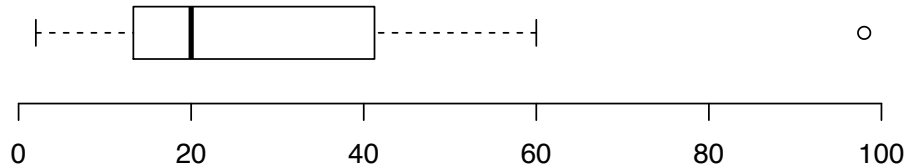


Box Plots: The center bar and edges of the box show the median and 1st and 3rd quartiles, respectively. The whiskers extend to points that are no more than 1.5 times the interquartile range, points outside this range are outliers (open circles).

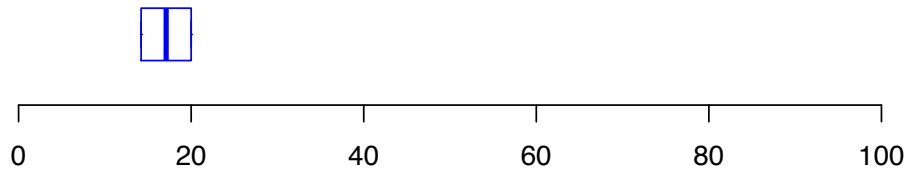
7. Consider 100 shipments of beef cattle and calves originating from operations that have herds of the following sizes. For each of the following, out of 100 shipments, how many will leave the state?

(a) Herds with 1-49 head

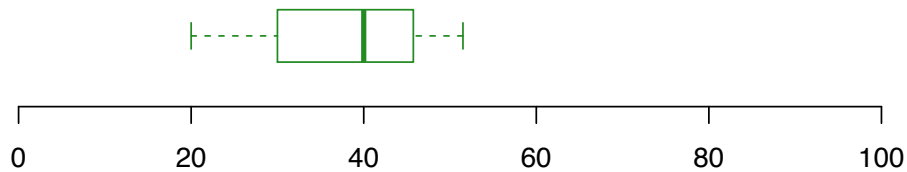
National, Median: 20; Weighted mean: 26.67



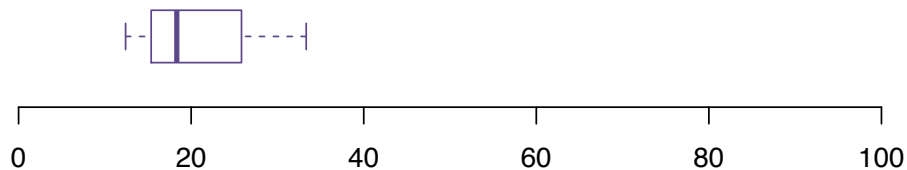
Northeast, Median: 17.1; Weighted mean: 17.48



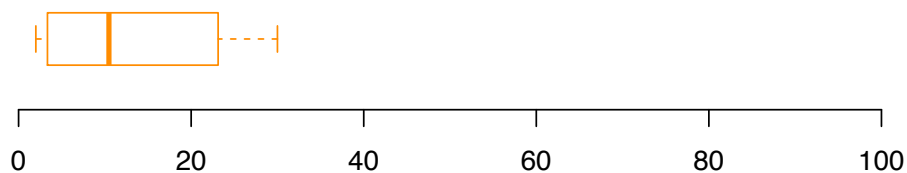
Southeast, Median: 40; Weighted mean: 41.54



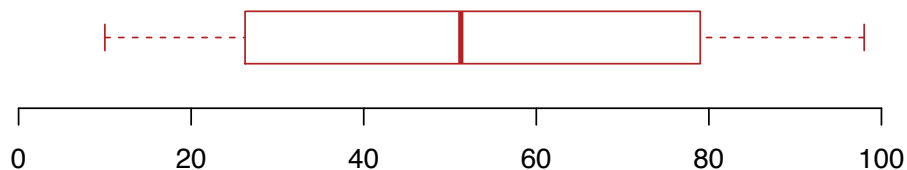
Upper Midwest, Median: 18.33; Weighted mean: 25.92



Plains, Median: 10.47; Weighted mean: 10.34

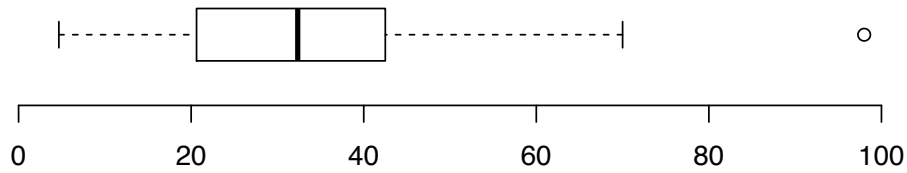
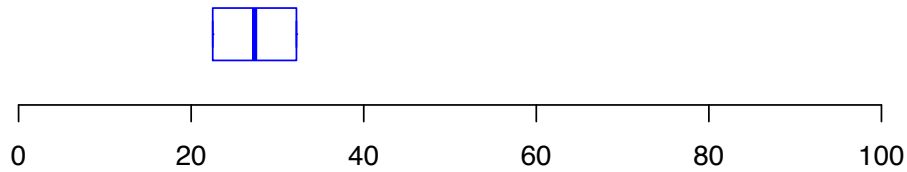
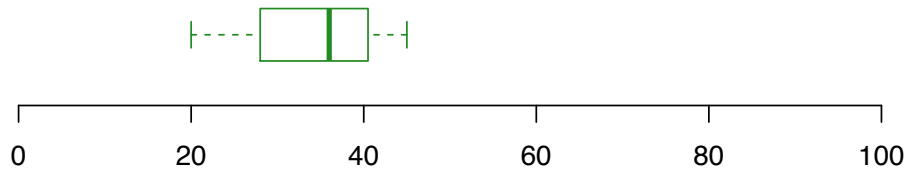
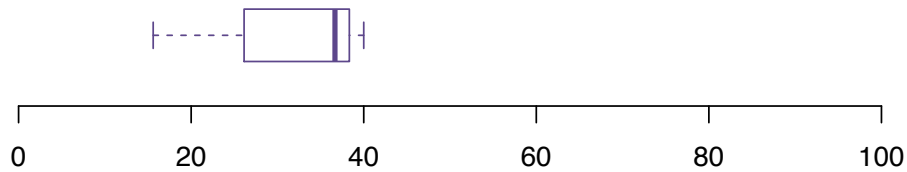
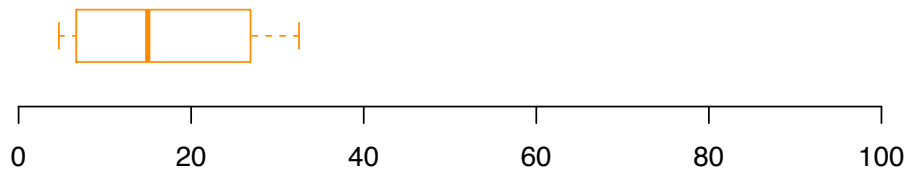
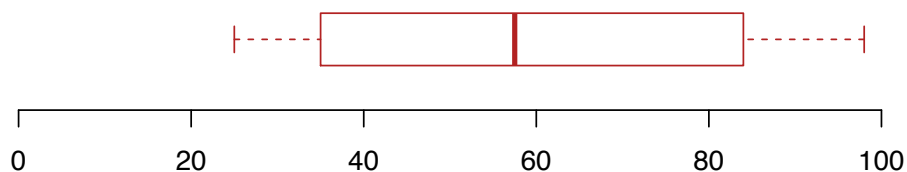


West, Median: 51.25; Weighted mean: 68.09



Box Plots: The center bar and edges of the box show the median and 1st and 3rd quartiles, respectively. The whiskers extend to points that are no more than 1.5 times the interquartile range, points outside this range are outliers (open circles).

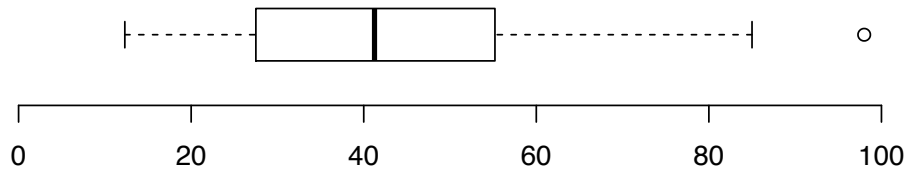
(b) Herds with 50-99 head

National, Median: 32.35; Weighted mean: 29.65**Northeast**, Median: 27.35; Weighted mean: 26.71**Southeast**, Median: 36; Weighted mean: 35.96**Upper Midwest**, Median: 36.67; Weighted mean: 33.88**Plains**, Median: 14.97; Weighted mean: 13.83**West**, Median: 57.5; Weighted mean: 71.97

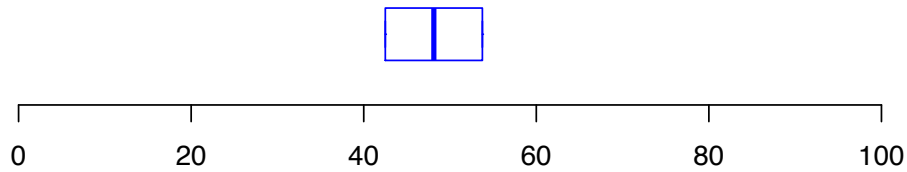
Box Plots: The center bar and edges of the box show the median and 1st and 3rd quartiles, respectively. The whiskers extend to points that are no more than 1.5 times the interquartile range, points outside this range are outliers (open circles).

(c) Herds with 100-199 head

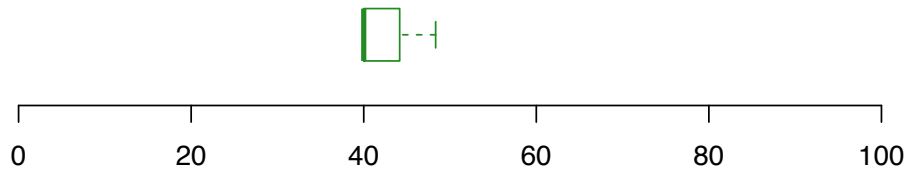
National, Median: 41.25; Weighted mean: 36.65



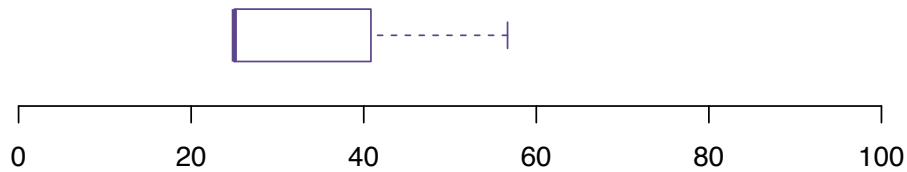
Northeast, Median: 48.12; Weighted mean: 47.38



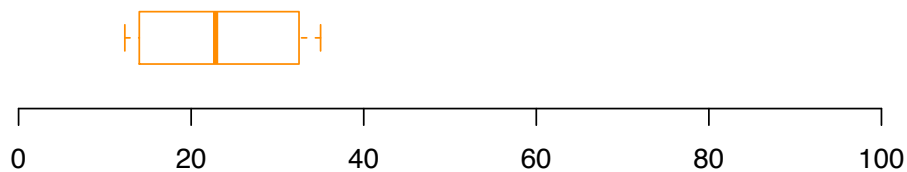
Southeast, Median: 40; Weighted mean: 43.91



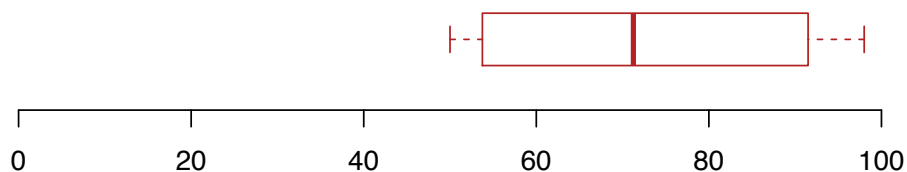
Upper Midwest, Median: 25; Weighted mean: 43.86



Plains, Median: 22.83; Weighted mean: 19.29



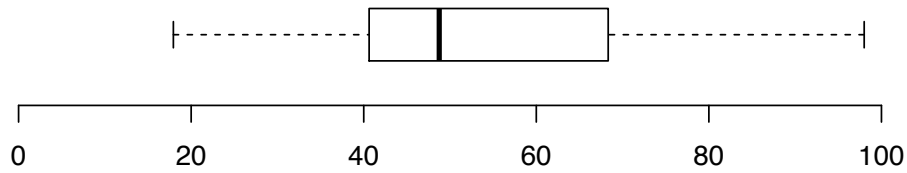
West, Median: 71.25; Weighted mean: 80.09



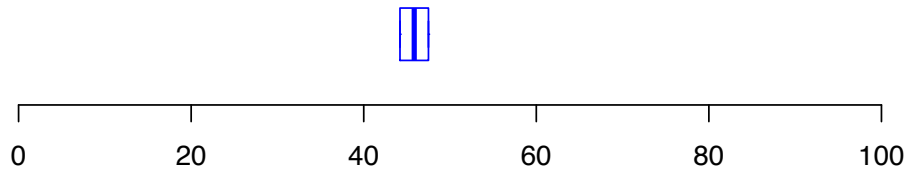
Box Plots: The center bar and edges of the box show the median and 1st and 3rd quartiles, respectively. The whiskers extend to points that are no more than 1.5 times the interquartile range, points outside this range are outliers (open circles).

(d) Herds with 200 or more head

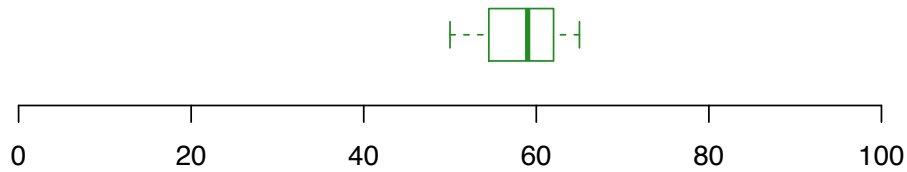
National, Median: 48.75; Weighted mean: 45.19



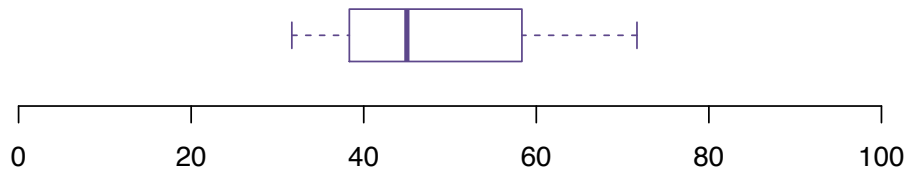
Northeast, Median: 45.85; Weighted mean: 46.07



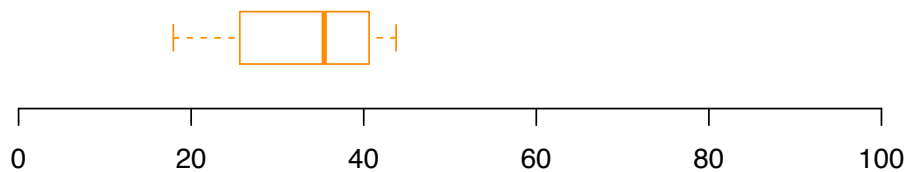
Southeast, Median: 59; Weighted mean: 57.11



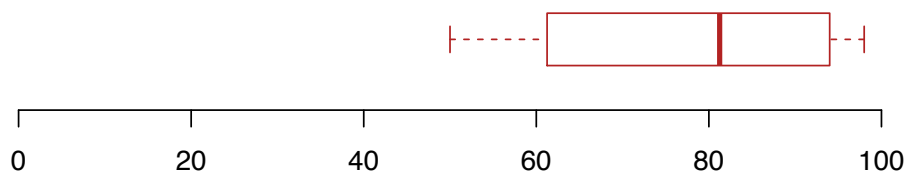
Upper Midwest, Median: 45; Weighted mean: 58.51



Plains, Median: 35.42; Weighted mean: 27.63



West, Median: 81.25; Weighted mean: 83.69

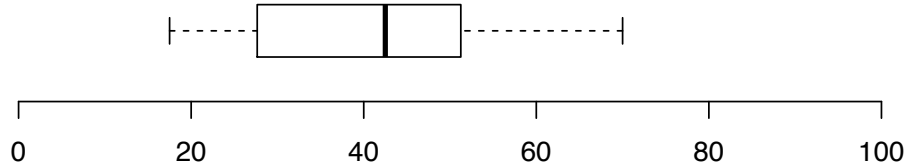


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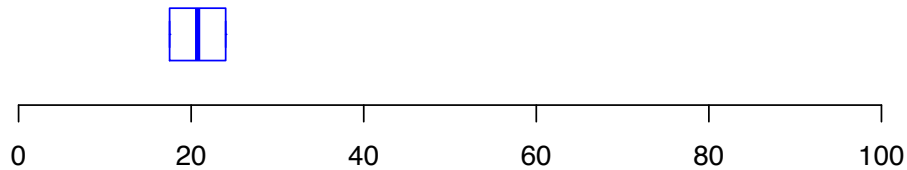
8. Consider 100 shipments of beef cattle and calves originating at the following types of operations. For each of the following, out of 100 shipments, out of 100 shipments, how many will leave the state?

(a) Seedstock operation

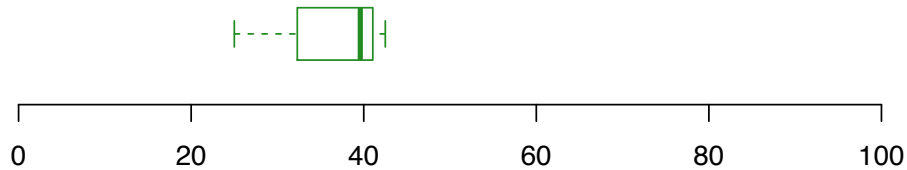
National, Median: 42.5; Weighted mean: 41.33



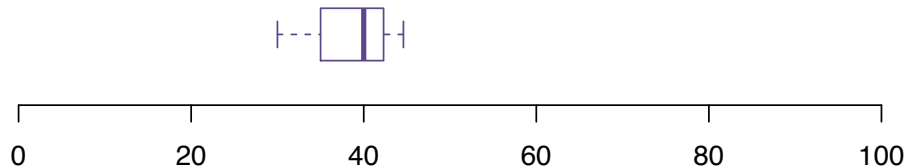
Northeast, Median: 20.75; Weighted mean: 20.32



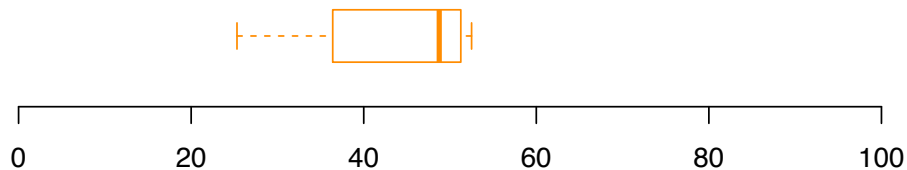
Southeast, Median: 39.6; Weighted mean: 37.77



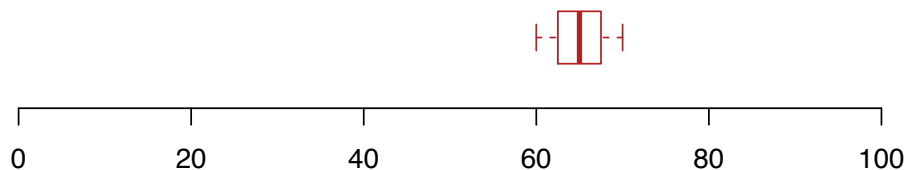
Upper Midwest, Median: 40; Weighted mean: 35.09



Plains, Median: 48.75; Weighted mean: 37.71

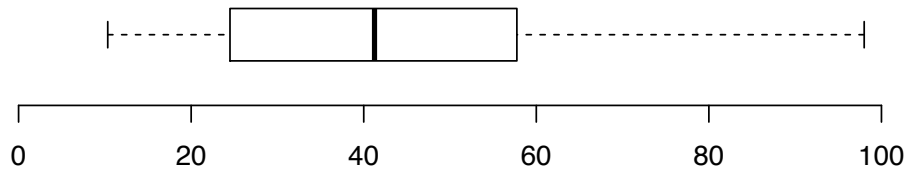
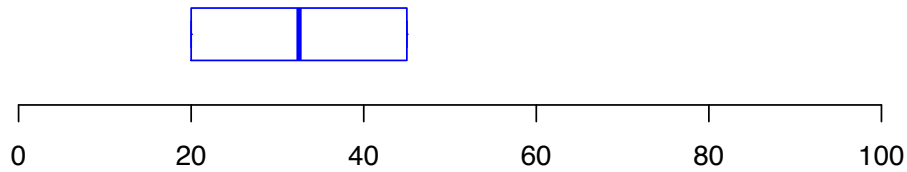
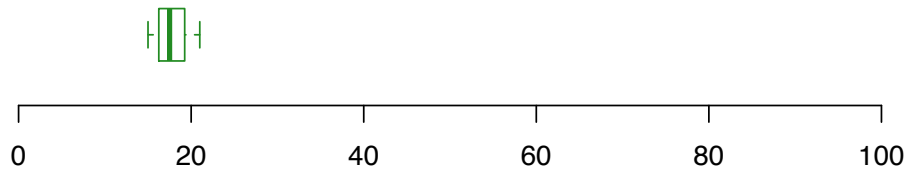
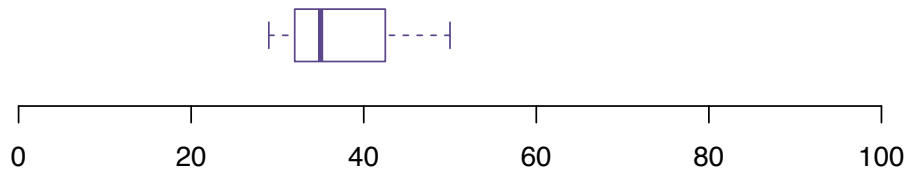
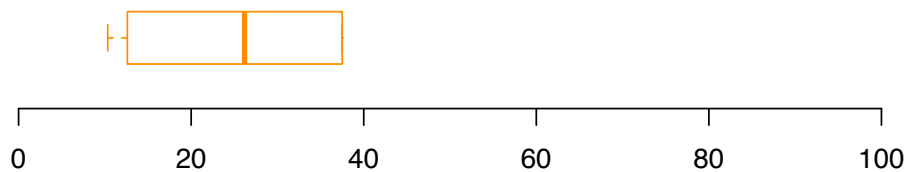
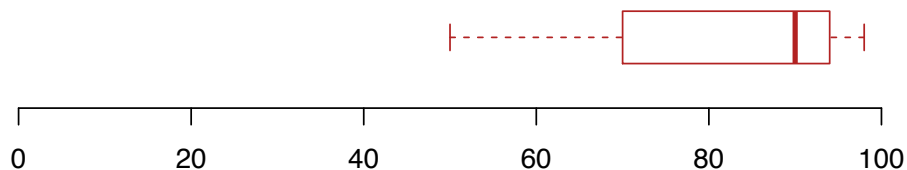


West, Median: 65; Weighted mean: 64.18



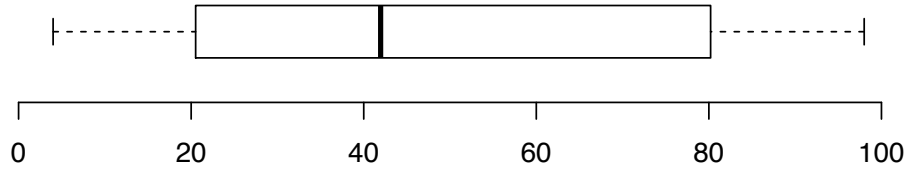
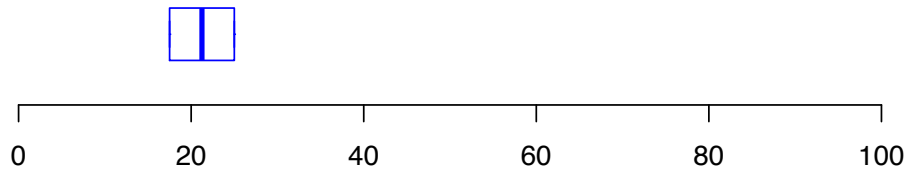
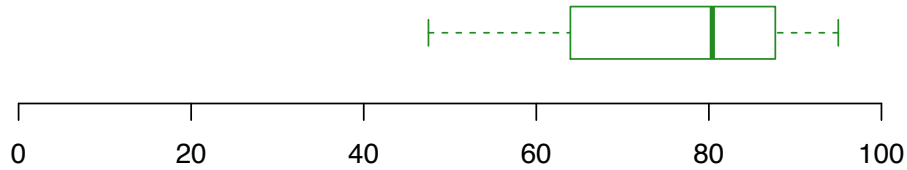
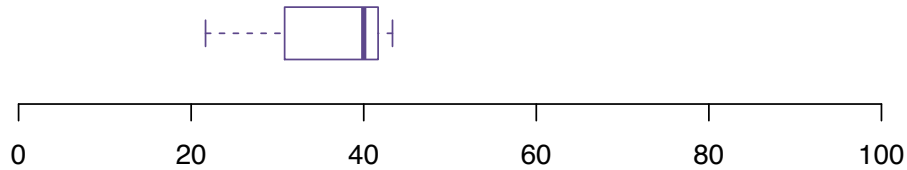
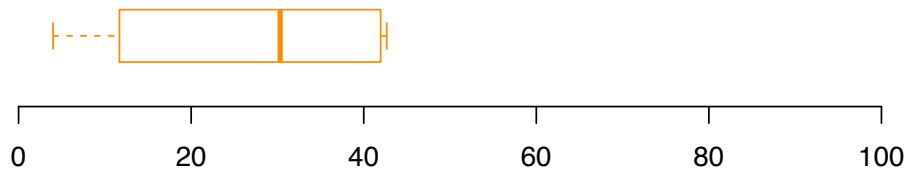
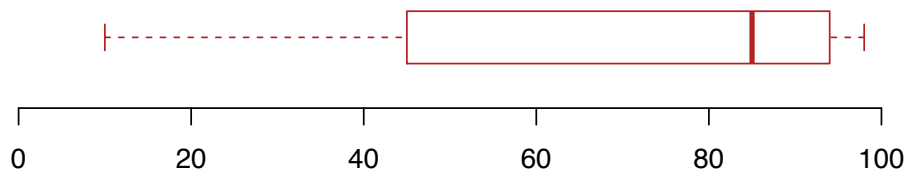
Box Plots: The center bar and edges of the box show the median and 1st and 3rd quartiles, respectively. The whiskers extend to points that are no more than 1.5 times the interquartile range, points outside this range are outliers (open circles).

