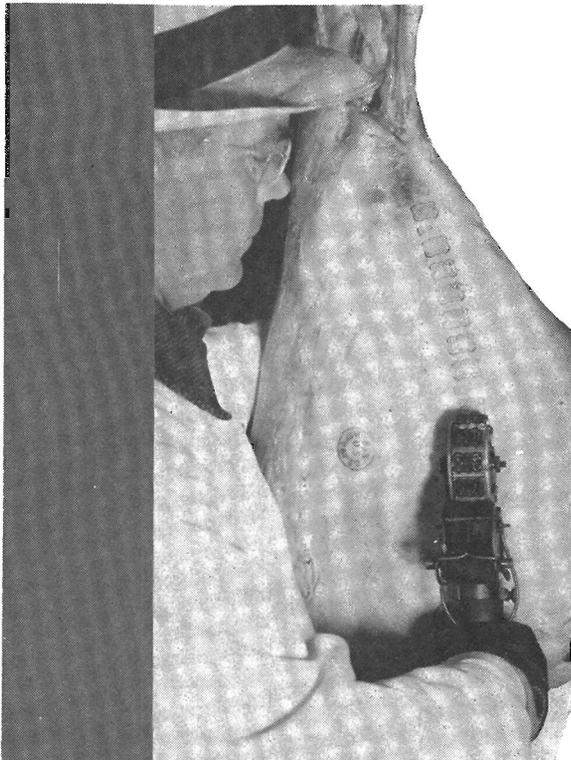


**The Quality of**

# **Western Beef**



• By C. W. Vrooman and Harold Abel



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**AGRICULTURAL EXPERIMENT STATION  
OREGON STATE COLLEGE**

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# The Quality of Western Beef

## A one-year report on quality of beef slaughtered in ten Western states . . . . .

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Those interested in more detailed figures than appear in this bulletin may obtain a mimeographed tabular supplement by writing to the Department of Agricultural Economics, Oregon Agricultural Experiment Station, Corvallis, Oregon.

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## By C. W. Vrooman and Harold Abel

**T**HE QUALITY of Western beef has greatly improved, observers say. Even though they do not have a precise method of measuring the degrees of improvement, they believe that the Western States (Wyoming, Colorado, New Mexico, Utah, Arizona, Nevada, California, Oregon, Washington, and Idaho) have made progress in recent years.

We do not have information on grades or quality of beef produced in earlier years and, for that reason, exact comparisons are not possible between past and present quality. Another hindrance to measuring production quality is that some producers sell direct to feeder or packer buyers from another area. Such sales bypass central markets where one might grade and tabulate animals.

On the other hand, more Western-raised cattle are slaughtered in the West than were a few years ago. The present, therefore, appears an appropriate time to take stock of the available information and to set up a bench mark of judgment.

### Information available

For two short periods in the last decade, virtually all beef slaughtered was graded by Federal standards. In response to regulations connected with economic controls during World War II and postwar periods, two agencies, the Office of Price Administration and the Office of Price Stabilization, required the grading of beef. We have

no detailed summary of data collected by the OPA, but it was possible to obtain data for 10 of the 11 Western States for the period July 1951 through June 1952 when all beef was graded under regulations of the OPS.

These OPS data give a picture of the quality of beef slaughtered in three Western zones—but *only* the slaughter within these areas. No account is taken of *where* the animals were raised, or the *quality* of animals raised in the area to be slaughtered elsewhere. In- and out-shipments of dressed beef are not recorded. Such data do not accurately portray the quality of consumption in any "given" area.

Except for plants killing less than 10 head a month, and except for packer-owned cattle fed more than 120 days, complete information is included for three Western divisions:

Region 11—Wyoming, Colorado, New Mexico, and Utah;

Region 12—Arizona, Nevada, and California;

Region 13—Oregon, Washington, and Idaho.

Montana data is not included because OPS zonal boundaries included Montana with the Dakotas, due to the methodology by which packers reported their slaughters.

There were two categories of meat packers recognized under OPS regulations:

Class I slaughterers—those having

Federal meat inspection and reporting directly to Washington, D. C., and

Class II slaughterers—those *not* having Federal meat inspection and reporting directly to state or regional offices.

Thus, while it was possible to obtain Class II reports from Montana, the reports of Class I slaughterers are inextricably combined with those for the Dakotas. Because sufficient differences existed in the quality of cattle being slaughtered by the Class I and Class II groups, a section of this report is devoted to their comparison. Since data were available for the Class I slaughter for all regions in the United States, a short concluding section of this report is concerned with this. Obviously, only a partial picture can be presented in this report.

Data in this report apply from July 1, 1951, through June 30, 1952. This

is, of course, a very limited period of time and many factors may have been in operation during that year which are not typical for normal relationships. For one thing, it was a period of price control, when price relationships between one grade of beef and another were artificially fixed. It is impossible to estimate how great an effect this had on the quality of production. For a second, the feed-cost, beef-price relationship was particularly favorable then, and this, too, may have had a material effect on the extent to which cattle were finished out to higher grades. There is no known method by which the effect of these and other factors can be accurately assessed. It is necessary to accept the fact that data included here are for a limited period, one where controls were in effect and price relationships artificially frozen.

## Total Kill in the West

Cattle and calf slaughter in the West has more than doubled in the last quarter of a century. In 1952 the total slaughter amounted to over 4½ billion pounds live weight of cattle and calves. Historically, a substantial portion of the farm and ranch beef cattle production in the West has moved to the Corn Belt, as feeder stock prior to fattening, with slaughter and ultimate consumption taking place in the eastern part of the United States.

According to Animal Industry Bulletin No. 14, "Shifts in the Trade in Western Slaughter Livestock," since 1925 a larger and larger share of the Western marketings have been going to supply Western slaughterers. In the past 10 years human population in the West has increased with striking

rapidity and is considered the principal reason for such rapid gains in beef slaughter.

Sixty-one per cent of cattle killed in the West from July 1, 1951 to June 30, 1952 were graded prime, choice, or good. In addition, 26 per cent of the total kill was divided equally between commercial and utility grades; 8 per cent being made up of canner and cutters, while 5 per cent consisted of bulls.

The monthly variations in percentage of beef falling in the top 3 grades is rather narrow—from 55 per cent in November to 65 per cent in June (Figure 1). There is some increase (7 to 8 per cent) in the proportion of commercial and lower qualities slaughtered during the fall months, when the bulk of the cattle marketed are

Table 1. DISTRIBUTION OF SLAUGHTER BY GRADE BY QUARTERS 1951-52 FOR THE WEST\*

Quarter	Prime	Choice and good	Commercial and utility	Cutter and canner	Bulls
	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>
1951 ..... 3rd	38	22	28	25	21
4th	21	24	27	29	22
1952 ..... 1st	14	28	23	25	27
2nd	26	26	22	21	30

\* Eleven western states, excepting Montana.

grassers coming from range areas. Conversely, the proportion of beef grading prime, choice, or good tends to increase during the winter and spring when the dry-fed cattle are reaching the market.

Some differences of seasonal pattern are apparent between various grades of beef. The tendency is for more than half of the year's supply of good and choice to be killed during the first 6 months, with less than half of the year's total slaughtered during the last 6 months. In the case of commercial and utility, the largest proportion is killed during the last 6 months, with a much smaller proportion during the first 6 months.

This becomes clearer when data are considered on a quarterly basis (Table 1). During the third quarter of 1951, 22 per cent of the total output was graded choice and good with 28 per cent of the commercial and utility grade killed in that quarter. During the fourth quarter, choice and good increased to 24 per cent while com-

mercial and utility decreased to 27 per cent. The first quarter of 1952 accounted for 28 per cent of the choice and good; only 23 per cent were commercial or utility. The second quarter of 1952 accounted for the balance, amounting to 26 per cent of choice and good, 22 per cent for commercial and utility. Even more extreme variations existed in the case of prime. Some 38 per cent of the kill fell in the third quarter of 1951. The low volume of 14 per cent falls in the first quarter of 1952. As would be suspected, cutters and canners are marketed most heavily during the fall months, with 29 per cent of the year's total kill of cutters and canners falling in the fourth quarter. The smallest proportion fell during the spring quarter of April, May, and June. Then, only 21 per cent of the year's total was slaughtered. The spring quarter accounted for the major portion of bulls, the summer quarter of July, August, and September being the low period for bull slaughter.