(b) Cow-calf operation

National, Median: 41.25; Weighted mean: 39.19**Northeast**, Median: 32.5; Weighted mean: 34.15**Southeast**, Median: 47.5; Weighted mean: 50.64**Upper Midwest**, Median: 35; Weighted mean: 42.57**Plains**, Median: 26.19; Weighted mean: 20.52**West**, Median: 90; Weighted mean: 87.44

Box Plots: The center bar and edges of the box show the median and 1st and 3rd quartiles, respectively. The whiskers extend to points that are no more than 1.5 times the interquartile range, points outside this range are outliers (open circles).

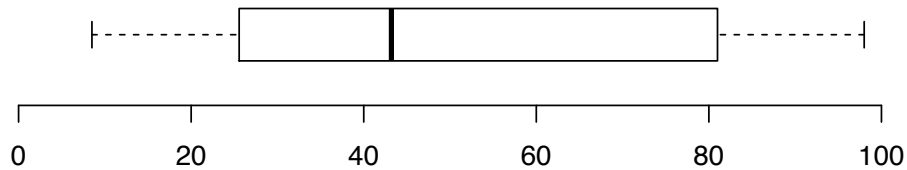
(c) Backgrounder operation

National, Median: 41.96; Weighted mean: 41.1**Northeast**, Median: 21.25; Weighted mean: 20.75**Southeast**, Median: 80.4; Weighted mean: 72.08**Upper Midwest**, Median: 40; Weighted mean: 38.72**Plains**, Median: 30.31; Weighted mean: 23.22**West**, Median: 85; Weighted mean: 78.43

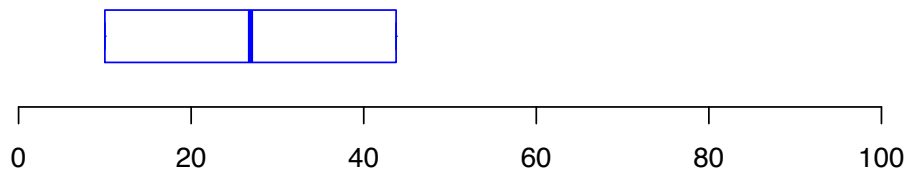
Box Plots: The center bar and edges of the box show the median and 1st and 3rd quartiles, respectively. The whiskers extend to points that are no more than 1.5 times the interquartile range, points outside this range are outliers (open circles).

(d) Stocker operation

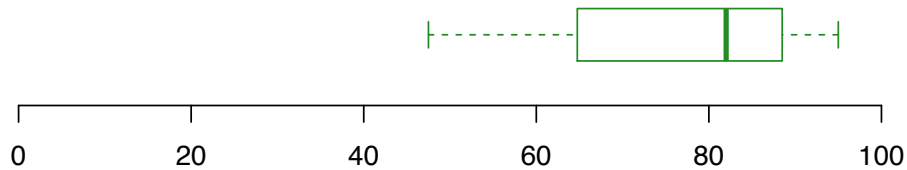
National, Median: 43.21; Weighted mean: 41.11



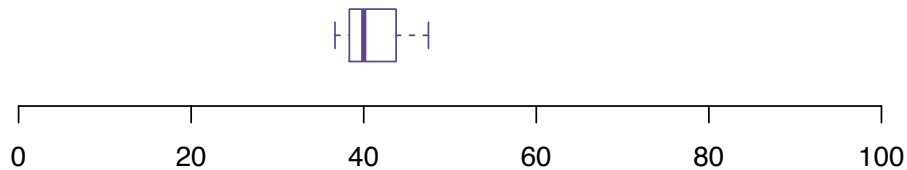
Northeast, Median: 26.88; Weighted mean: 24.65



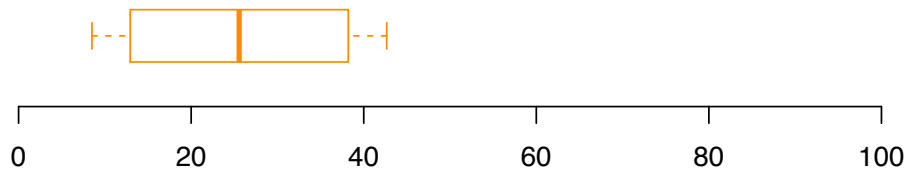
Southeast, Median: 82; Weighted mean: 72.84



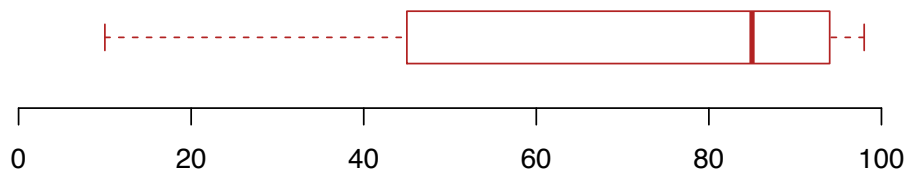
Upper Midwest, Median: 40; Weighted mean: 41.11



Plains, Median: 25.56; Weighted mean: 22.53



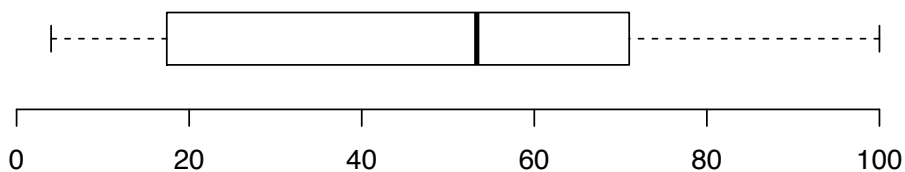
West, Median: 85; Weighted mean: 78.43



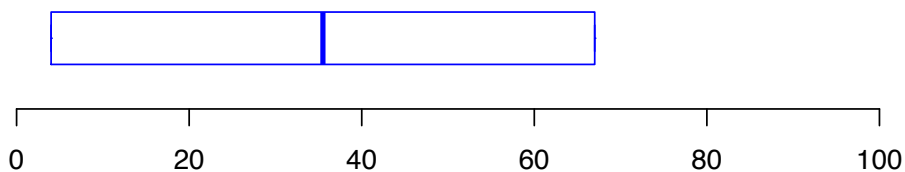
Box Plots: The center bar and edges of the box show the median and 1st and 3rd quartiles, respectively. The whiskers extend to points that are no more than 1.5 times the interquartile range, points outside this range are outliers (open circles).

(e) Feedlot

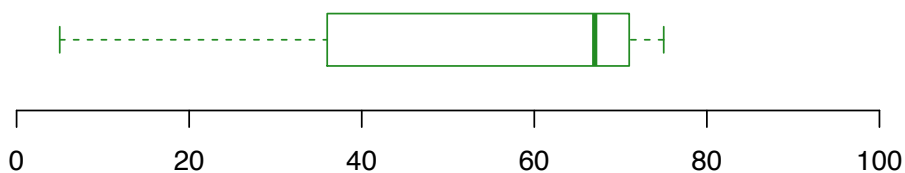
National, Median: 53.33; Weighted mean: 40.17



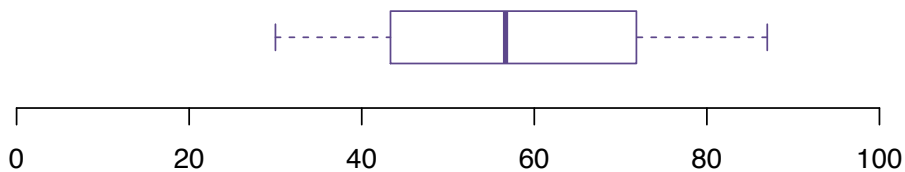
Northeast, Median: 35.5; Weighted mean: 31.34



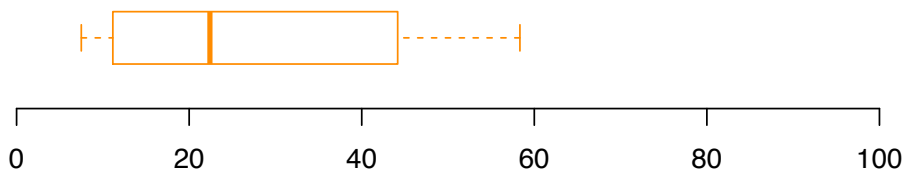
Southeast, Median: 67; Weighted mean: 47.57



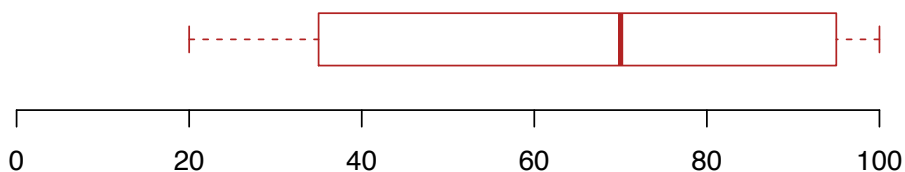
Upper Midwest, Median: 56.67; Weighted mean: 58.79



Plains, Median: 22.41; Weighted mean: 24.21

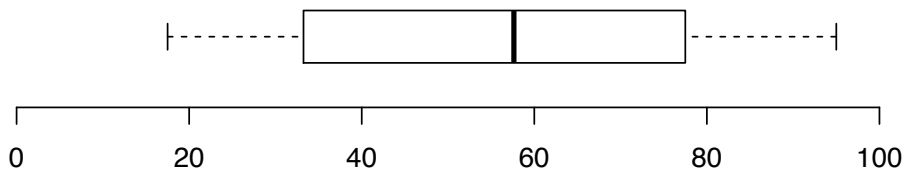
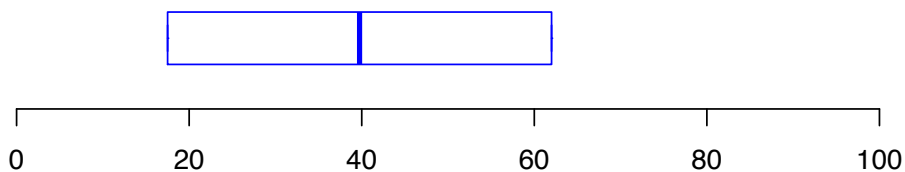
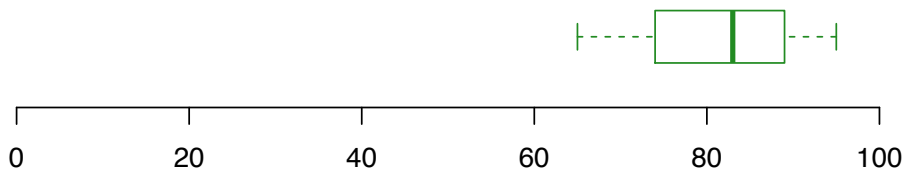
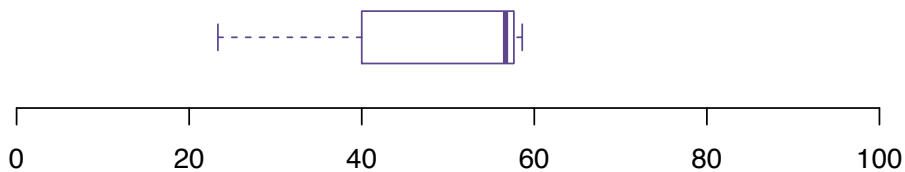
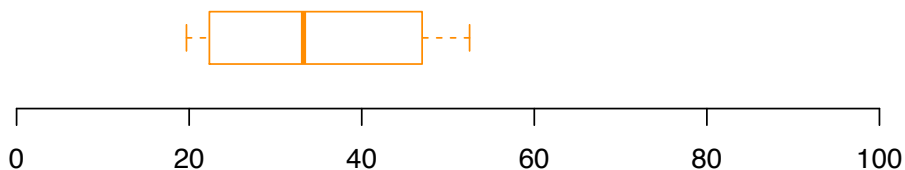
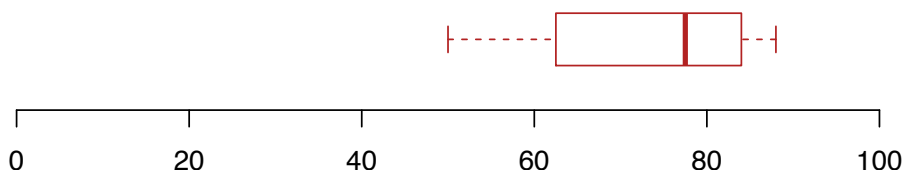


West, Median: 70; Weighted mean: 74.8



Box Plots: The center bar and edges of the box show the median and 1st and 3rd quartiles, respectively. The whiskers extend to points that are no more than 1.5 times the interquartile range, points outside this range are outliers (open circles).

(f) Market or Salebarn

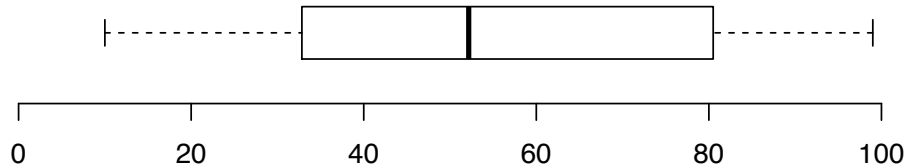
National, Median: 57.63; Weighted mean: 46.33**Northeast**, Median: 39.75; Weighted mean: 36.81**Southeast**, Median: 83; Weighted mean: 79.22**Upper Midwest**, Median: 56.67; Weighted mean: 51.17**Plains**, Median: 33.25; Weighted mean: 28.22**West**, Median: 77.5; Weighted mean: 78.08

Box Plots: The center bar and edges of the box show the median and 1st and 3rd quartiles, respectively. The whiskers extend to points that are no more than 1.5 times the interquartile range, points outside this range are outliers (open circles).

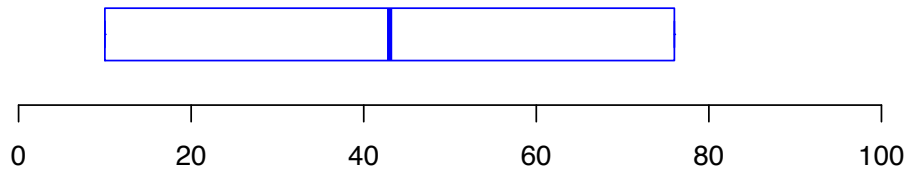
9. Consider 100 shipments of beef cattle and calves from anywhere in your state traveling to the following types of operations. For each of the following, out of 100 shipments, how many will leave the state?

(a) Feedlot

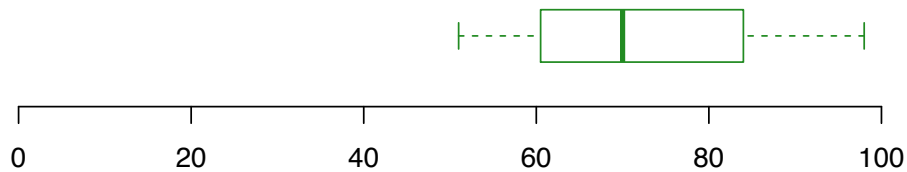
National, Median: 52.17; Weighted mean: 42.49



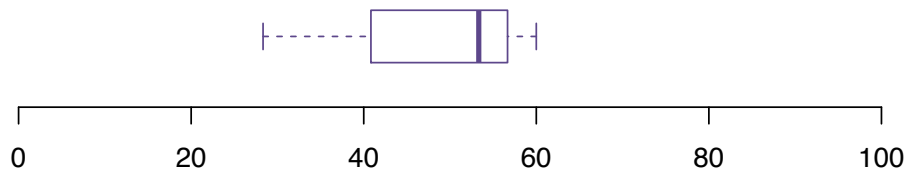
Northeast, Median: 43; Weighted mean: 38.64



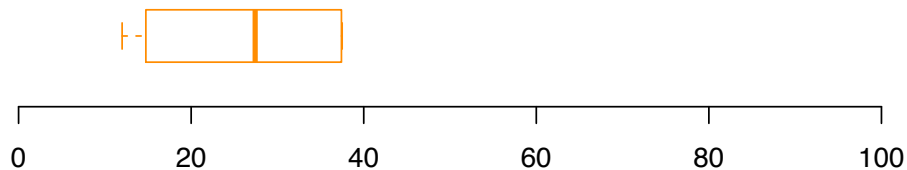
Southeast, Median: 70; Weighted mean: 68.97



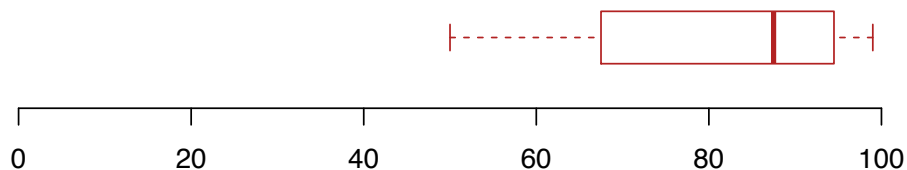
Upper Midwest, Median: 53.33; Weighted mean: 50.39



Plains, Median: 27.42; Weighted mean: 20.94

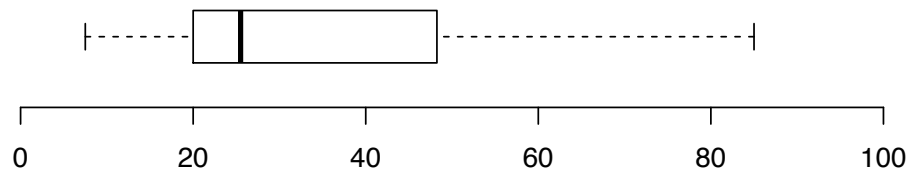
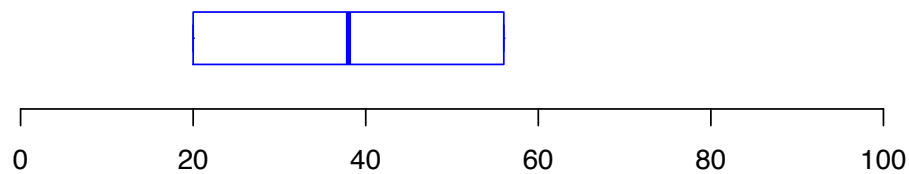
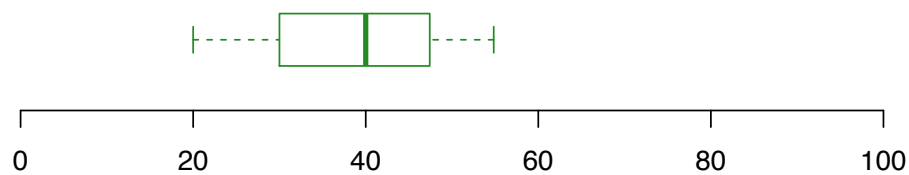
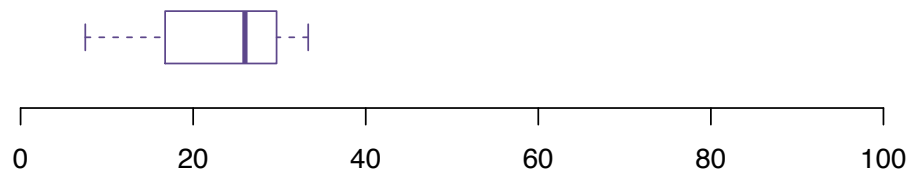
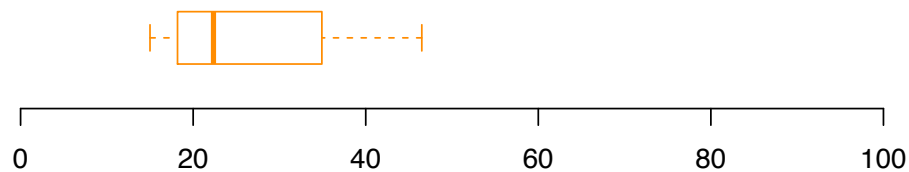
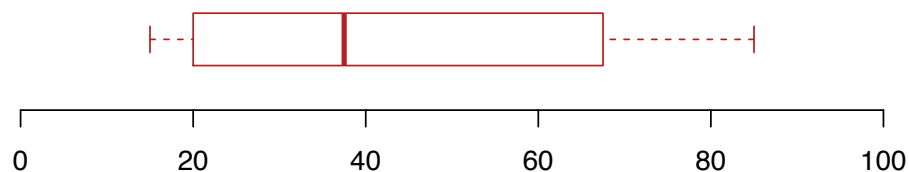