### Regional Comparisons in the West

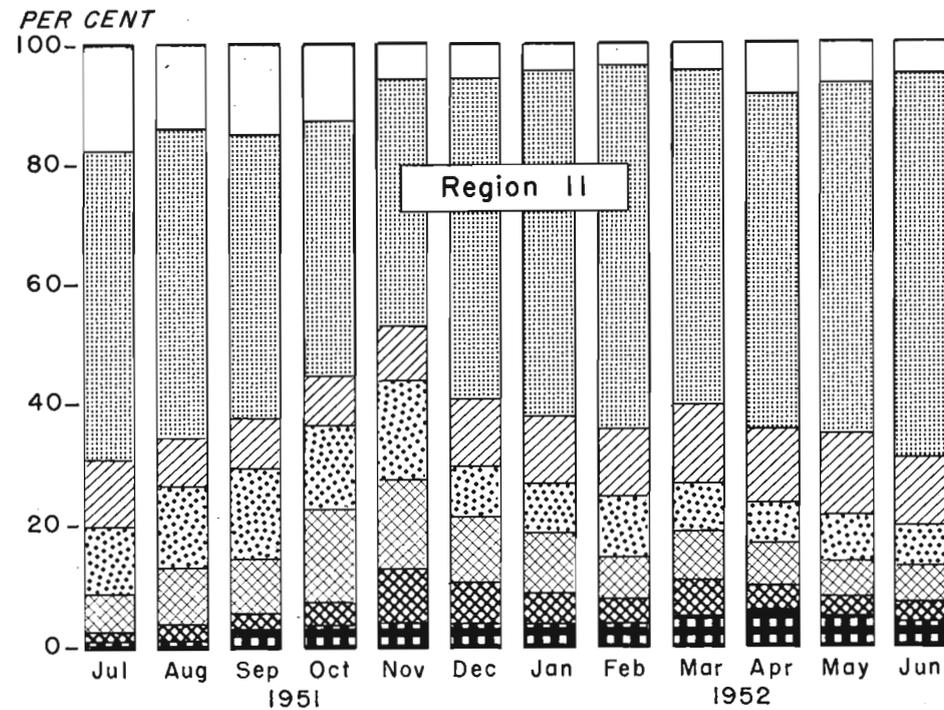
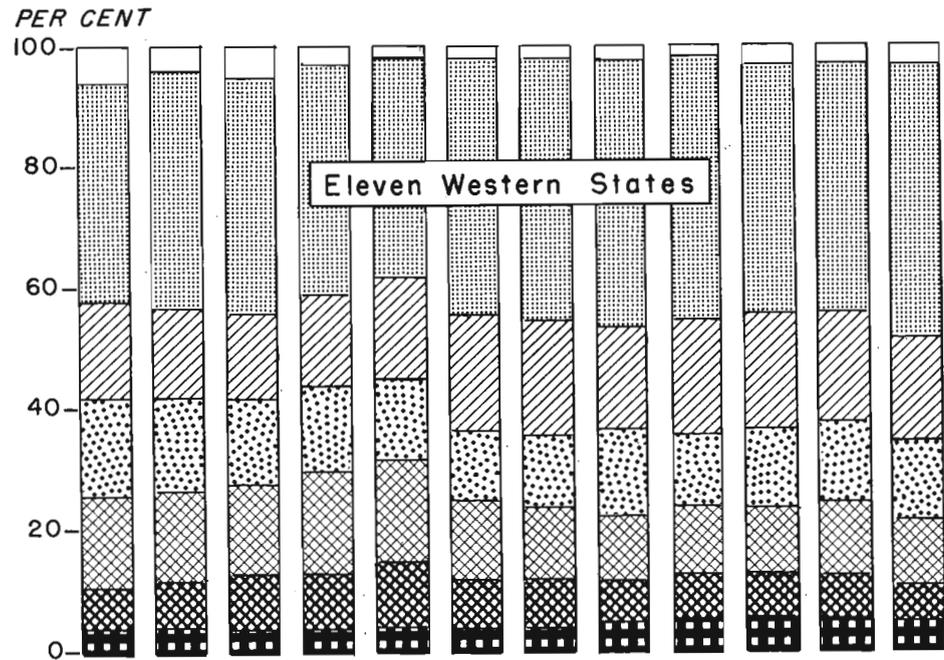
Substantial differences exist in the quality of cattle slaughtered in different regions in the West.

In Region 11, for the period of July 1, 1951 to June 30, 1952, 73 per cent of the beef graded good,

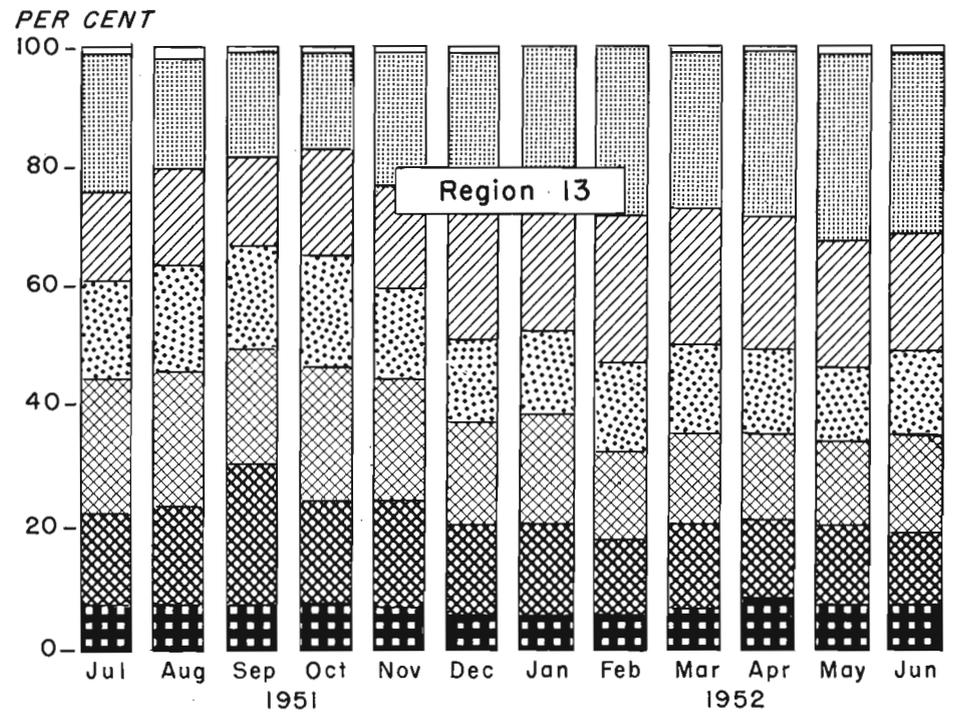
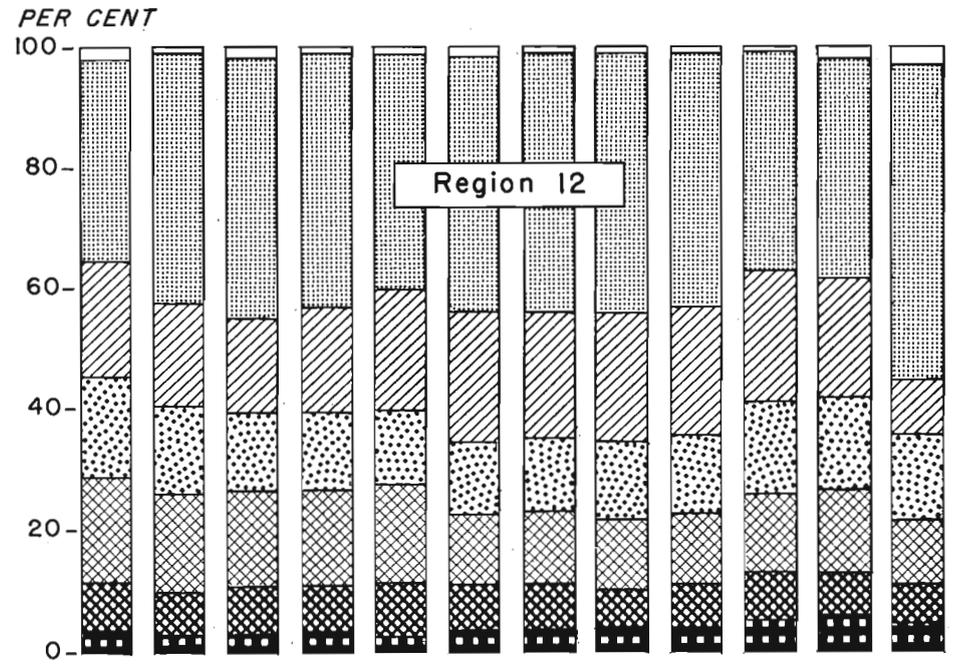
choice, or prime; 19 per cent graded commercial or utility; and 4 per cent graded cutter and canner, with a like amount of bull beef slaughtered (Figure 1).