West, Median: 87.5; Weighted mean: 86.9



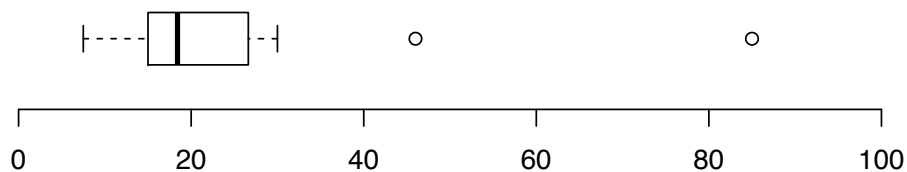
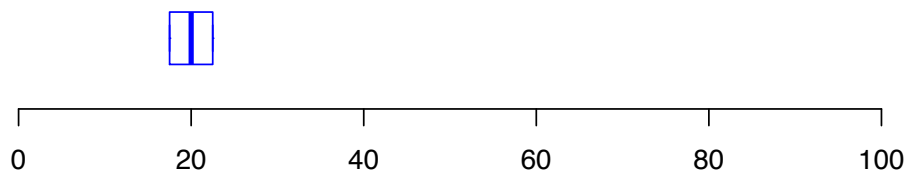
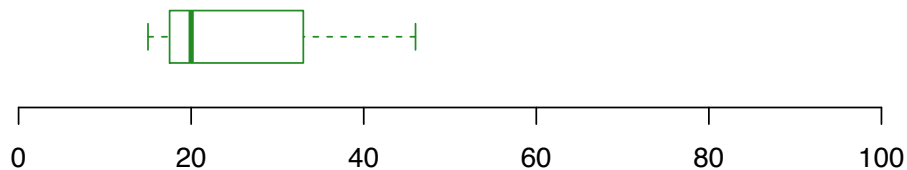
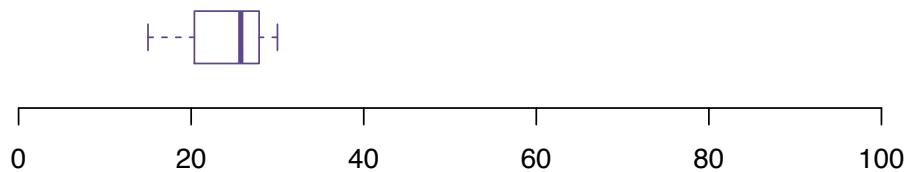
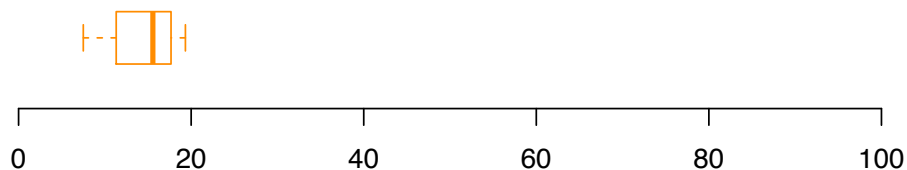
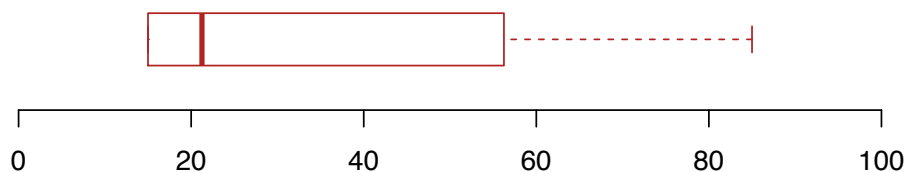
Box Plots: The center bar and edges of the box show the median and 1st and 3rd quartiles, respectively. The whiskers extend to points that are no more than 1.5 times the interquartile range, points outside this range are outliers (open circles).

(b) Market or Salebarn

National, Median: 25.5; Weighted mean: 28.65**Northeast**, Median: 38; Weighted mean: 35.62**Southeast**, Median: 40; Weighted mean: 43.1**Upper Midwest**, Median: 26; Weighted mean: 16.29**Plains**, Median: 22.35; Weighted mean: 26.47**West**, Median: 37.5; Weighted mean: 31.79

Box Plots: The center bar and edges of the box show the median and 1st and 3rd quartiles, respectively. The whiskers extend to points that are no more than 1.5 times the interquartile range, points outside this range are outliers (open circles).

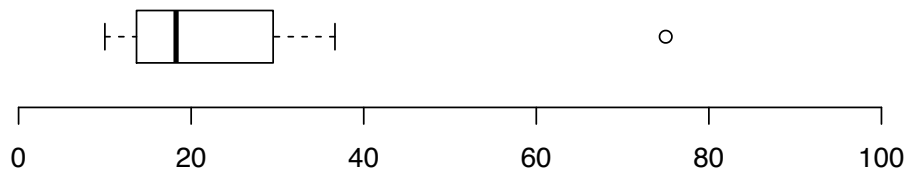
(c) Another beef operation

National, Median: 18.42; Weighted mean: 19.37**Northeast**, Median: 20; Weighted mean: 19.67**Southeast**, Median: 20; Weighted mean: 30.5**Upper Midwest**, Median: 25.75; Weighted mean: 20.11**Plains**, Median: 15.56; Weighted mean: 15.58**West**, Median: 21.25; Weighted mean: 23.09

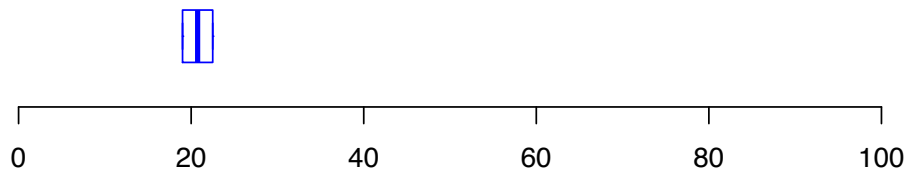
Box Plots: The center bar and edges of the box show the median and 1st and 3rd quartiles, respectively. The whiskers extend to points that are no more than 1.5 times the interquartile range, points outside this range are outliers (open circles).

(d) Another beef operation for breeding purposes

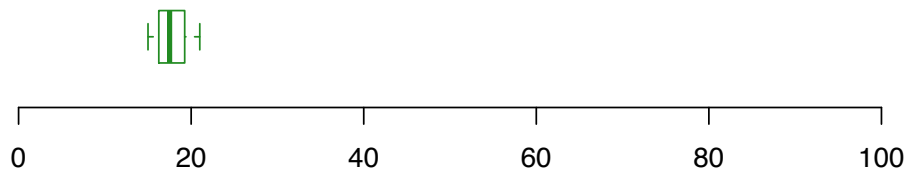
National, Median: 18.25; Weighted mean: 18.53



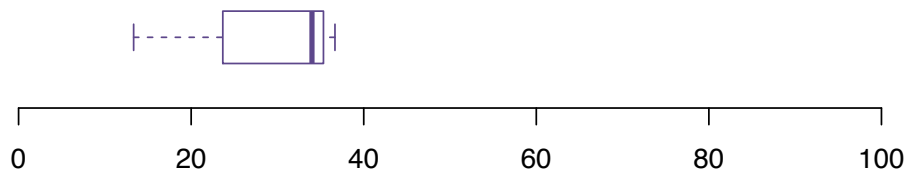
Northeast, Median: 20.75; Weighted mean: 20.98



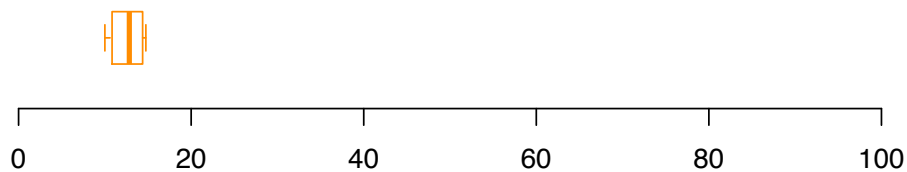
Southeast, Median: 17.5; Weighted mean: 18.66



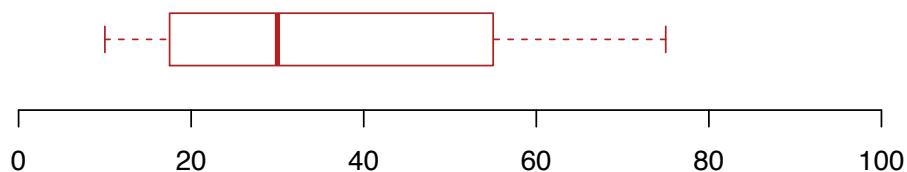
Upper Midwest, Median: 34; Weighted mean: 22.17



Plains, Median: 12.83; Weighted mean: 13.5



West, Median: 30; Weighted mean: 31.67

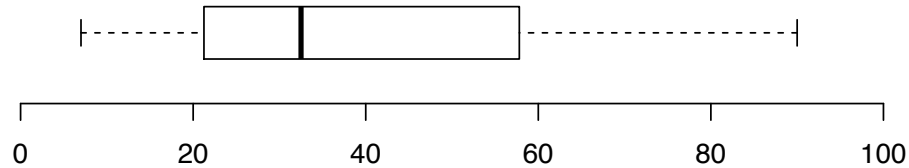


Box Plots: The center bar and edges of the box show the median and 1st and 3rd quartiles, respectively. The whiskers extend to points that are no more than 1.5 times the interquartile range, points outside this range are outliers (open circles).

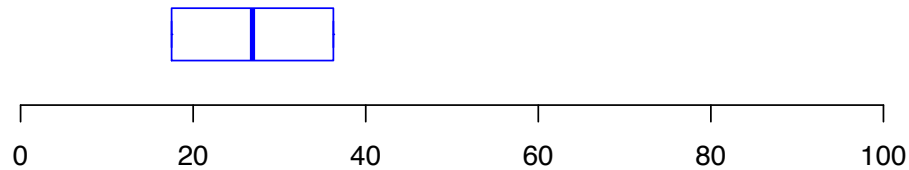
10. Consider 100 shipments of weaned calves from anywhere in your state that are moving to the following destinations. For each of the following, out of 100 shipments, how many will leave the state?

(a) Backgrounder operation

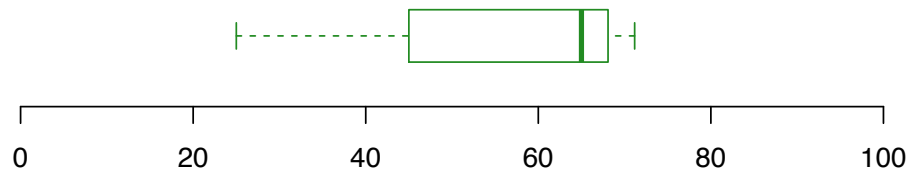
National, Median: 32.5; Weighted mean: 30.82



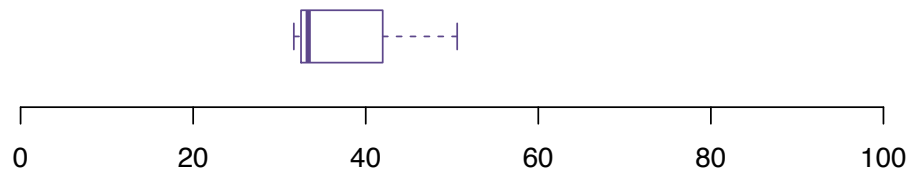
Northeast, Median: 26.88; Weighted mean: 25.64



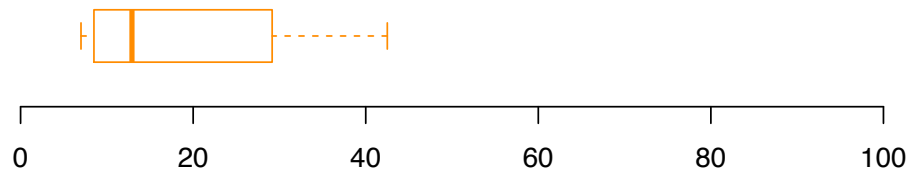
Southeast, Median: 65; Weighted mean: 60.18



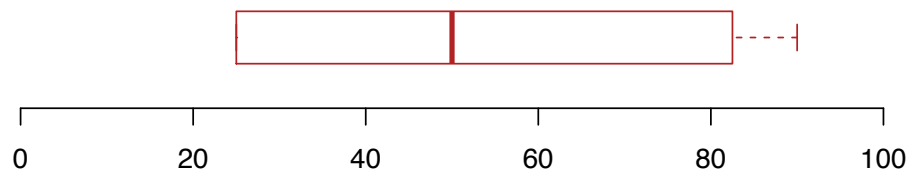
Upper Midwest, Median: 33.33; Weighted mean: 36.95



Plains, Median: 12.91; Weighted mean: 14.97



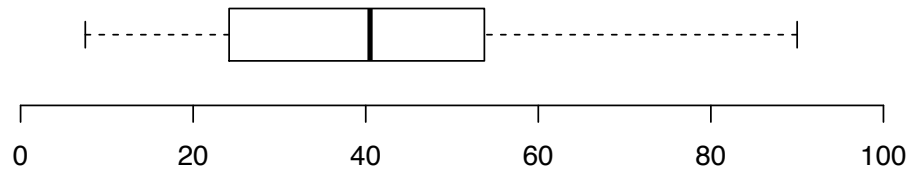
West, Median: 50; Weighted mean: 56.88



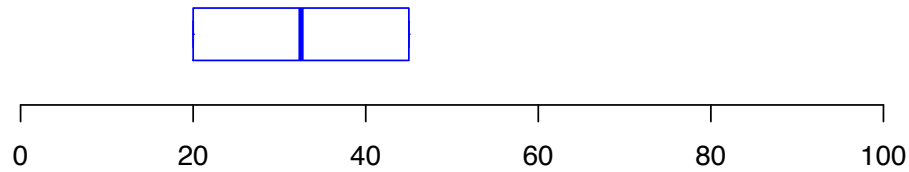
Box Plots: The center bar and edges of the box show the median and 1st and 3rd quartiles, respectively. The whiskers extend to points that are no more than 1.5 times the interquartile range, points outside this range are outliers (open circles).

(b) Stocker operation

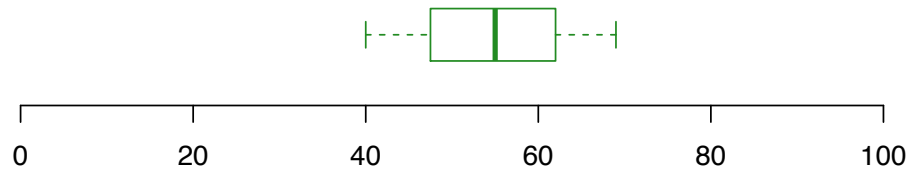
National, Median: 40.5; Weighted mean: 31.61



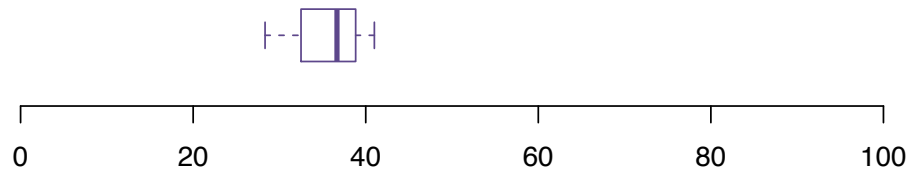
Northeast, Median: 32.5; Weighted mean: 30.85



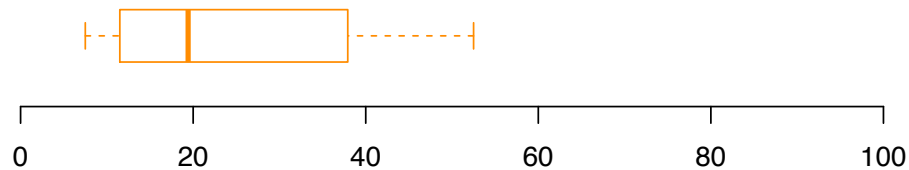
Southeast, Median: 55; Weighted mean: 58.67



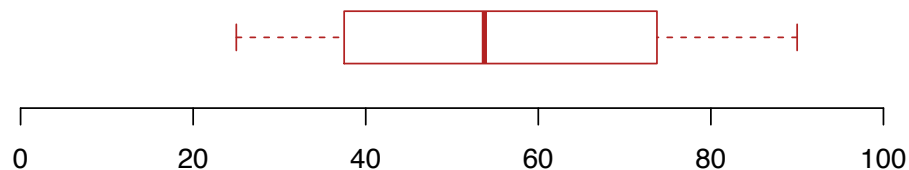
Upper Midwest, Median: 36.67; Weighted mean: 36.17



Plains, Median: 19.42; Weighted mean: 18.77

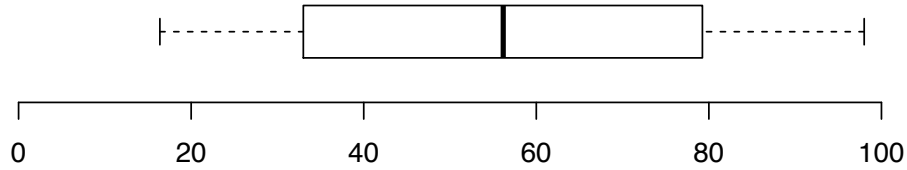
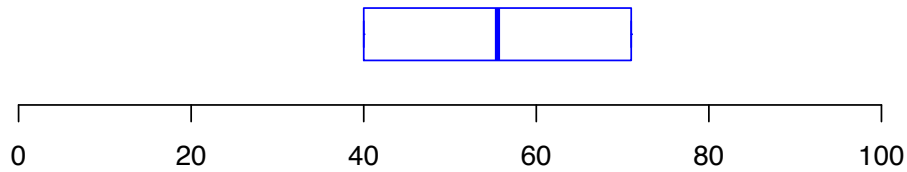
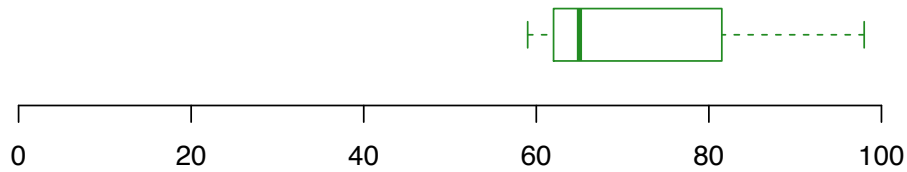
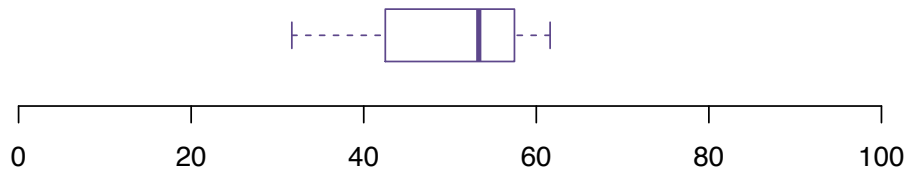
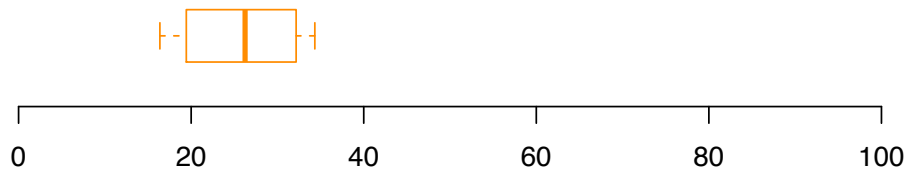
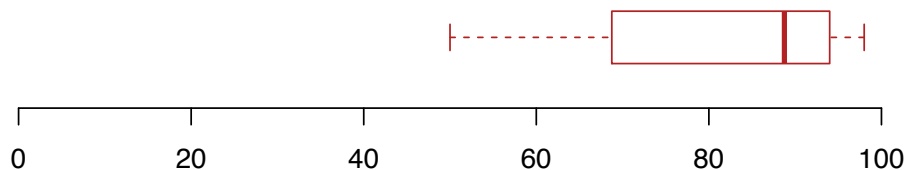


West, Median: 53.75; Weighted mean: 50.41



Box Plots: The center bar and edges of the box show the median and 1st and 3rd quartiles, respectively. The whiskers extend to points that are no more than 1.5 times the interquartile range, points outside this range are outliers (open circles).

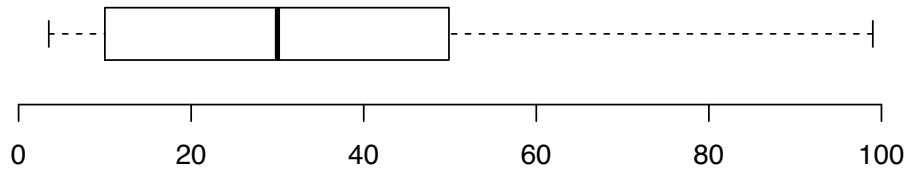
(c) Feedlot

National, Median: 56.17; Weighted mean: 43.85**Northeast**, Median: 55.5; Weighted mean: 53.45**Southeast**, Median: 65; Weighted mean: 68.55**Upper Midwest**, Median: 53.33; Weighted mean: 51.35**Plains**, Median: 26.25; Weighted mean: 22.79**West**, Median: 88.75; Weighted mean: 86.9

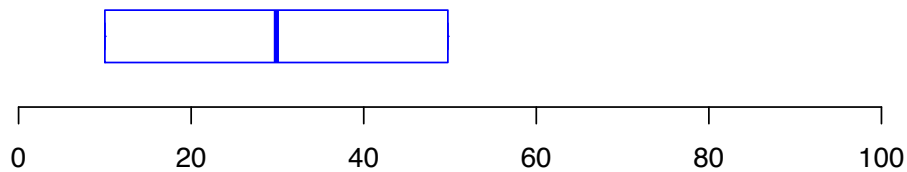
Box Plots: The center bar and edges of the box show the median and 1st and 3rd quartiles, respectively. The whiskers extend to points that are no more than 1.5 times the interquartile range, points outside this range are outliers (open circles).

11. Consider 100 shipments of beef cattle and calves from anywhere in your state that are moving to graze on public lands. Of these 100 shipments, how many will leave the state?