Region 12 had 61 per cent of its

**Figure 1. Beef Slaughter: By Region, Grade, and Month**

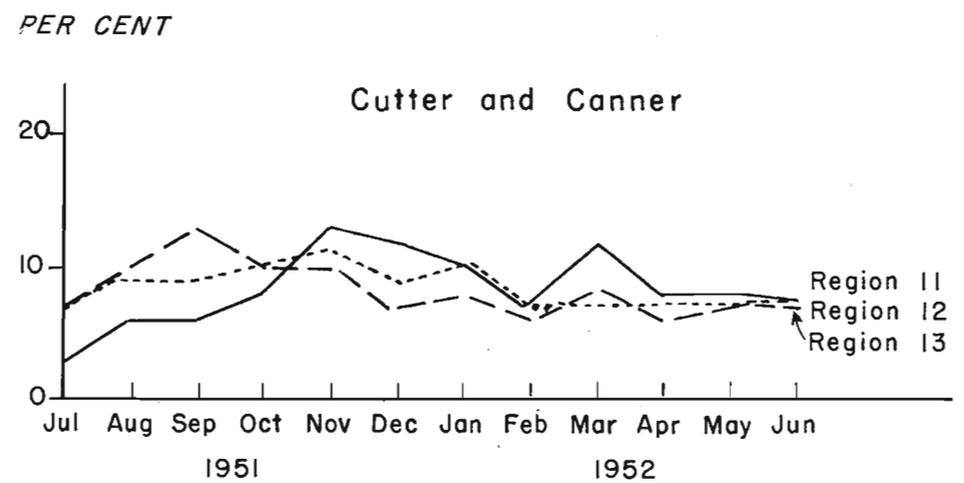
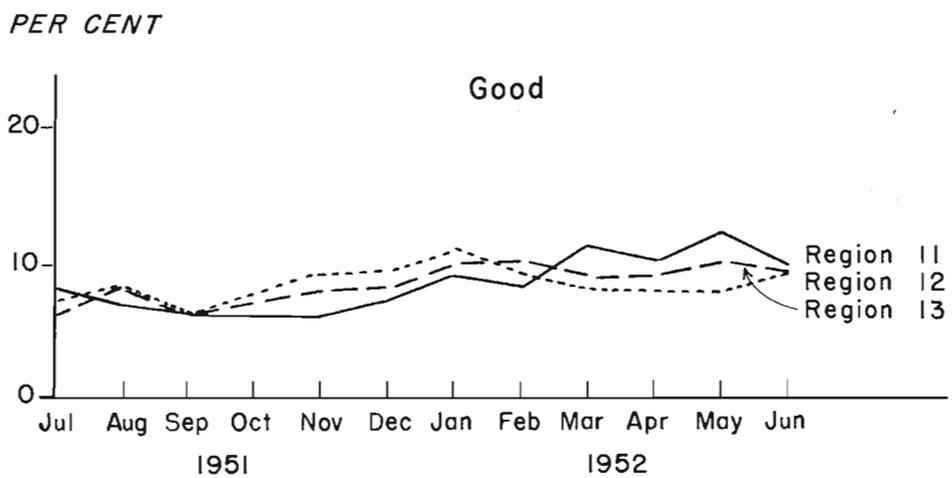
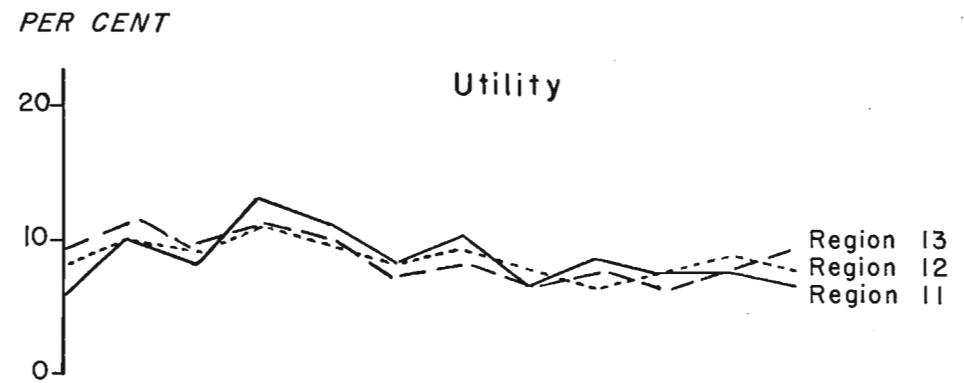
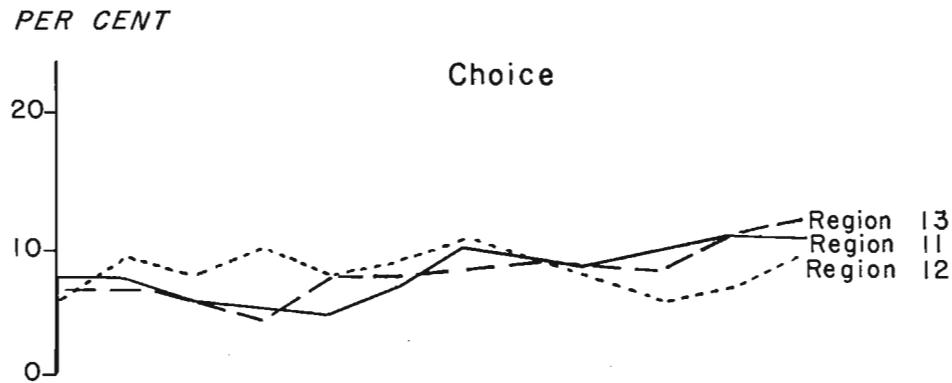
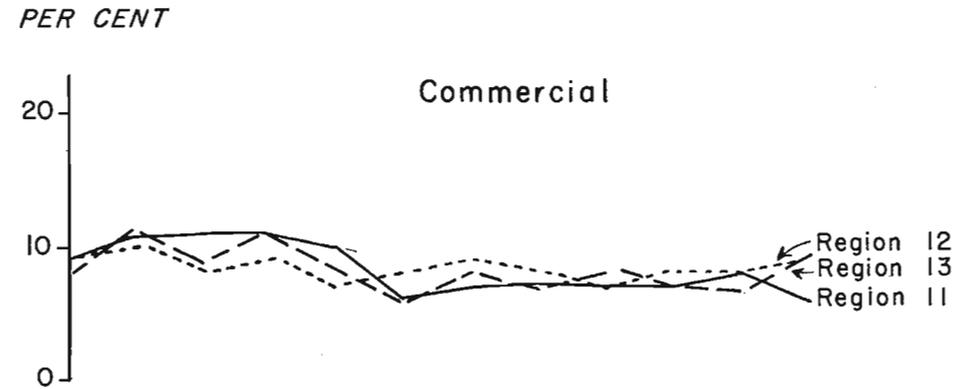
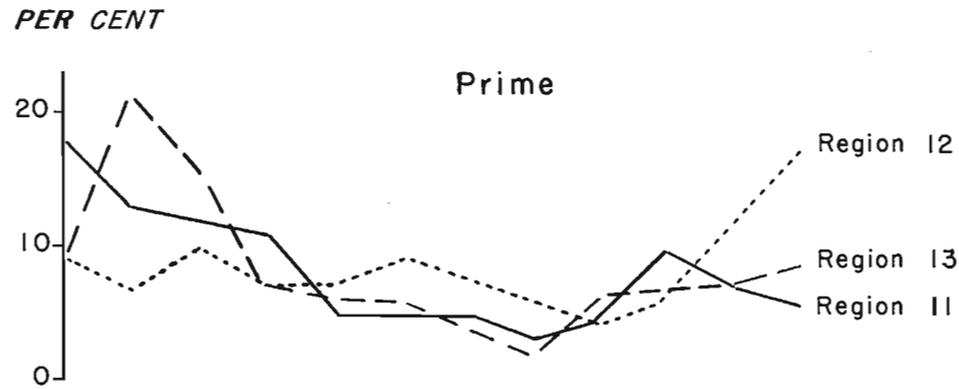