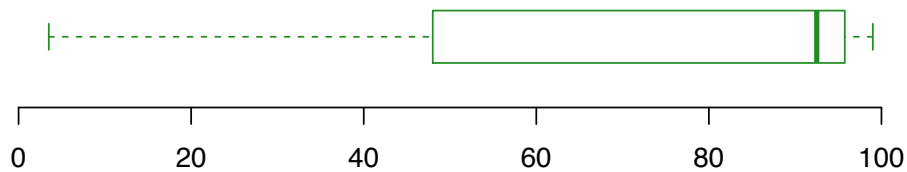
National, Median: 30; Weighted mean: 37.79



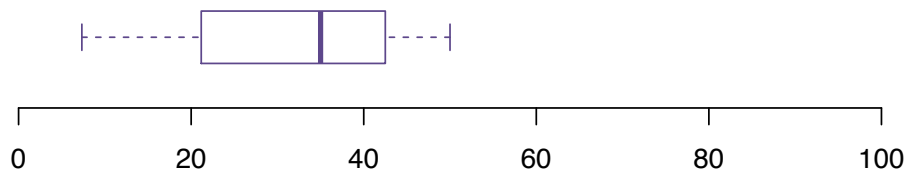
Northeast, Median: 29.88; Weighted mean: 27.25



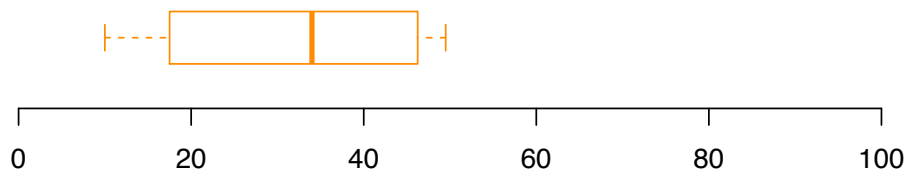
Southeast, Median: 92.5; Weighted mean: 63.65



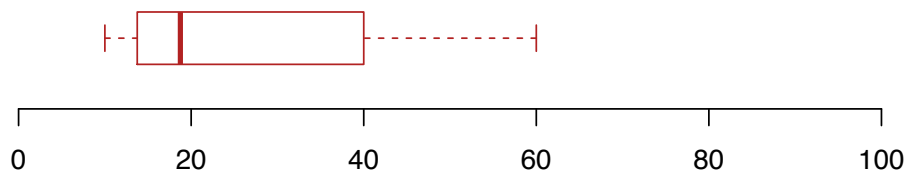
Upper Midwest, Median: 35; Weighted mean: 39.01



Plains, Median: 34; Weighted mean: 37.75



West, Median: 18.75; Weighted mean: 20.85

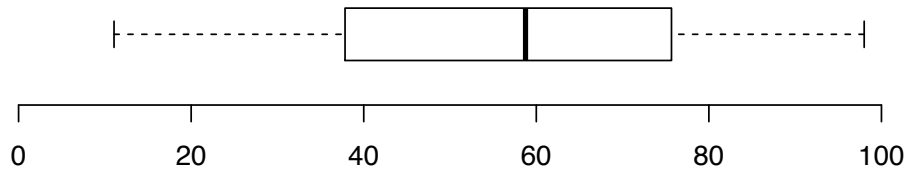


Box Plots: The center bar and edges of the box show the median and 1st and 3rd quartiles, respectively. The whiskers extend to points that are no more than 1.5 times the interquartile range, points outside this range are outliers (open circles).

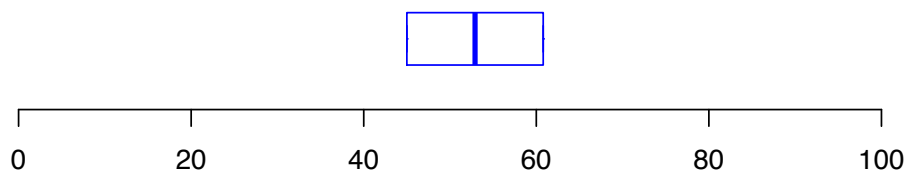
12. Consider 100 shipments of beef cattle of the following types originating at a market. For each of the following, out of 100 shipments, how many will leave the state?

(a) steers

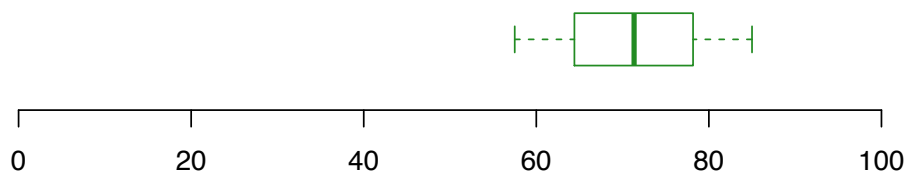
National, Median: 58.75; Weighted mean: 42.85



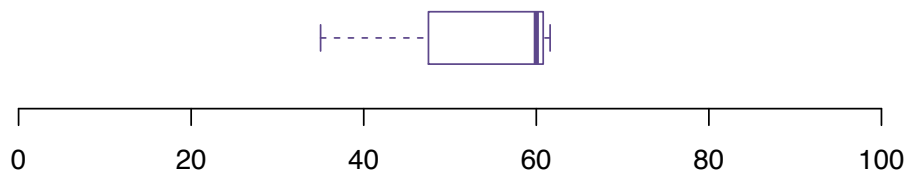
Northeast, Median: 52.9; Weighted mean: 51.86



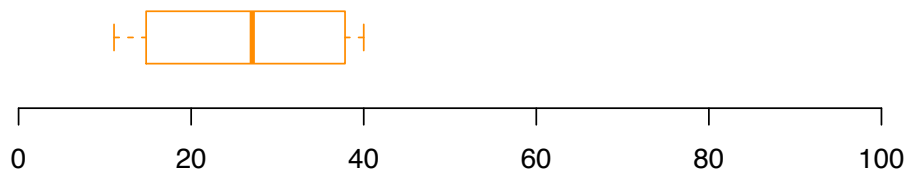
Southeast, Median: 71.33; Weighted mean: 69.29



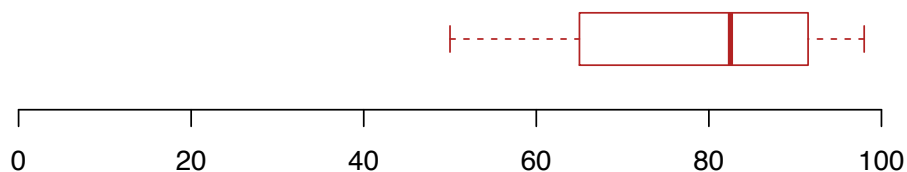
Upper Midwest, Median: 60; Weighted mean: 55.91



Plains, Median: 27.08; Weighted mean: 20.54

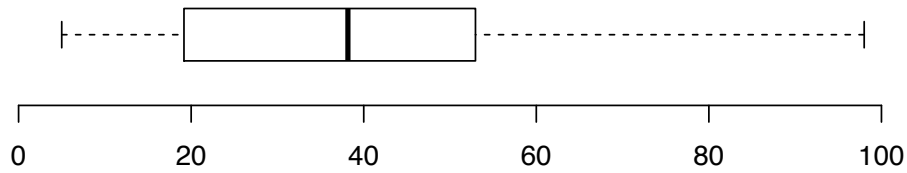
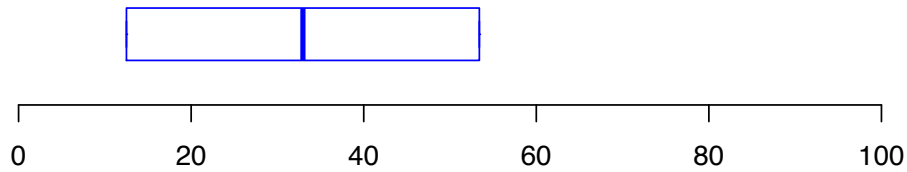
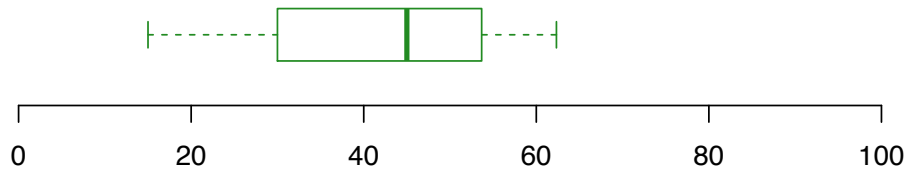
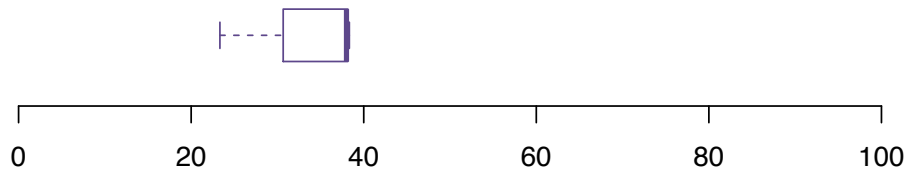
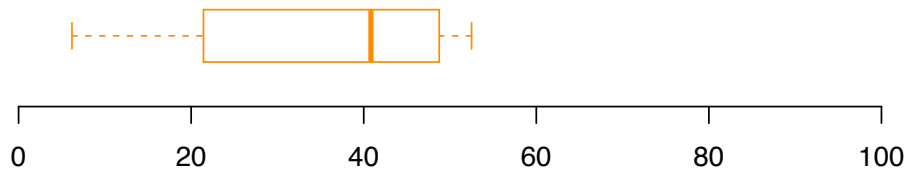
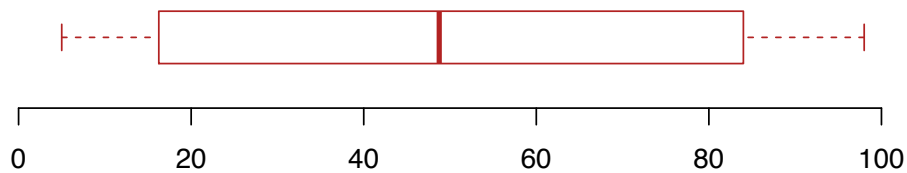


West, Median: 82.5; Weighted mean: 85.59



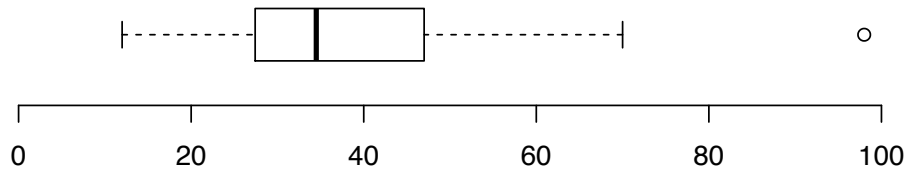
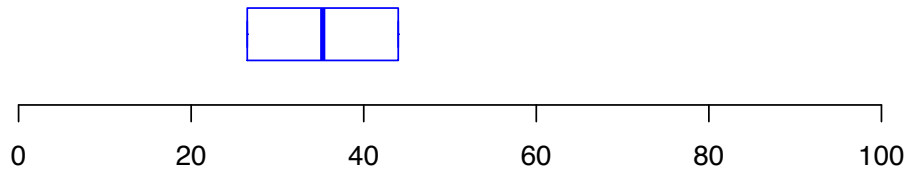
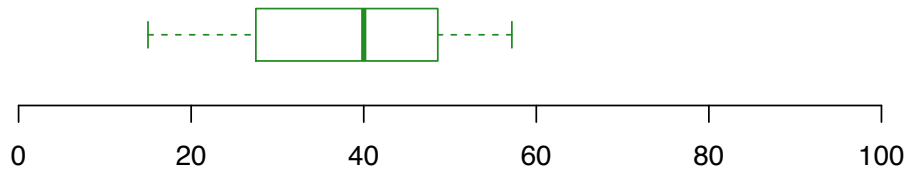
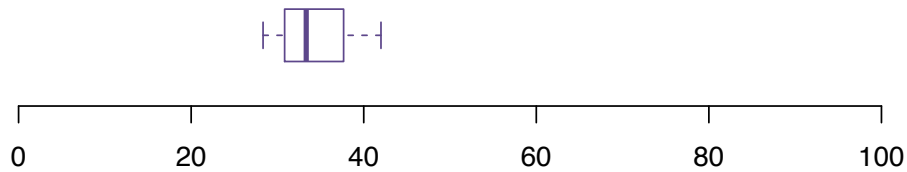
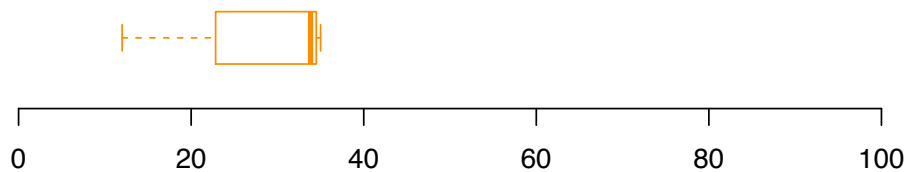
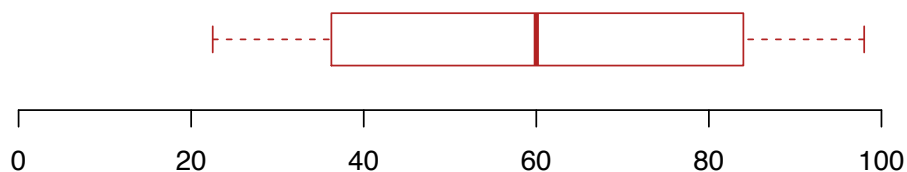
Box Plots: The center bar and edges of the box show the median and 1st and 3rd quartiles, respectively. The whiskers extend to points that are no more than 1.5 times the interquartile range, points outside this range are outliers (open circles).

(b) bulls

National, Median: 38.17; Weighted mean: 35.14**Northeast**, Median: 32.95; Weighted mean: 30.25**Southeast**, Median: 45; Weighted mean: 42.98**Upper Midwest**, Median: 38; Weighted mean: 29.33**Plains**, Median: 40.83; Weighted mean: 24.97**West**, Median: 48.75; Weighted mean: 64.79

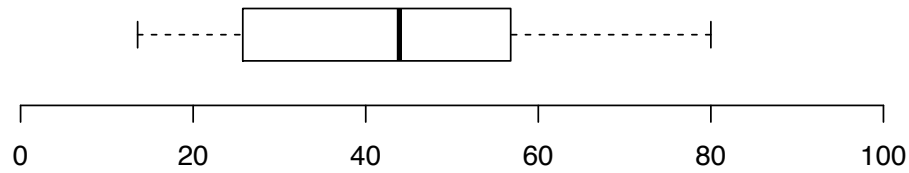
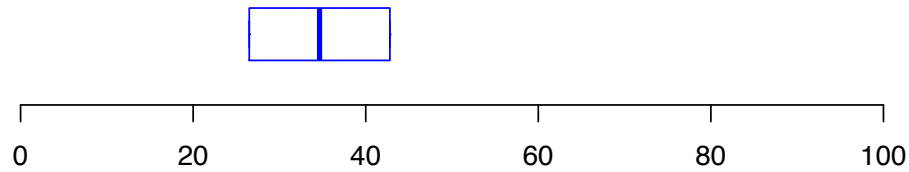
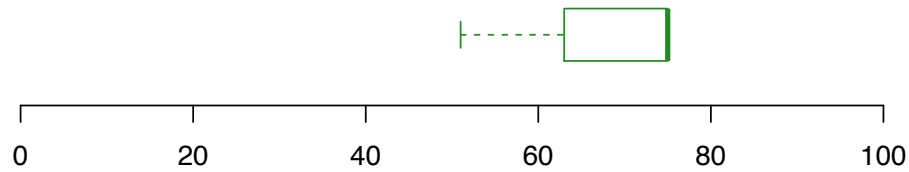
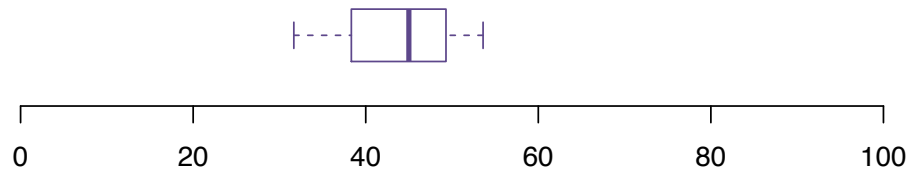
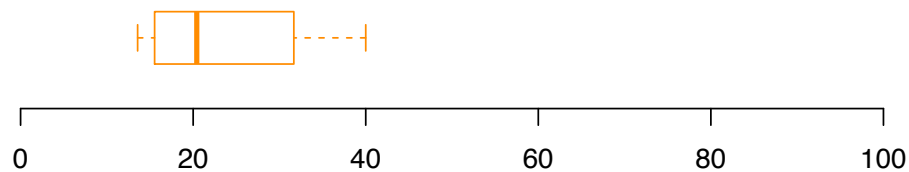
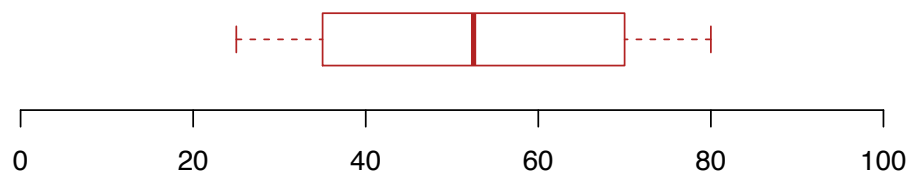
Box Plots: The center bar and edges of the box show the median and 1st and 3rd quartiles, respectively. The whiskers extend to points that are no more than 1.5 times the interquartile range, points outside this range are outliers (open circles).

(c) cows

National, Median: 34.5; Weighted mean: 35.61**Northeast**, Median: 35.25; Weighted mean: 34.09**Southeast**, Median: 40; Weighted mean: 39.59**Upper Midwest**, Median: 33.33; Weighted mean: 34.41**Plains**, Median: 33.83; Weighted mean: 23.33**West**, Median: 60; Weighted mean: 71.44

Box Plots: The center bar and edges of the box show the median and 1st and 3rd quartiles, respectively. The whiskers extend to points that are no more than 1.5 times the interquartile range, points outside this range are outliers (open circles).

(d) heifers

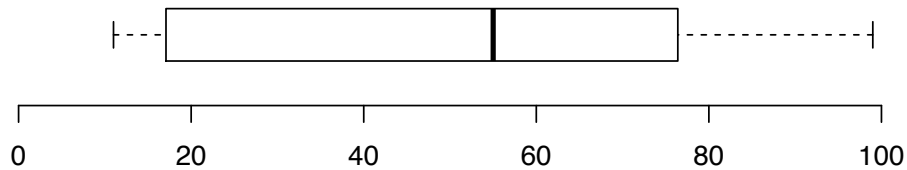
National, Median: 43.9; Weighted mean: 35.24**Northeast**, Median: 34.65; Weighted mean: 33.57**Southeast**, Median: 75; Weighted mean: 63.75**Upper Midwest**, Median: 45; Weighted mean: 44.57**Plains**, Median: 20.42; Weighted mean: 18.82**West**, Median: 52.5; Weighted mean: 61.53

Box Plots: The center bar and edges of the box show the median and 1st and 3rd quartiles, respectively. The whiskers extend to points that are no more than 1.5 times the interquartile range, points outside this range are outliers (open circles).

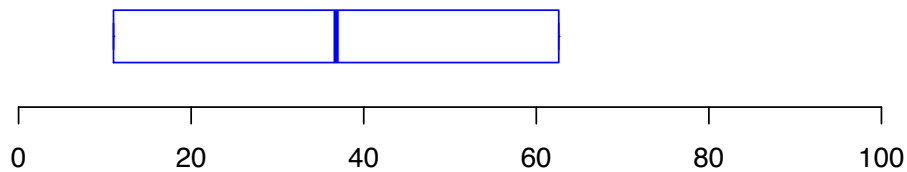
13. Consider 100 shipments of beef cattle originating from the following locations traveling directly to slaughter. For each of the following, out of 100 shipments, how many will leave the state?

(a) Anywhere in the state

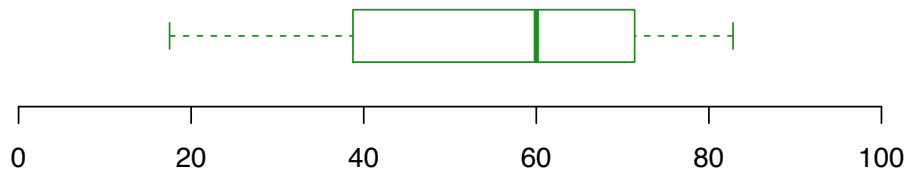
National, Median: 55; Weighted mean: 42.53



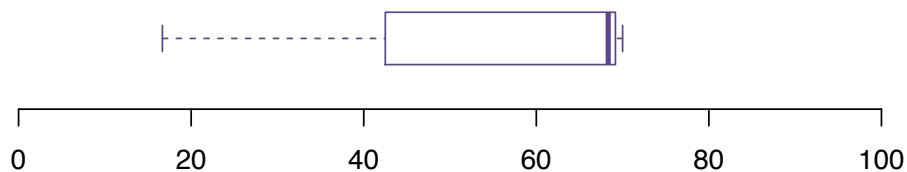
Northeast, Median: 36.8; Weighted mean: 33.39



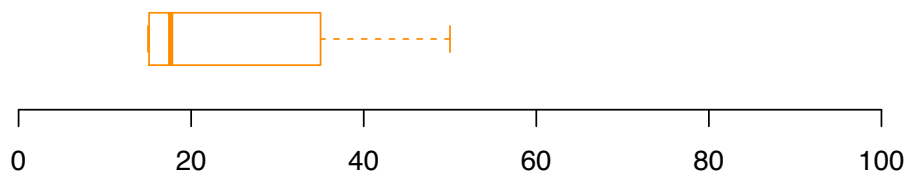
Southeast, Median: 60; Weighted mean: 56.31



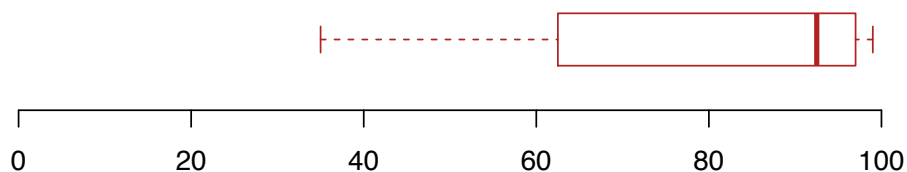
Upper Midwest, Median: 68.33; Weighted mean: 59.51



Plains, Median: 17.62; Weighted mean: 23.28

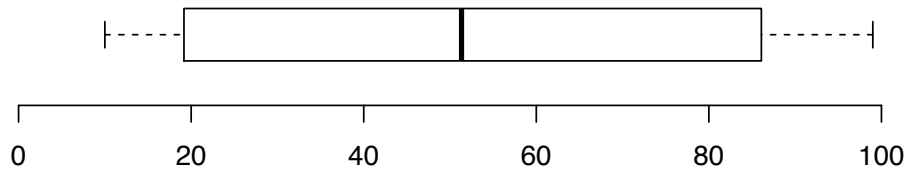
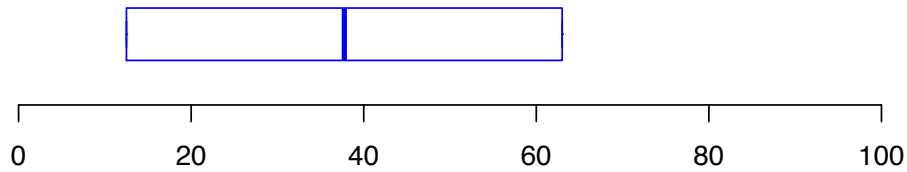
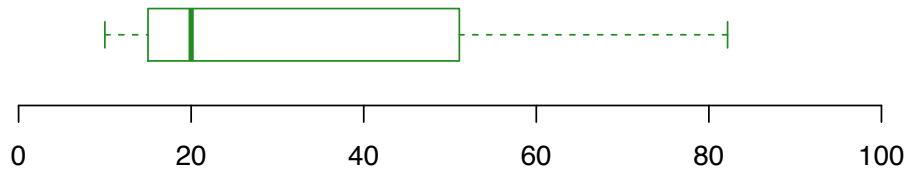
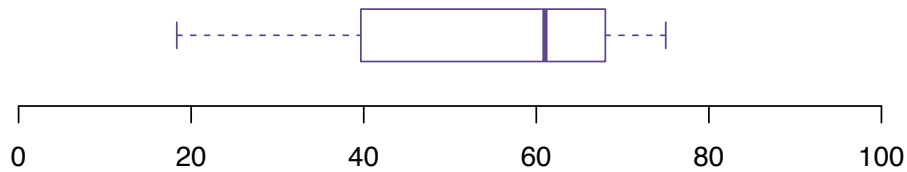
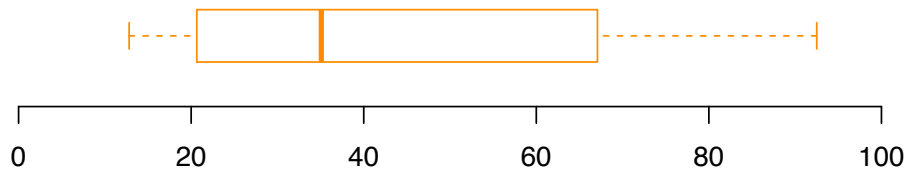
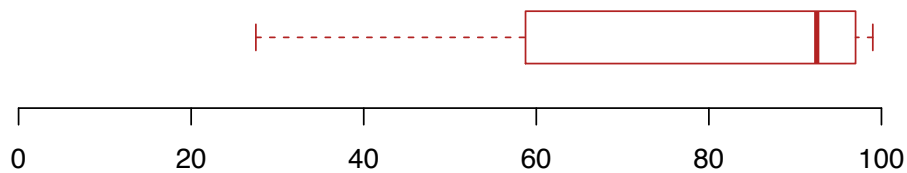


West, Median: 92.5; Weighted mean: 83.92



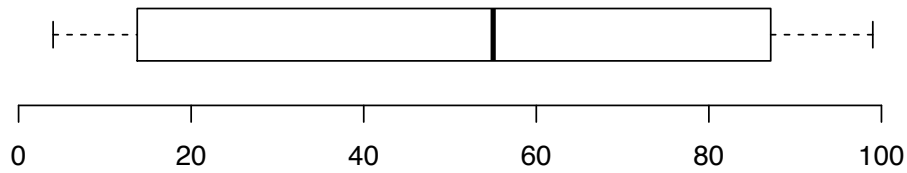
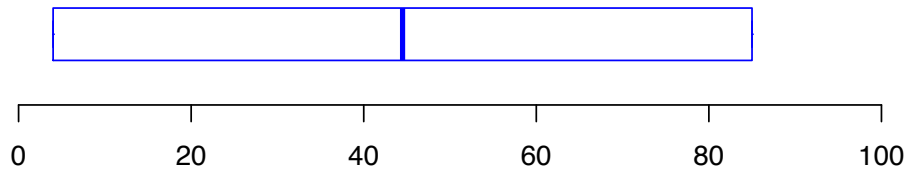
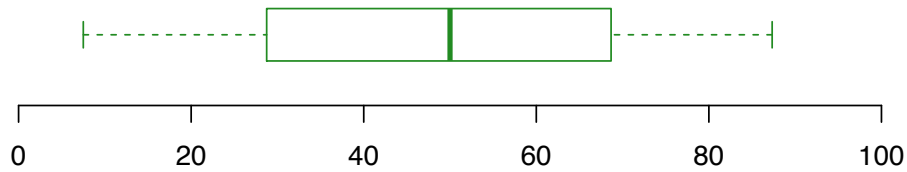
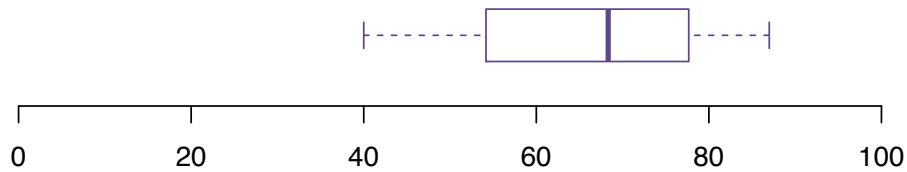
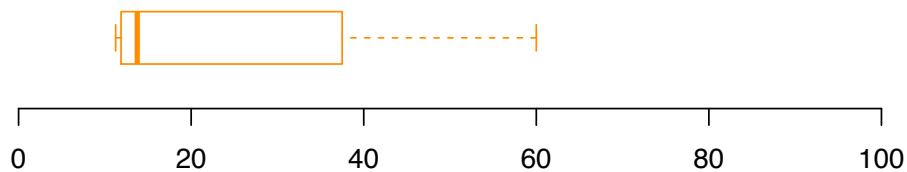
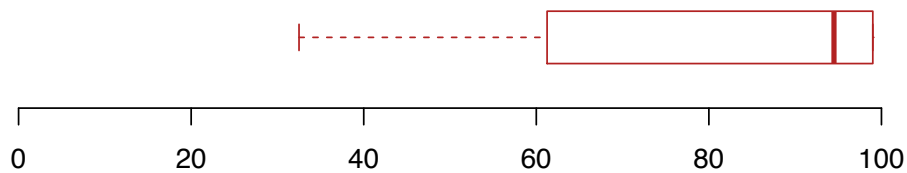
Box Plots: The center bar and edges of the box show the median and 1st and 3rd quartiles, respectively. The whiskers extend to points that are no more than 1.5 times the interquartile range, points outside this range are outliers (open circles).

(b) Cow-Calf operations

National, Median: 51.33; Weighted mean: 44.8**Northeast**, Median: 37.75; Weighted mean: 34.42**Southeast**, Median: 20; Weighted mean: 47.22**Upper Midwest**, Median: 61; Weighted mean: 61.74**Plains**, Median: 35.08; Weighted mean: 29.33**West**, Median: 92.5; Weighted mean: 82.32

Box Plots: The center bar and edges of the box show the median and 1st and 3rd quartiles, respectively. The whiskers extend to points that are no more than 1.5 times the interquartile range, points outside this range are outliers (open circles).

(c) Feedlot

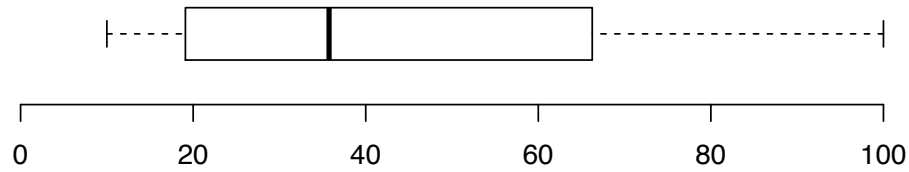
National, Median: 55; Weighted mean: 42.69**Northeast**, Median: 44.5; Weighted mean: 39.15**Southeast**, Median: 50; Weighted mean: 53.13**Upper Midwest**, Median: 68.33; Weighted mean: 67.52**Plains**, Median: 13.75; Weighted mean: 22.59**West**, Median: 94.5; Weighted mean: 84.07

Box Plots: The center bar and edges of the box show the median and 1st and 3rd quartiles, respectively. The whiskers extend to points that are no more than 1.5 times the interquartile range, points outside this range are outliers (open circles).

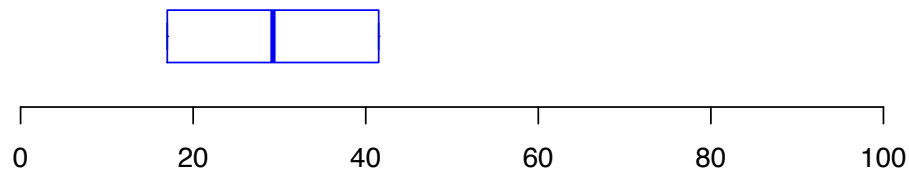
Dairy Shipments

14. Consider 100 farms that have dairy cattle. How many of these farms will routinely send cattle out of state?

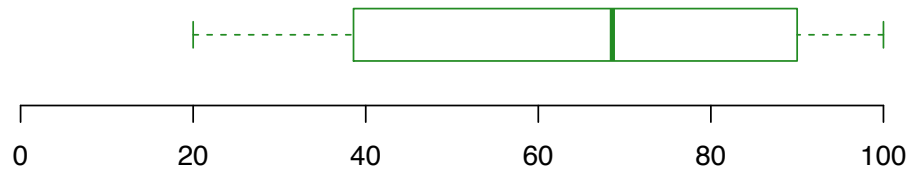
National, Median: 35.75; Weighted mean: 21.8



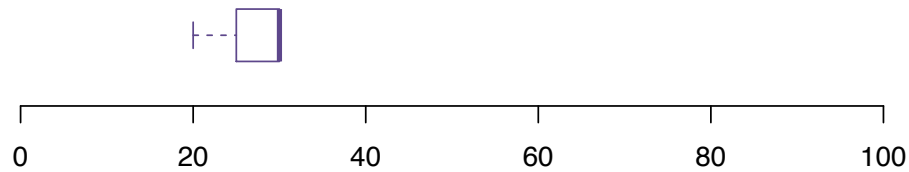
Northeast, Median: 29.25; Weighted mean: 30.16



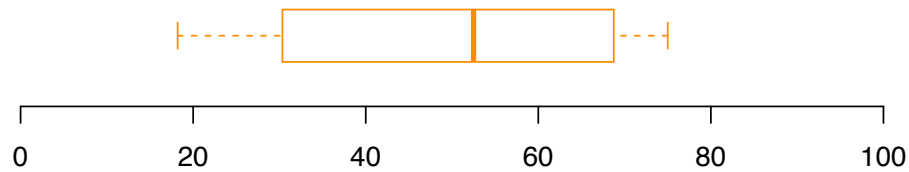
Southeast, Median: 68.58; Weighted mean: 61.64



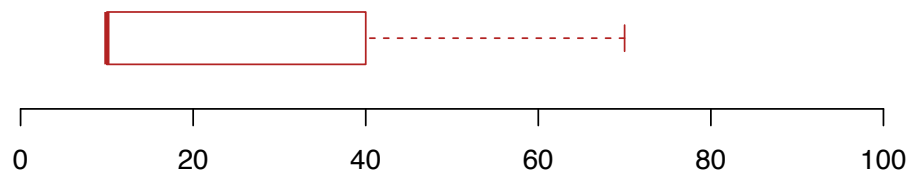
Upper Midwest, Median: 30; Weighted mean: 23.44



Plains, Median: 52.5; Weighted mean: 30



West, Median: 10; Weighted mean: 10.7

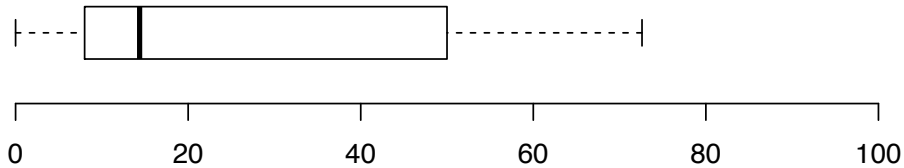


Box Plots: The center bar and edges of the box show the median and 1st and 3rd quartiles, respectively. The whiskers extend to points that are no more than 1.5 times the interquartile range, points outside this range are outliers (open circles).

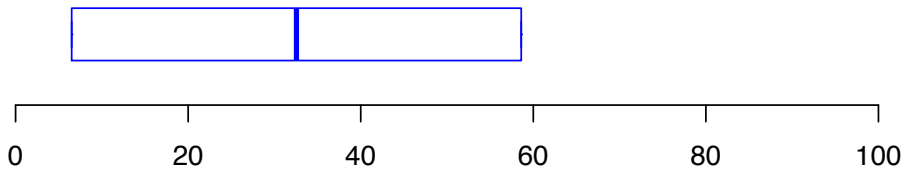
15. Consider 100 shipments of dairy cattle and calves originating from operations that have herds of the following sizes. For each of the following, out of 100 shipments, how many will leave the state?

(a) Herds with 1-99 head

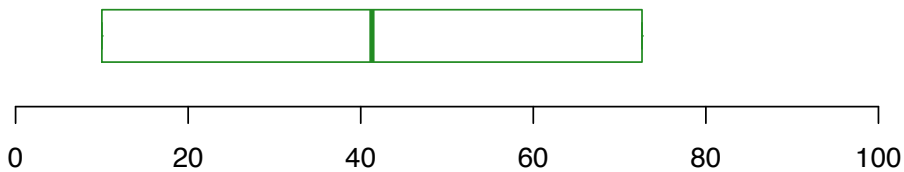
National, Median: 14.38; Weighted mean: 12.98



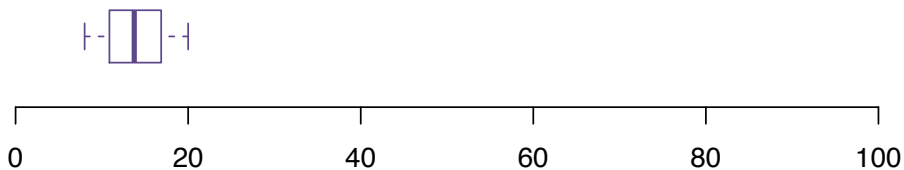
Northeast, Median: 32.55; Weighted mean: 34.48



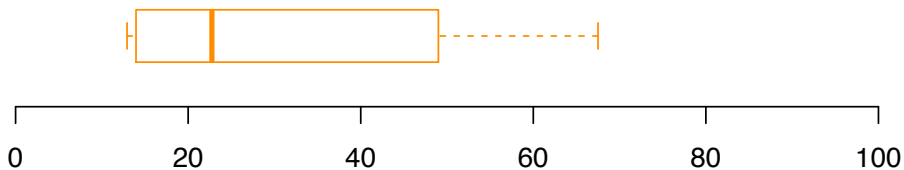
Southeast, Median: 41.3; Weighted mean: 41.3



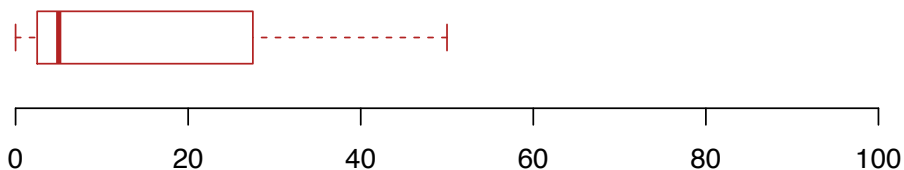
Upper Midwest, Median: 13.75; Weighted mean: 10.66



Plains, Median: 22.75; Weighted mean: 18.49

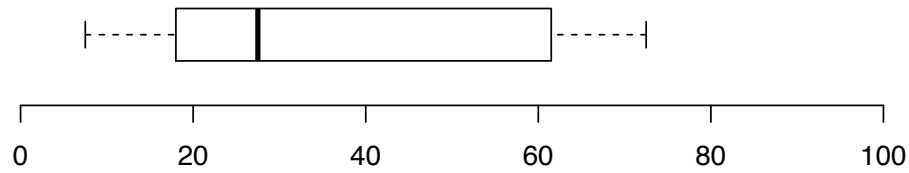
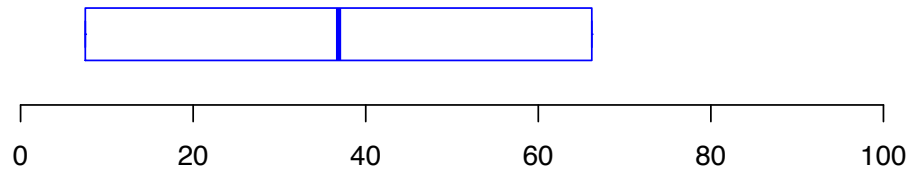
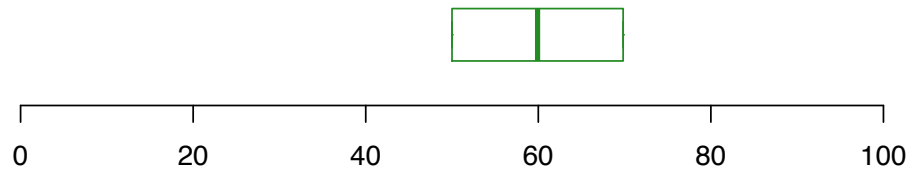
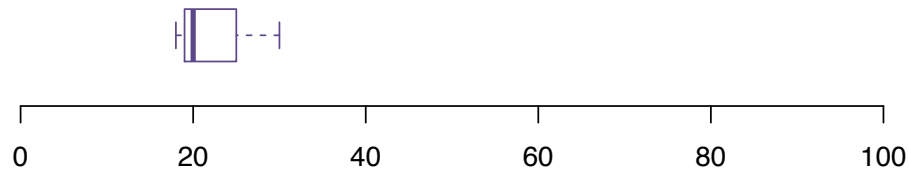
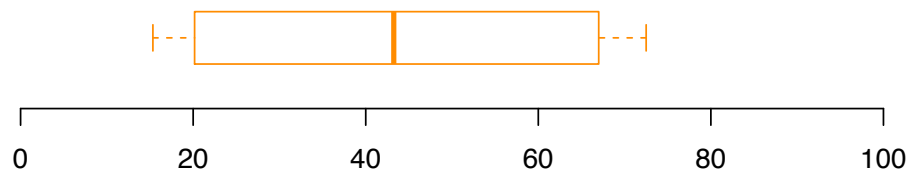
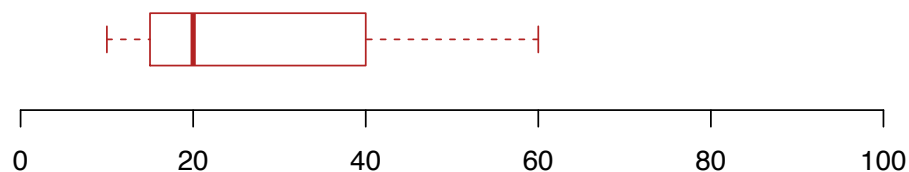


West, Median: 5; Weighted mean: 1.8



Box Plots: The center bar and edges of the box show the median and 1st and 3rd quartiles, respectively. The whiskers extend to points that are no more than 1.5 times the interquartile range, points outside this range are outliers (open circles).

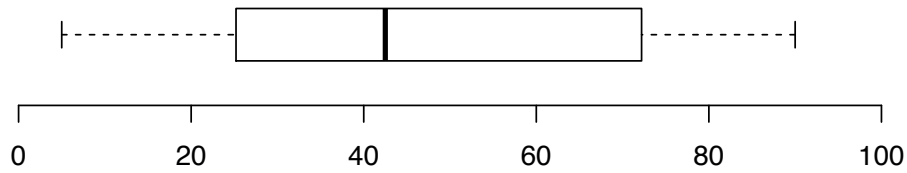
(b) Herds with 100-499 head

National, Median: 27.5; Weighted mean: 23.99**Northeast**, Median: 36.85; Weighted mean: 39.03**Southeast**, Median: 59.92; Weighted mean: 59.92**Upper Midwest**, Median: 20; Weighted mean: 20.61**Plains**, Median: 43.25; Weighted mean: 24.27**West**, Median: 20; Weighted mean: 18.04

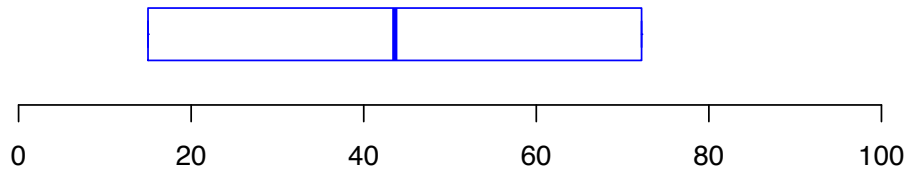
Box Plots: The center bar and edges of the box show the median and 1st and 3rd quartiles, respectively. The whiskers extend to points that are no more than 1.5 times the interquartile range, points outside this range are outliers (open circles).

(c) Herds with 500 or more head

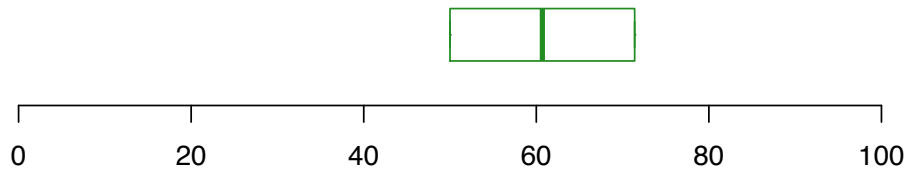
National, Median: 42.5; Weighted mean: 25.74



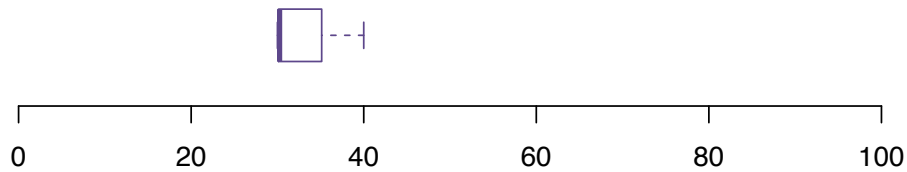
Northeast, Median: 43.6; Weighted mean: 45.72



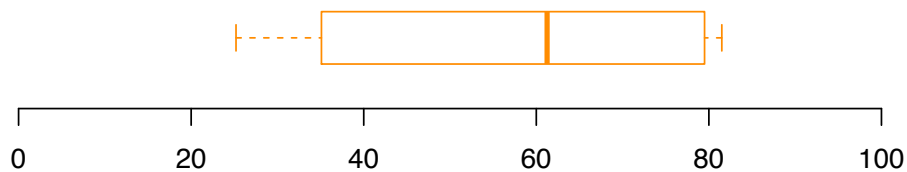
Southeast, Median: 60.7; Weighted mean: 60.7



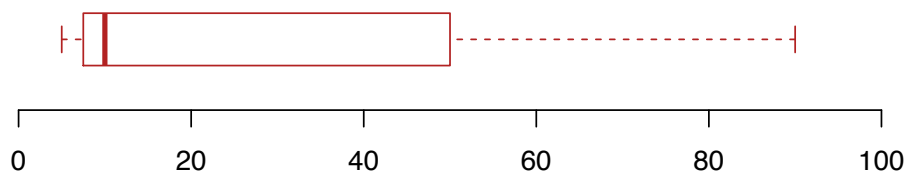
Upper Midwest, Median: 30.25; Weighted mean: 31.14



Plains, Median: 61.25; Weighted mean: 36.41



West, Median: 10; Weighted mean: 7.21

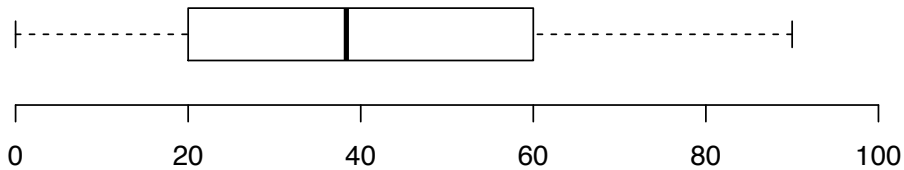


Box Plots: The center bar and edges of the box show the median and 1st and 3rd quartiles, respectively. The whiskers extend to points that are no more than 1.5 times the interquartile range, points outside this range are outliers (open circles).

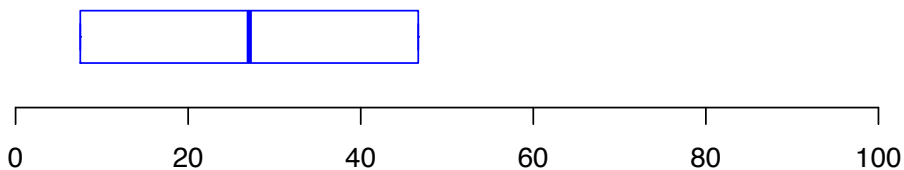
16. Consider 100 shipments of dairy cattle and calves originating at the following types of operations. For each of the following, how many will leave the state?

(a) Feedlot or grazing operation

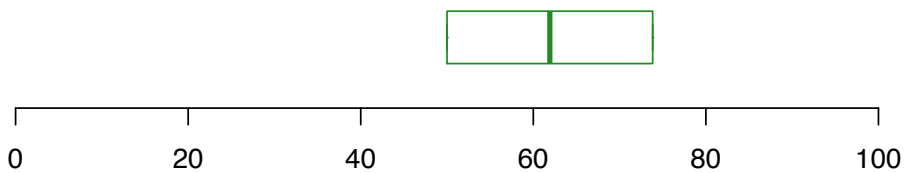
National, Median: 38.33; Weighted mean: 23.39



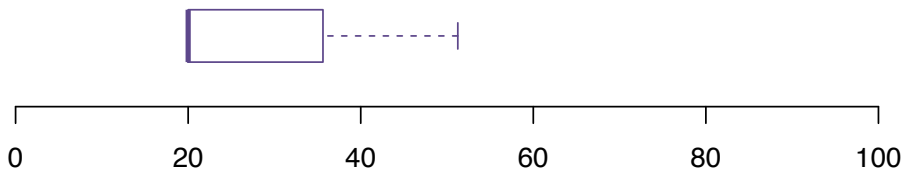
Northeast, Median: 27.08; Weighted mean: 28.54



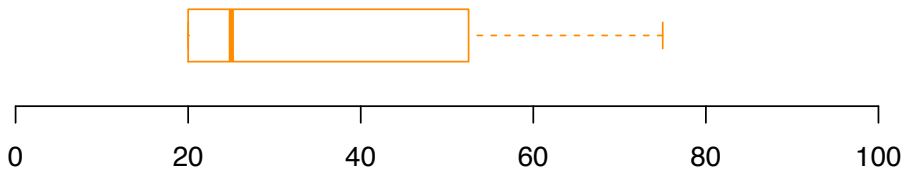
Southeast, Median: 61.92; Weighted mean: 61.92



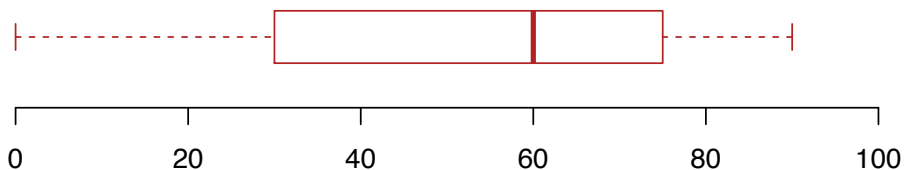
Upper Midwest, Median: 20; Weighted mean: 27.39



Plains, Median: 25; Weighted mean: 25.15

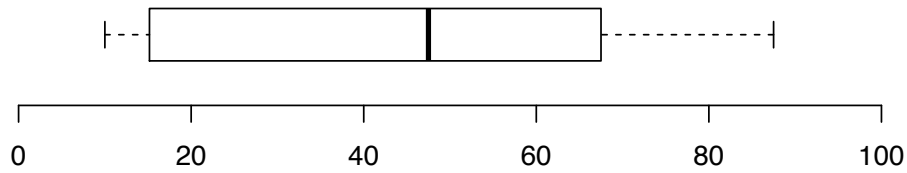
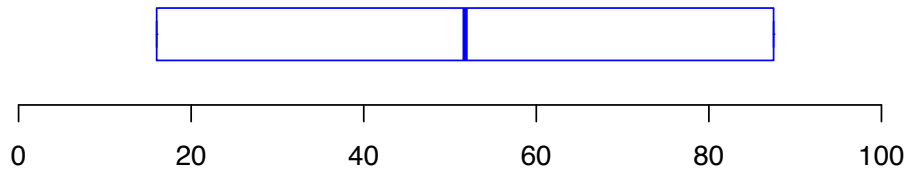
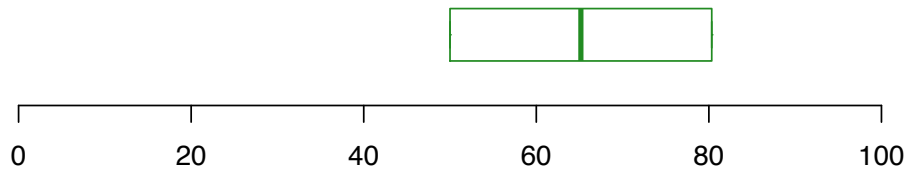
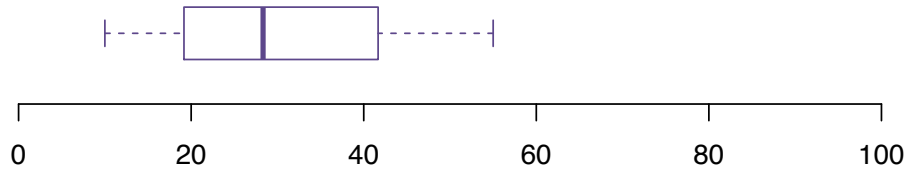
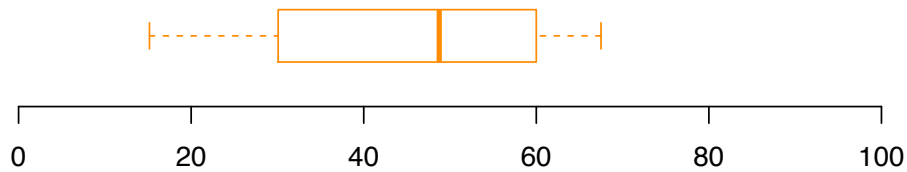
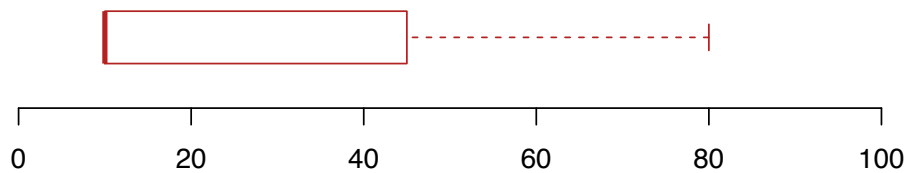


West, Median: 60; Weighted mean: 15.61



Box Plots: The center bar and edges of the box show the median and 1st and 3rd quartiles, respectively. The whiskers extend to points that are no more than 1.5 times the interquartile range, points outside this range are outliers (open circles).

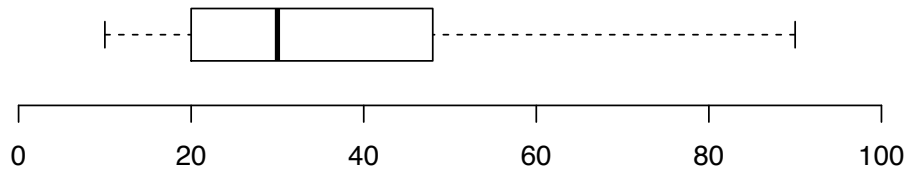
(b) Market or Salebarn

National, Median: 47.5; Weighted mean: 28.21**Northeast**, Median: 51.75; Weighted mean: 54.4**Southeast**, Median: 65.17; Weighted mean: 65.17**Upper Midwest**, Median: 28.33; Weighted mean: 32.66**Plains**, Median: 48.75; Weighted mean: 27.36**West**, Median: 10; Weighted mean: 10.82

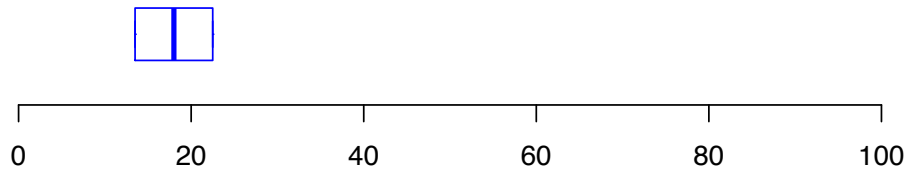
Box Plots: The center bar and edges of the box show the median and 1st and 3rd quartiles, respectively. The whiskers extend to points that are no more than 1.5 times the interquartile range, points outside this range are outliers (open circles).

(c) Heifer-raising facility (e.g. calf-ranch, calf-nursery, heifer-raiser, etc)

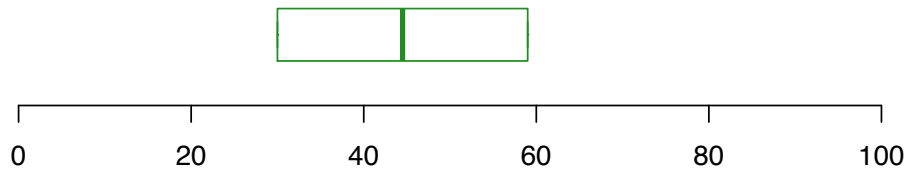
National, Median: 30; Weighted mean: 22.1



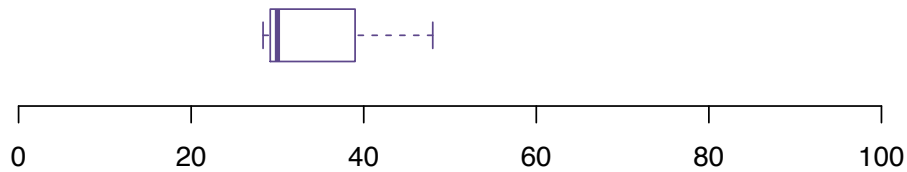
Northeast, Median: 18; Weighted mean: 18.33



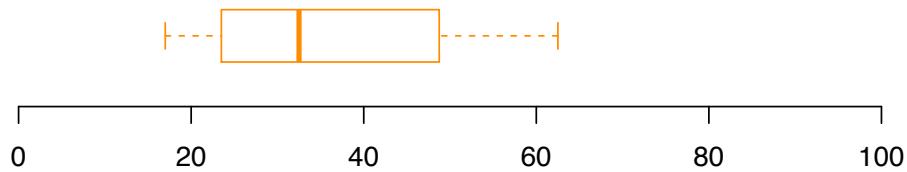
Southeast, Median: 44.5; Weighted mean: 44.5



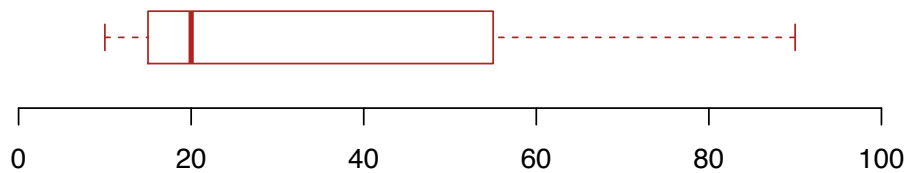
Upper Midwest, Median: 30; Weighted mean: 33.16



Plains, Median: 32.5; Weighted mean: 24.24



West, Median: 20; Weighted mean: 13.36

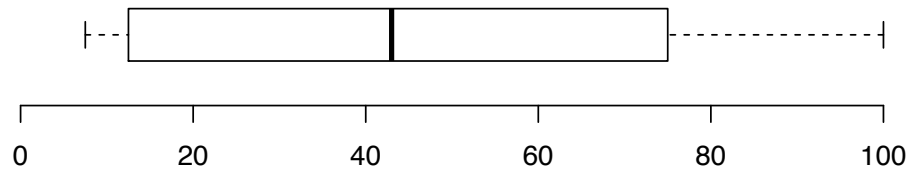


Box Plots: The center bar and edges of the box show the median and 1st and 3rd quartiles, respectively. The whiskers extend to points that are no more than 1.5 times the interquartile range, points outside this range are outliers (open circles).

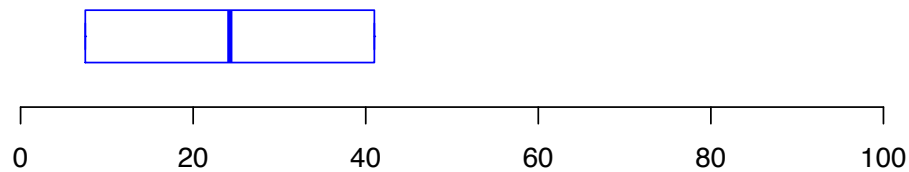
17. Consider 100 shipments of dairy cattle and calves from anywhere in your state traveling to the following destinations. For each of the following, out of 100 shipments, how many will leave the state?

(a) Feedlot or grazing operation

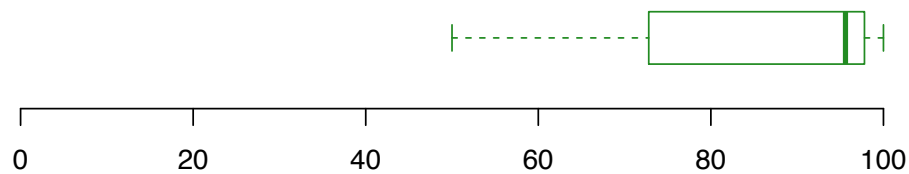
National, Median: 43; Weighted mean: 25.9



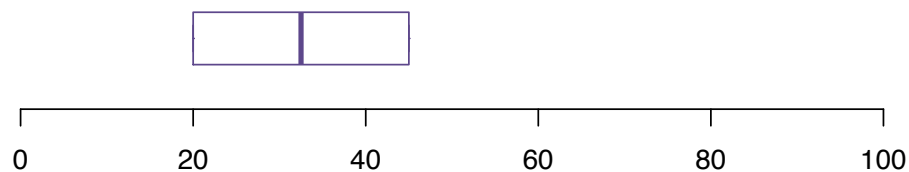
Northeast, Median: 24.25; Weighted mean: 25.49



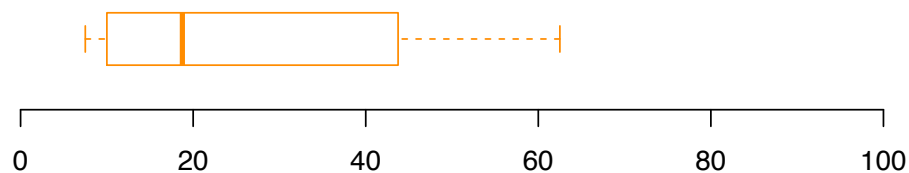
Southeast, Median: 95.6; Weighted mean: 75.88



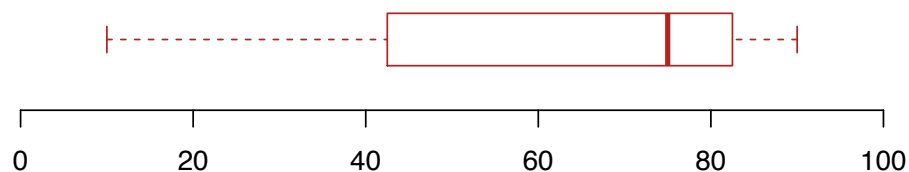
Upper Midwest, Median: 32.5; Weighted mean: 26.63



Plains, Median: 18.75; Weighted mean: 14.56

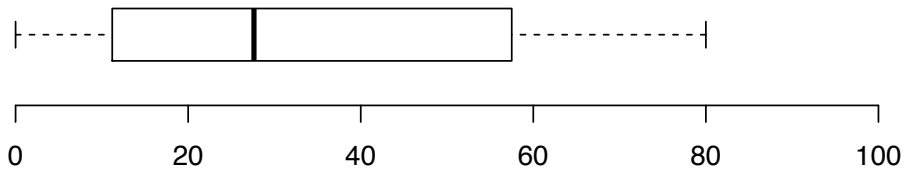
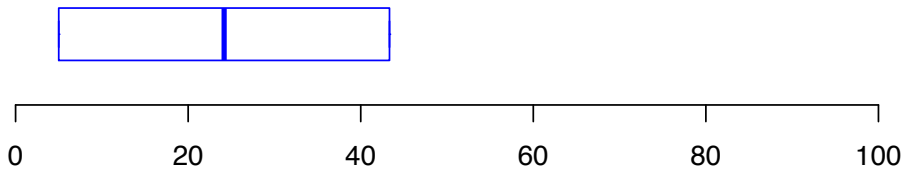
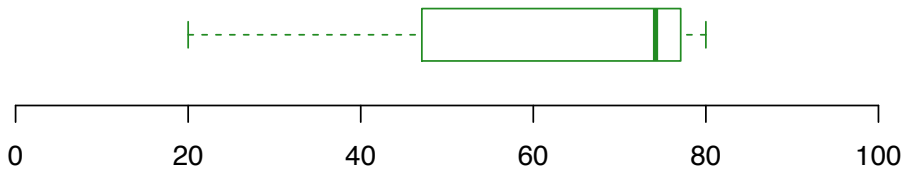
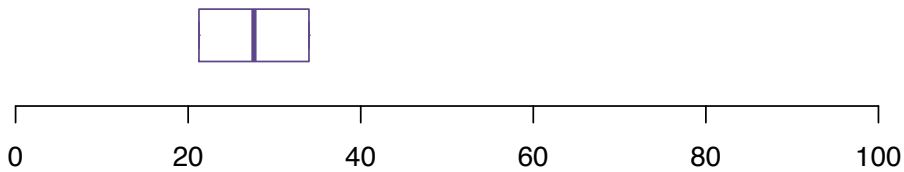
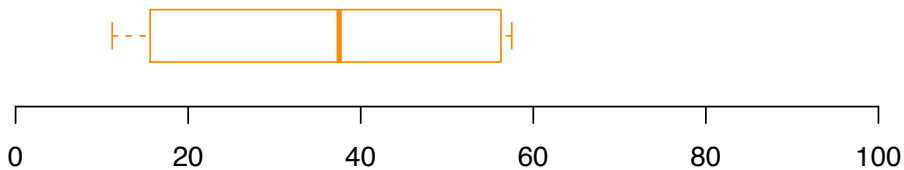
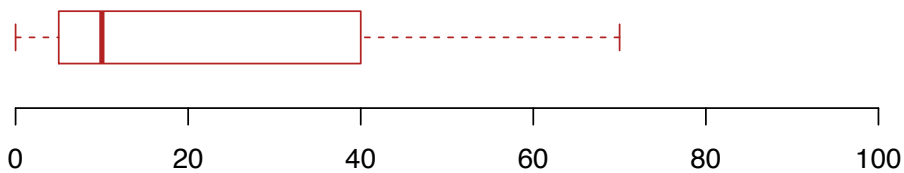


West, Median: 75; Weighted mean: 26.71



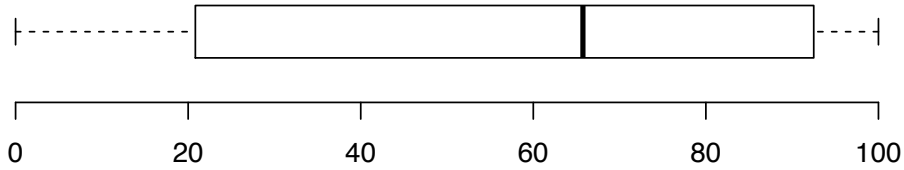
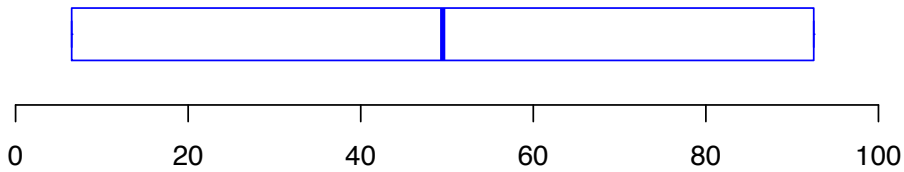
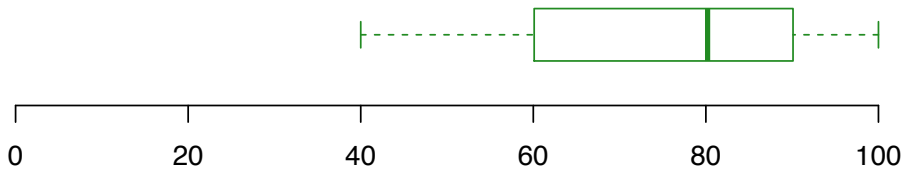
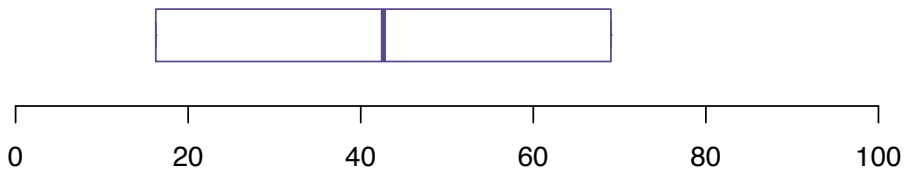
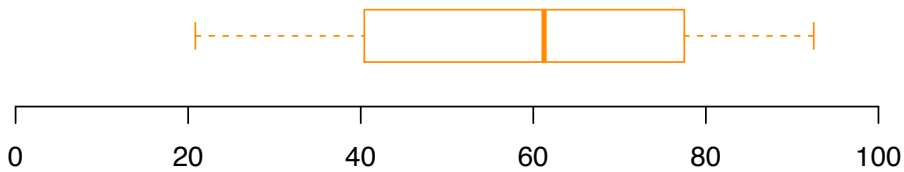
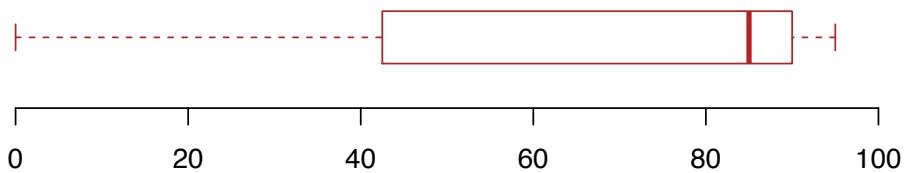
Box Plots: The center bar and edges of the box show the median and 1st and 3rd quartiles, respectively. The whiskers extend to points that are no more than 1.5 times the interquartile range, points outside this range are outliers (open circles).

(b) Market or salebarn

National, Median: 27.62; Weighted mean: 16.22**Northeast**, Median: 24.17; Weighted mean: 25.59**Southeast**, Median: 74.17; Weighted mean: 50.81**Upper Midwest**, Median: 27.62; Weighted mean: 24.63**Plains**, Median: 37.5; Weighted mean: 19**West**, Median: 10; Weighted mean: 3.25

Box Plots: The center bar and edges of the box show the median and 1st and 3rd quartiles, respectively. The whiskers extend to points that are no more than 1.5 times the interquartile range, points outside this range are outliers (open circles).

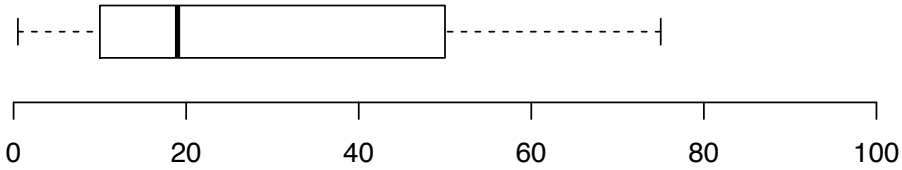
(c) Slaughter

National, Median: 65.75; Weighted mean: 33.31**Northeast**, Median: 49.5; Weighted mean: 52.69**Southeast**, Median: 80.2; Weighted mean: 64.62**Upper Midwest**, Median: 42.62; Weighted mean: 30.24**Plains**, Median: 61.25; Weighted mean: 36.06**West**, Median: 85; Weighted mean: 24.04

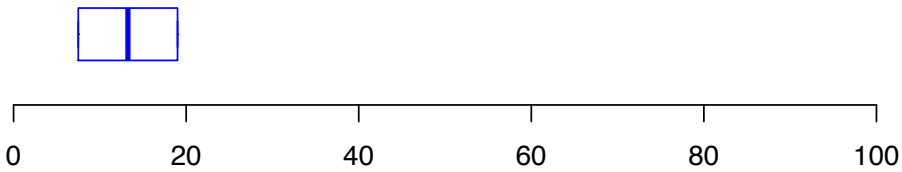
Box Plots: The center bar and edges of the box show the median and 1st and 3rd quartiles, respectively. The whiskers extend to points that are no more than 1.5 times the interquartile range, points outside this range are outliers (open circles).

(d) Show or exhibition

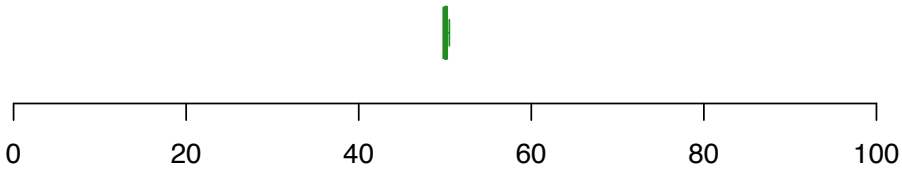
National, Median: 19; Weighted mean: 13.12



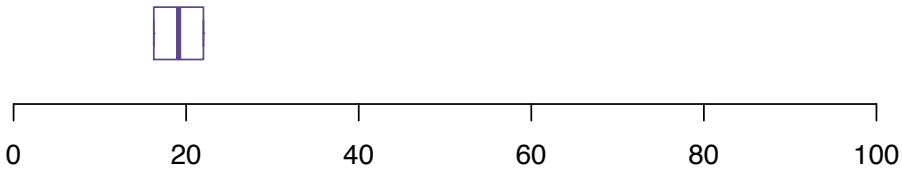
Northeast, Median: 13.25; Weighted mean: 13.68



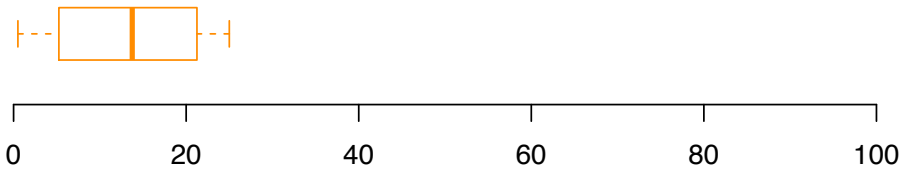
Southeast, Median: 50; Weighted mean: 50.22



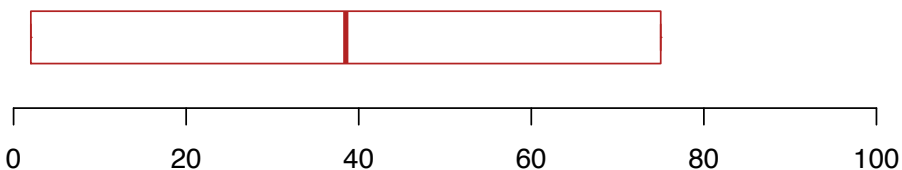
Upper Midwest, Median: 19.12; Weighted mean: 17.77



Plains, Median: 13.75; Weighted mean: 20.75



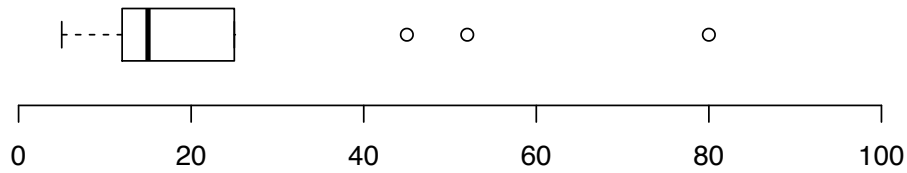
West, Median: 38.5; Weighted mean: 3.13



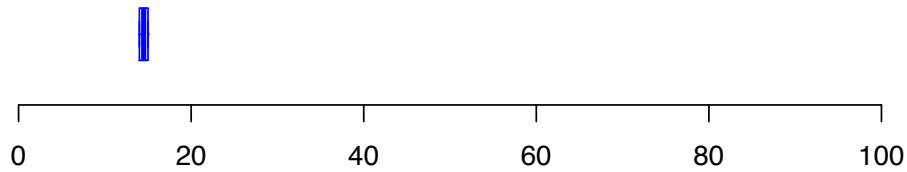
Box Plots: The center bar and edges of the box show the median and 1st and 3rd quartiles, respectively. The whiskers extend to points that are no more than 1.5 times the interquartile range, points outside this range are outliers (open circles).

(e) Another dairy operation

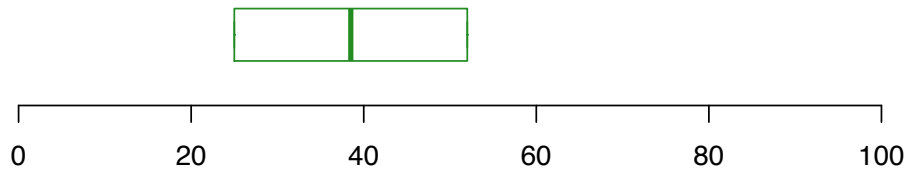
National, Median: 15; Weighted mean: 16.22



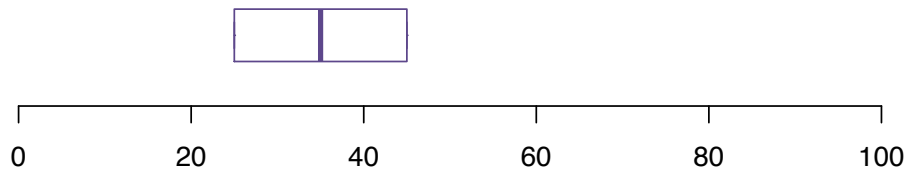
Northeast, Median: 14.5; Weighted mean: 14.46



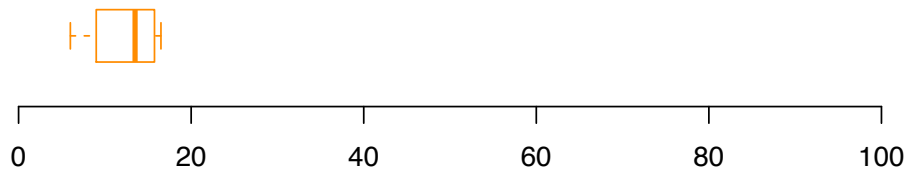
Southeast, Median: 38.5; Weighted mean: 38.5



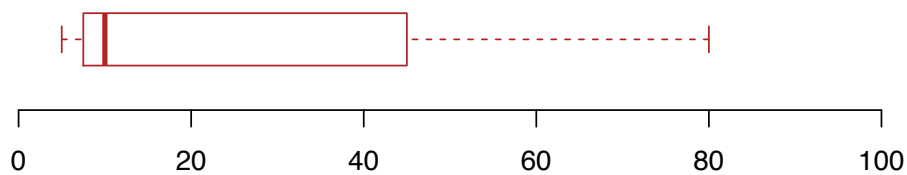
Upper Midwest, Median: 35; Weighted mean: 30.3



Plains, Median: 13.5; Weighted mean: 12.41



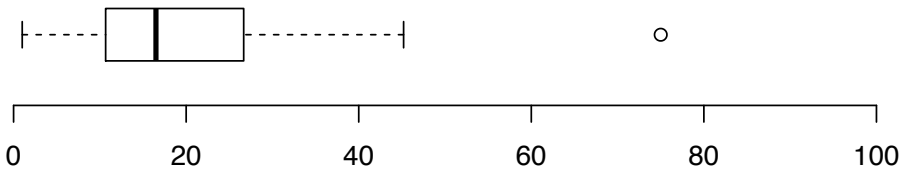
West, Median: 10; Weighted mean: 7.09



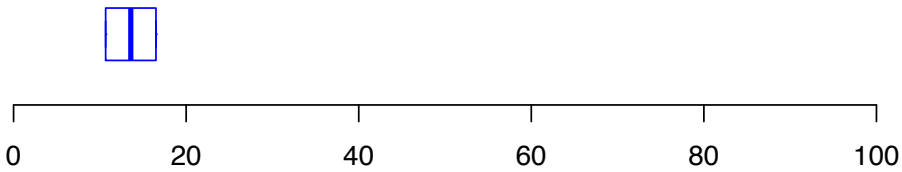
Box Plots: The center bar and edges of the box show the median and 1st and 3rd quartiles, respectively. The whiskers extend to points that are no more than 1.5 times the interquartile range, points outside this range are outliers (open circles).

(f) Another dairy operation for breeding purposes

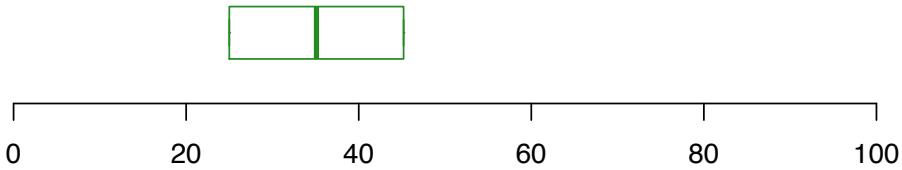
National, Median: 16.5; Weighted mean: 14.99



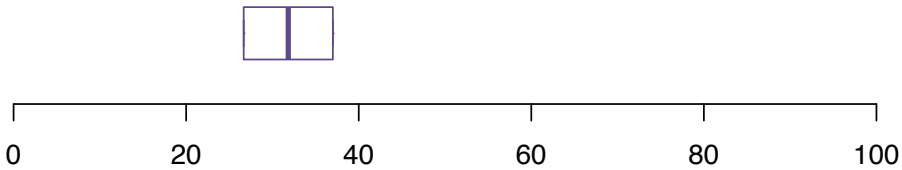
Northeast, Median: 13.58; Weighted mean: 13.37



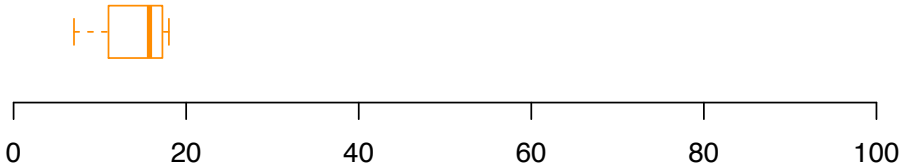
Southeast, Median: 35.1; Weighted mean: 35.1



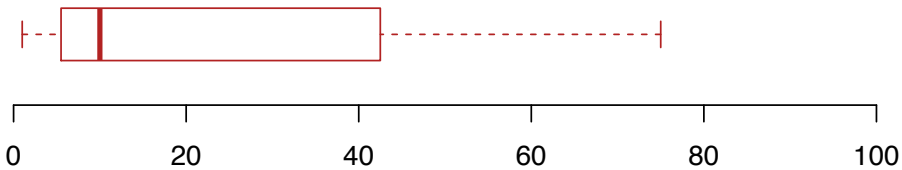
Upper Midwest, Median: 31.83; Weighted mean: 29.41



Plains, Median: 15.75; Weighted mean: 16.46



West, Median: 10; Weighted mean: 4.05

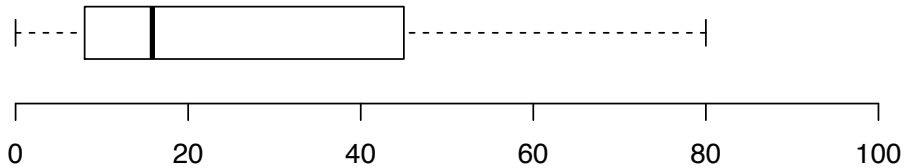


Box Plots: The center bar and edges of the box show the median and 1st and 3rd quartiles, respectively. The whiskers extend to points that are no more than 1.5 times the interquartile range, points outside this range are outliers (open circles).

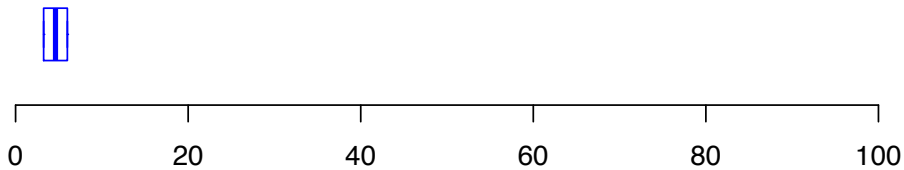
18. Consider 100 shipments of dairy heifer calves from anywhere in your state traveling to the following locations. For each of the following, out of 100 shipments, how many will leave the state?

(a) calf-ranch/nursery (pre-weaned)

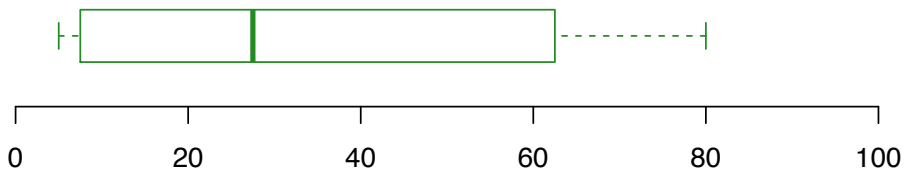
National, Median: 15.85; Weighted mean: 11.51



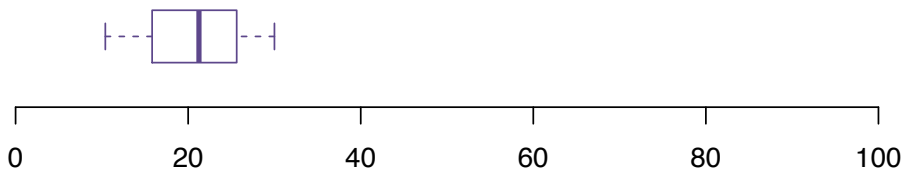
Northeast, Median: 4.62; Weighted mean: 4.52



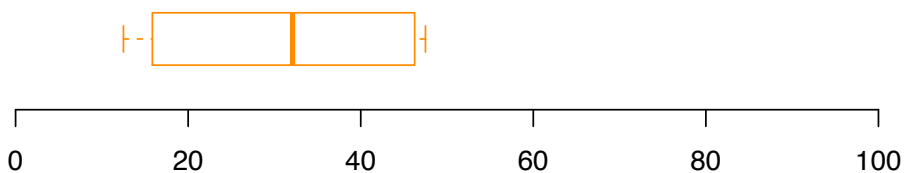
Southeast, Median: 27.5; Weighted mean: 20.15



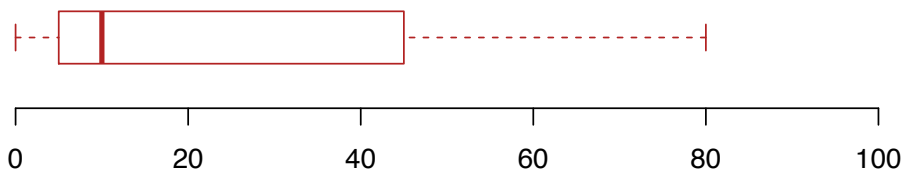
Upper Midwest, Median: 21.25; Weighted mean: 19.63



Plains, Median: 32.1; Weighted mean: 25.56



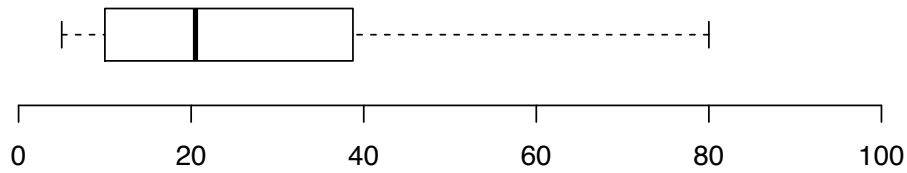
West, Median: 10; Weighted mean: 3.36



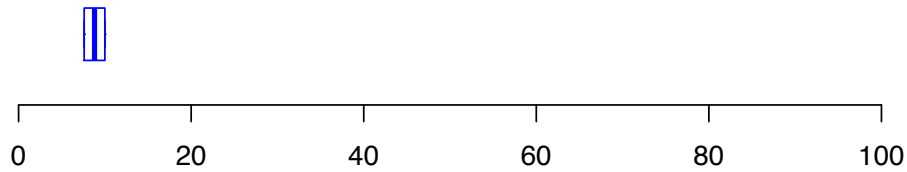
Box Plots: The center bar and edges of the box show the median and 1st and 3rd quartiles, respectively. The whiskers extend to points that are no more than 1.5 times the interquartile range, points outside this range are outliers (open circles).

(b) heifer-raiser (weaned)

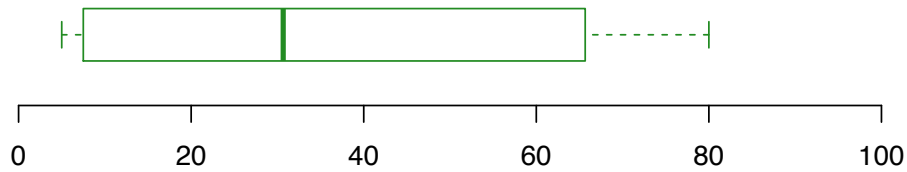
National, Median: 20.5; Weighted mean: 14.83



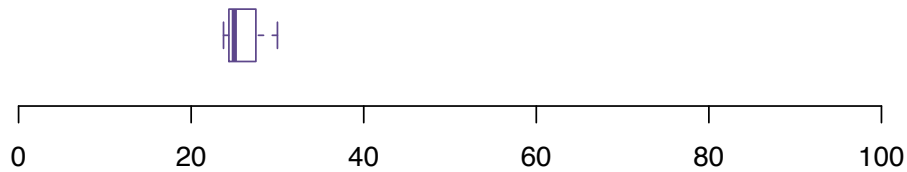
Northeast, Median: 8.8; Weighted mean: 8.71



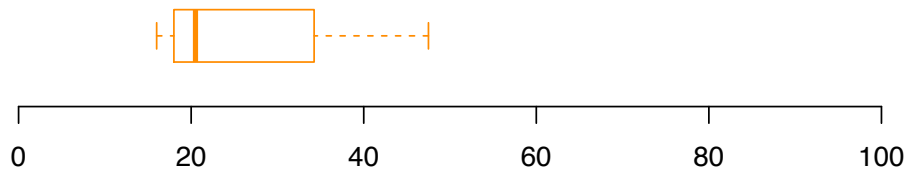
Southeast, Median: 30.67; Weighted mean: 21.65



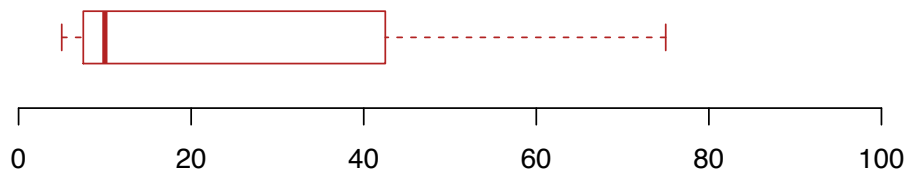
Upper Midwest, Median: 25; Weighted mean: 24.72



Plains, Median: 20.5; Weighted mean: 21.91



West, Median: 10; Weighted mean: 7.03

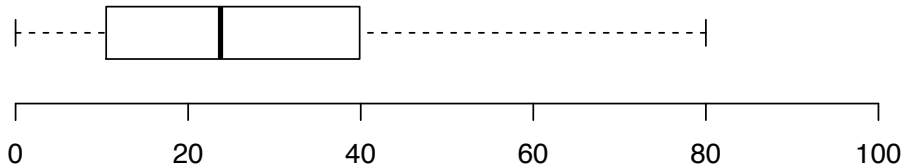


Box Plots: The center bar and edges of the box show the median and 1st and 3rd quartiles, respectively. The whiskers extend to points that are no more than 1.5 times the interquartile range, points outside this range are outliers (open circles).

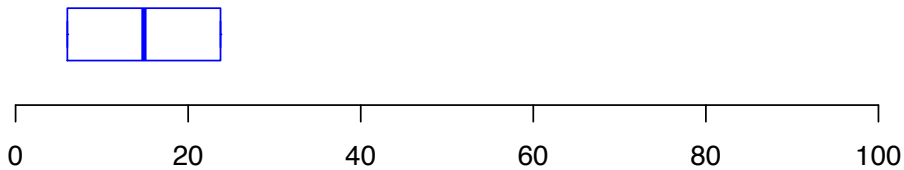
19. Consider 100 shipments of pre-weaned dairy steers or bulls from anywhere in your state traveling to the following locations. For each of the following, out of 100 shipments, how many will leave the state?

(a) Calf-ranch/nursery

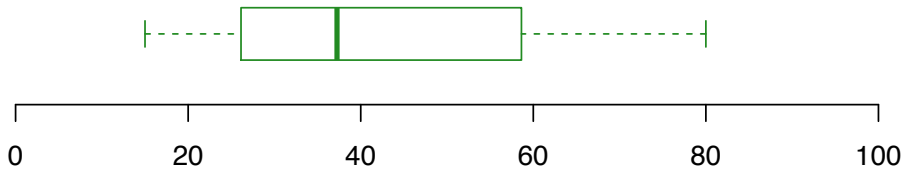
National, Median: 23.75; Weighted mean: 15.83



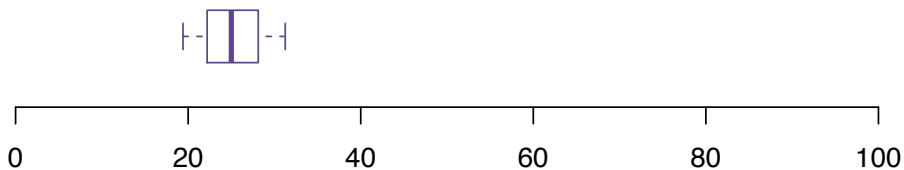
Northeast, Median: 14.88; Weighted mean: 15.53



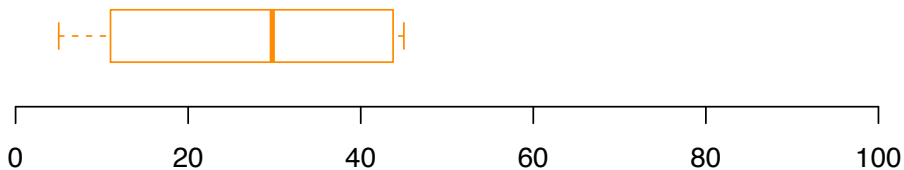
Southeast, Median: 37.25; Weighted mean: 52.92



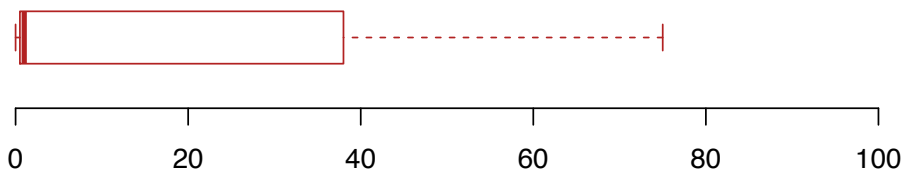
Upper Midwest, Median: 25; Weighted mean: 27.77



Plains, Median: 29.75; Weighted mean: 23.25

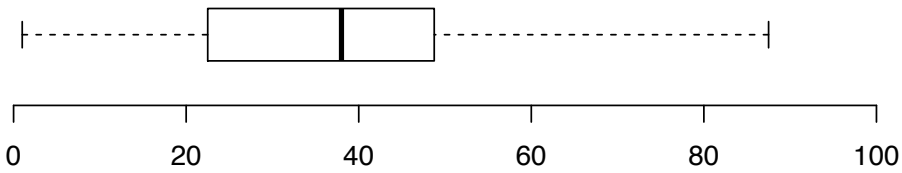
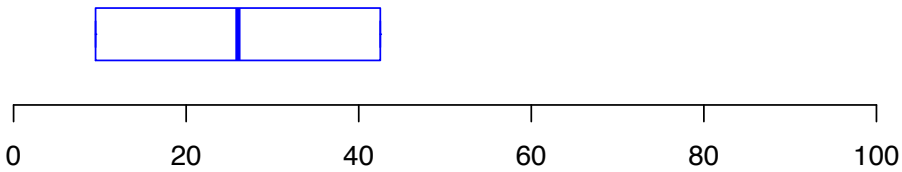
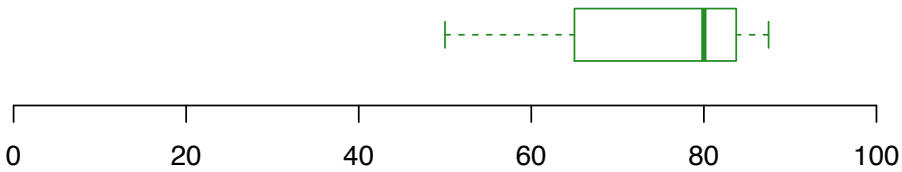
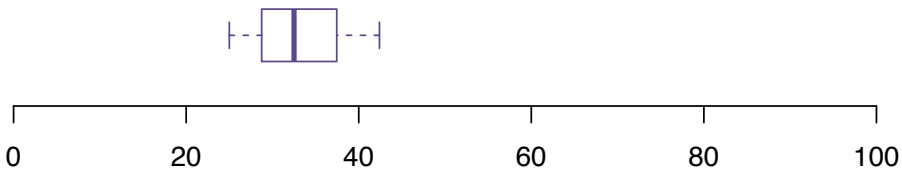
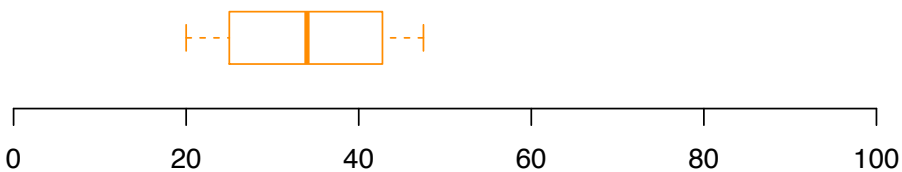
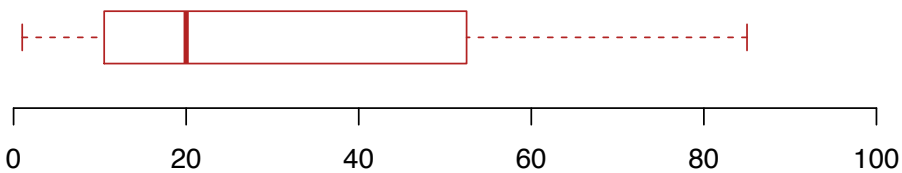


West, Median: 1; Weighted mean: 1.12



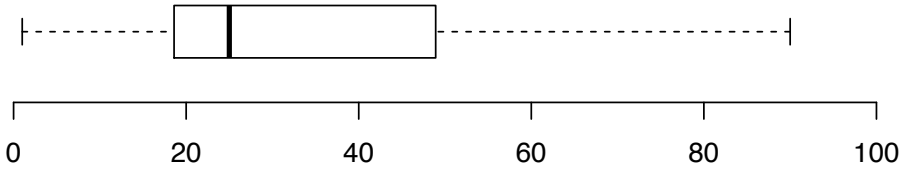
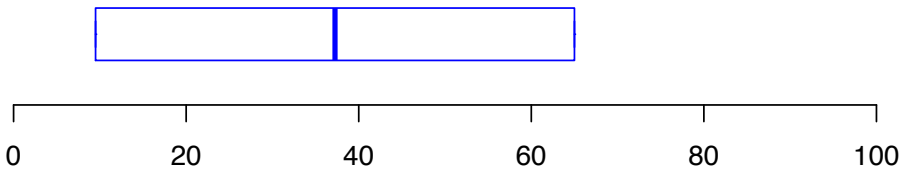
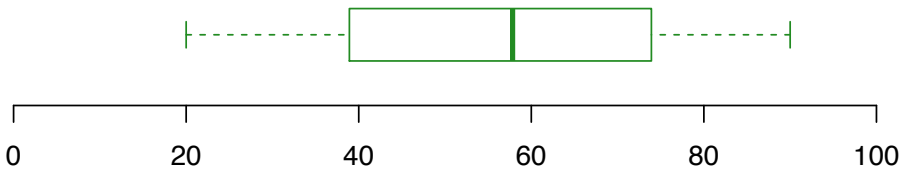
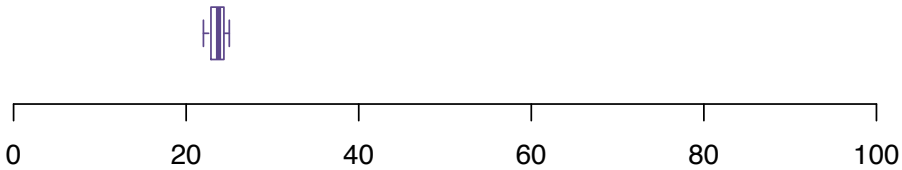
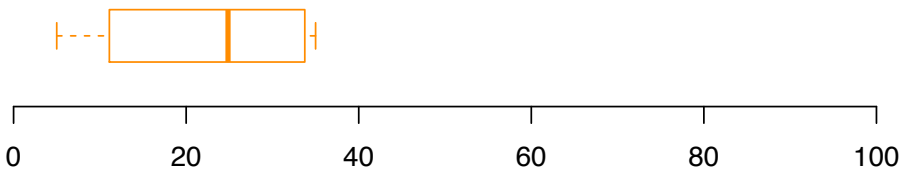
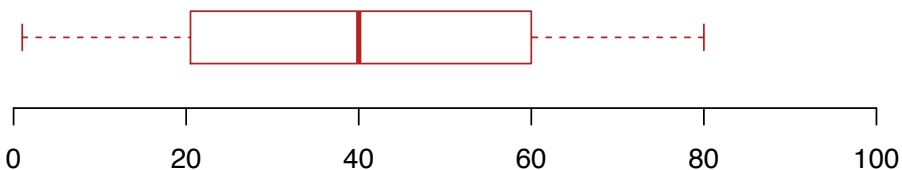
Box Plots: The center bar and edges of the box show the median and 1st and 3rd quartiles, respectively. The whiskers extend to points that are no more than 1.5 times the interquartile range, points outside this range are outliers (open circles).

(b) Feedlot

National, Median: 38; Weighted mean: 27.46**Northeast**, Median: 26; Weighted mean: 27.22**Southeast**, Median: 80; Weighted mean: 74.34**Upper Midwest**, Median: 32.5; Weighted mean: 34.03**Plains**, Median: 34; Weighted mean: 35.53**West**, Median: 20; Weighted mean: 16.15

Box Plots: The center bar and edges of the box show the median and 1st and 3rd quartiles, respectively. The whiskers extend to points that are no more than 1.5 times the interquartile range, points outside this range are outliers (open circles).

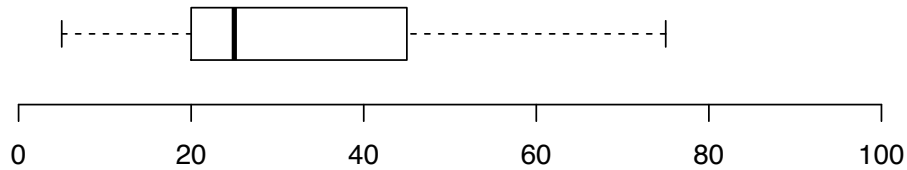
(c) Market or Salebarn

National, Median: 25; Weighted mean: 30.04**Northeast**, Median: 37.25; Weighted mean: 39.31**Southeast**, Median: 57.83; Weighted mean: 64.32**Upper Midwest**, Median: 23.75; Weighted mean: 23.47**Plains**, Median: 24.85; Weighted mean: 20.77**West**, Median: 40; Weighted mean: 31.01

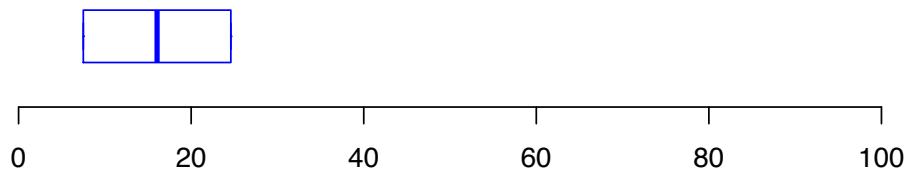
Box Plots: The center bar and edges of the box show the median and 1st and 3rd quartiles, respectively. The whiskers extend to points that are no more than 1.5 times the interquartile range, points outside this range are outliers (open circles).

20. Consider 100 shipments of weaned heifers or pregnant heifers originating at a heifer-raising facility. Of these 100 shipments, how many will leave the state?

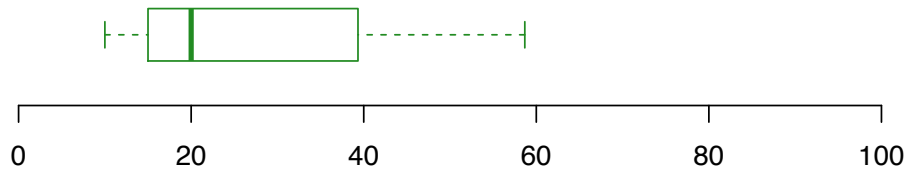
National, Median: 25; Weighted mean: 19.28



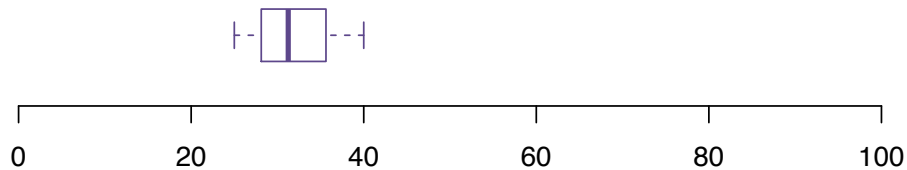
Northeast, Median: 16.05; Weighted mean: 16.68



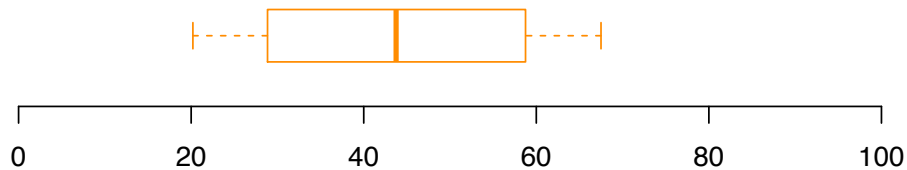
Southeast, Median: 20; Weighted mean: 24.75



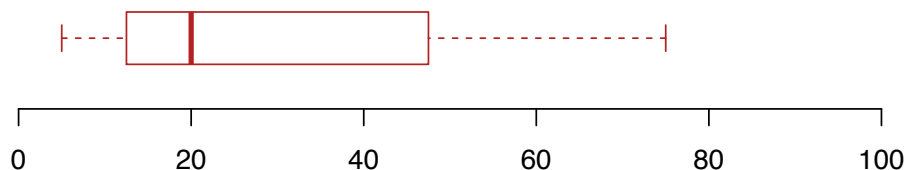
Upper Midwest, Median: 31.25; Weighted mean: 28.1



Plains, Median: 43.75; Weighted mean: 30.87



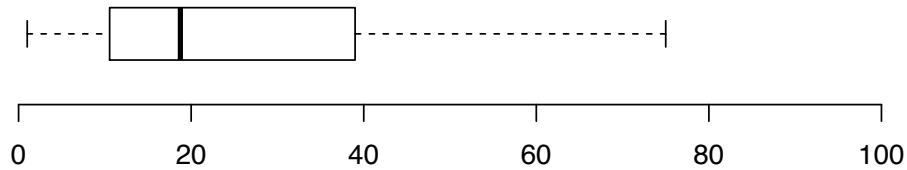
West, Median: 20; Weighted mean: 9.46



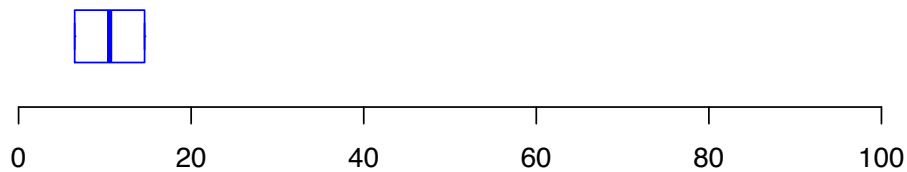
Box Plots: The center bar and edges of the box show the median and 1st and 3rd quartiles, respectively. The whiskers extend to points that are no more than 1.5 times the interquartile range, points outside this range are outliers (open circles).

21. Consider 100 shipments of dairy bulls from anywhere in your state that are moving for breeding purposes. Of these shipments, how many will leave the state?

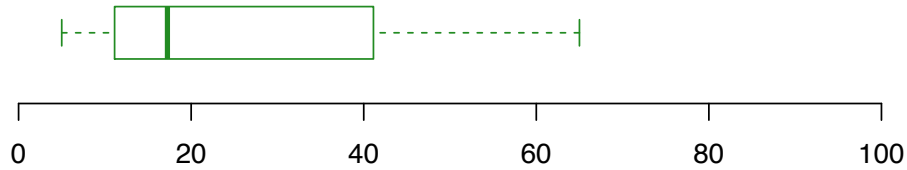
National, Median: 18.75; Weighted mean: 13.68



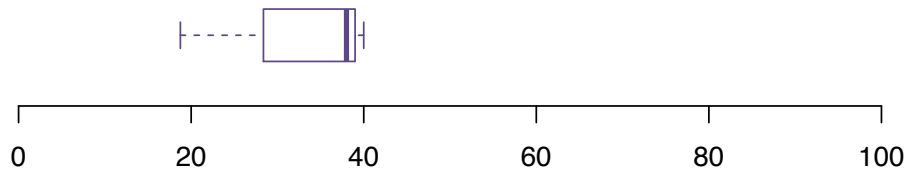
Northeast, Median: 10.55; Weighted mean: 10.85



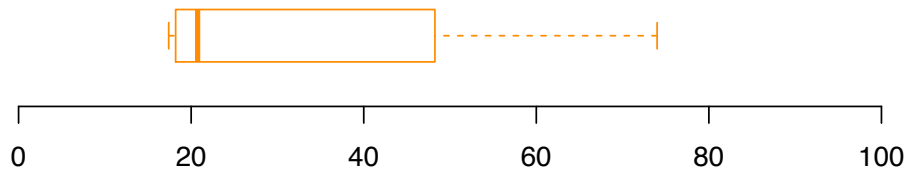
Southeast, Median: 17.25; Weighted mean: 23.16



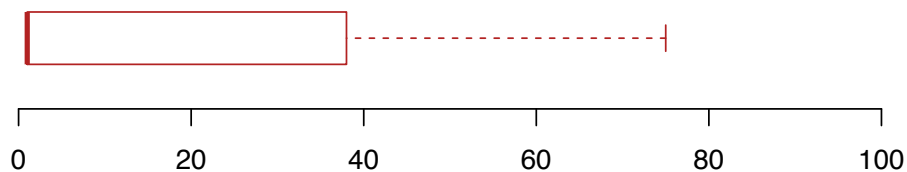
Upper Midwest, Median: 38; Weighted mean: 25.6



Plains, Median: 20.75; Weighted mean: 22.84



West, Median: 1; Weighted mean: 1.87



Box Plots: The center bar and edges of the box show the median and 1st and 3rd quartiles, respectively. The whiskers extend to points that are no more than 1.5 times the interquartile range, points outside this range are outliers (open circles).

Appendix III:

Table of national cattle movement results by survey question

Beef shipments

	National	Northeast	Southeast	Upper Midwest	Plains	West
Question 6						
Median	44.58	34.55	62.5	39	26.09	88.75
Weighted mean	42.21	34.61	62.11	52.38	21.71	86.9
Question 7a						
Median	20	17.1	40	18.33	10.47	51.25
Weighted mean	26.67	17.48	41.54	25.92	10.34	68.09
Question 7b						
Median	32.35	27.35	36	36.67	14.97	57.5
Weighted mean	29.65	26.71	35.96	33.88	13.83	71.97
Question 7c						
Median	41.25	48.12	40	25	22.83	71.25
Weighted mean	36.65	47.38	43.91	43.86	19.29	80.09
Question 7d						
Median	48.75	45.85	59	45	35.42	81.25
Weighted mean	45.19	46.07	57.11	58.51	27.63	83.69
Question 8a						
Median	42.5	20.75	39.6	40	48.75	65
Weighted mean	41.33	20.32	37.77	35.09	37.71	64.18
Question 8b						
Median	41.25	32.5	47.5	35	26.19	90
Weighted mean	39.19	34.15	50.64	42.57	20.52	87.44
Question 8c						
Median	41.96	21.25	80.4	40	30.31	85
Weighted mean	41.1	20.75	72.08	38.72	23.22	78.43

	National	Northeast	Southeast	Upper Midwest	Plains	West
Question 8d						
Median	43.21	26.88	82	40	25.56	85
Weighted mean	41.11	24.65	72.84	41.11	22.53	78.43
Question 8e						
Median	53.33	35.5	67	56.67	22.41	70
Weighted mean	40.17	31.34	47.57	58.79	24.21	74.8
Question 8f						
Median	57.63	39.75	83	56.67	33.25	77.5
Weighted mean	46.33	36.81	79.22	51.17	28.22	78.08
Question 9a						
Median	52.17	43	70	53.33	27.42	87.5
Weighted mean	42.49	38.64	68.97	50.39	20.94	86.9
Question 9b						
Median	25.5	38	40	26	22.35	37.5
Weighted mean	28.65	35.62	43.1	16.29	26.47	31.79
Question 9c						
Median	18.42	20	20	25.75	15.56	21.25
Weighted mean	19.37	19.67	30.5	20.11	15.58	23.09
Question 9d						
Median	18.25	20.75	17.5	34	12.83	30
Weighted mean	18.53	20.98	18.66	22.17	13.5	31.67
Question 10a						
Median	32.5	26.88	65	33.33	12.91	50
Weighted mean	30.82	25.64	60.18	36.95	14.97	56.88
Question 10b						
Median	40.5	32.5	55	36.67	19.42	53.75
Weighted mean	31.61	30.85	58.67	36.17	18.77	50.41
Question 10c						
Median	56.17	55.5	65	53.33	26.25	88.75
Weighted mean	43.85	53.45	68.55	51.35	22.79	86.9

	National	Northeast	Southeast	Upper Midwest	Plains	West
Question 11						
Median	30	29.88	92.5	35	34	18.75
Weighted mean	37.79	27.25	63.65	39.01	37.75	20.85
Question 12a						
Median	58.75	52.9	71.33	60	27.08	82.5
Weighted mean	42.85	51.86	69.29	55.91	20.54	85.59
Question 12b						
Median	38.17	32.95	45	38	40.83	48.75
Weighted mean	35.14	30.25	42.98	29.33	24.97	64.79
Question 12c						
Median	34.5	35.25	40	33.33	33.83	60
Weighted mean	35.61	34.09	39.59	34.41	23.33	71.44
Question 12d						
Median	43.9	34.65	75	45	20.42	52.5
Weighted mean	35.24	33.57	63.75	44.57	18.82	61.53
Question 13a						
Median	55	36.8	60	68.33	17.62	92.5
Weighted mean	42.53	33.39	56.31	59.51	23.28	83.92
Question 13b						
Median	51.33	37.75	20	61	35.08	92.5
Weighted mean	44.8	34.42	47.22	61.74	29.33	82.32
Question 13c						
Median	55	44.5	50	68.33	13.75	94.5
Weighted mean	42.69	39.15	53.13	67.52	22.59	84.07

Dairy shipments

	National	Northeast	Southeast	Upper Midwest	Plains	West
Question 14						
Median	35.75	29.25	68.58	30	52.5	10
Weighted mean	21.8	30.16	61.64	23.44	30	10.7
Question 15a						
Median	14.38	32.55	41.3	13.75	22.75	5
Weighted mean	12.98	34.48	41.3	10.66	18.49	1.8
Question 15b						
Median	27.5	36.85	59.92	20	43.25	20
Weighted mean	23.99	39.03	59.92	20.61	24.27	18.04
Question 15c						
Median	42.5	43.6	60.7	30.25	61.25	10
Weighted mean	25.74	45.72	60.7	31.14	36.41	7.21
Question 16a						
Median	38.33	27.08	61.92	20	25	60
Weighted mean	23.39	28.54	61.92	27.39	25.15	15.61
Question 16b						
Median	47.5	51.75	65.17	28.33	48.75	10
Weighted mean	28.21	54.4	65.17	32.66	27.36	10.82
Question 16c						
Median	30	18	44.5	30	32.5	20
Weighted mean	22.1	18.33	44.5	33.16	24.24	13.36
Question 17a						
Median	43	24.25	95.6	32.5	18.75	75
Weighted mean	25.9	25.49	75.88	26.63	14.56	26.71
Question 17b						
Median	27.62	24.17	74.17	27.62	37.5	10
Weighted mean	16.22	25.59	50.81	24.63	19	3.25

	National	Northeast	Southeast	Upper Midwest	Plains	West
Question 17c						
Median	65.75	49.5	80.2	42.62	61.25	85
Weighted mean	33.31	52.69	64.62	30.24	36.06	24.04
Question 17d						
Median	19	13.25	50	19.12	13.75	38.5
Weighted mean	13.12	13.68	50.22	17.77	20.75	3.13
Question 17e						
Median	15	14.5	38.5	35	13.5	10
Weighted mean	16.22	14.46	38.5	30.3	12.41	7.09
Question 17f						
Median	16.5	13.58	35.1	31.83	15.75	10
Weighted mean	14.99	13.37	35.1	29.41	16.46	4.05
Question 18a						
Median	15.85	4.62	27.5	21.25	32.1	10
Weighted mean	11.51	4.52	20.15	19.63	25.56	3.36
Question 18b						
Median	20.5	8.8	30.67	25	20.5	10
Weighted mean	14.83	8.71	21.65	24.72	21.91	7.03
Question 19a						
Median	23.75	14.88	37.25	25	29.75	1
Weighted mean	15.83	15.53	52.92	27.77	23.25	1.12
Question 19b						
Median	38	26	80	32.5	34	20
Weighted mean	27.46	27.22	74.34	34.03	35.53	16.15
Question 19c						
Median	25	37.25	57.83	23.75	24.85	40
Weighted mean	30.04	39.31	64.32	23.47	20.77	31.01
Question 20						
Median	25	16.05	20	31.25	43.75	20
Weighted mean	19.28	16.68	24.75	28.1	30.87	9.46
Question 21						
Median	18.75	10.55	17.25	38	20.75	20
Weighted mean	13.68	10.85	23.16	25.6	22.84	1.87