Prime Choice Good Commercial



Utility Canner and Cutter Bulls

**Figure 2. A Comparison of Beef Grades by Region**



slaughter falling in the top 3 grades, 28 per cent equally divided between commercial and utility, 7 per cent grading cutter and canner, with 4 per cent the bull slaughter (Figure 1).

Region 13, the Pacific Northwest, had 44 per cent of the beef slaughtered into grades good or better, 33 per cent graded commercial or utility, with 15 per cent cutter and canner, and an additional 8 per cent of bulls (Figure 1).

In Regions 12 and 13, prime grade was of no great significance, whereas it may be observed for Region 11 that the prime grade, particularly in the late summer months of July, August, and September, was in substantial volume. Choice grade beef was also in large volume in Region 11, the Mountain States. Here over half the beef was slaughtered into this grade, with a high point reached in June of 1952 when 63 per cent of the total graded choice. On the other hand, the California-Nevada-Arizona region had only 40 per cent of its beef grading choice, with a maximum of 43 per cent in any one month. The Pacific Northwest lagged far behind. Here there was an annual figure of 24 per cent of the kill being choice and the maximum in May, 1952 at 31 per cent. Regions 12 and 13 are similar in their output of the good grade of beef, whereas Region 11 dropped in proportion of this grade to the total, as it does in all the lower grades, except for bulls, where the Mountain States' total is identical in proportion to the California-Nevada-Arizona figure. Cutters and canners make up double the proportion of the kill in the Pacific Northwest, as compared to the California area, and almost 4 times the proportion of the Mountain States. This partly results from discards

originating in the more extensive dairy industry of this area.

Throughout the year, the proportion of cattle falling in the 3 top grades tends to be somewhat lower during the fall, higher during the early spring and summer months. This pattern is very clear in Regions 11 and 13 where quite a distinct seasonal shift is apparent. In Region 12, while there is a somewhat similar pattern, the proportion falling into top grades tends to decrease earlier in the year. This is probably due to the earlier season of forage growth in California, resulting in earlier marketing of grass cattle. In general, grass cattle do not carry the same amount of finish as do those grain fed; consequently, they tend to fall into lower grades.

When distribution of slaughter over a given grade throughout the year is considered, the pattern is remarkably uniform in all regions. These data are presented in Figure 2. While the pattern for prime beef in the various regions is not as uniform as the pattern for many other grades of beef, such a small amount of this is produced in Regions 12 and 13 that no great significance may be attached to these data. For the prime grade, the high points are during the late summer months, whereas, for the choice grade, the peak of seasonal flow comes several months earlier. In the case of good, there is a steady gain from late summer on in the proportion of this grade in all regions. Commercial, on the other hand, exhibits a pattern which is almost the reverse, as does utility, and to some extent cutters and canners.

There is a remarkable correspondence in distribution of slaughter in these grades throughout the year for all regions. Some deviation from the

pattern occurs in the case of cutters and canners in Region 11. There a more distinct increase is apparent during the late fall and winter months. A difference of seasonal pattern exists in the case of bulls. The proportion of the year's total bull slaughter in Region 13 tends to be higher during the summer and early fall months and low during the late fall and winter, whereas, in Region 11, a greater proportion of the annual slaughter is killed during the late winter and early spring months. In the California-Arizona-Nevada region, bull slaughter is more evenly distributed throughout the year, although the tendency is for a smaller percentage of the slaughter to be killed during the late summer and fall, with a higher percentage during the late winter, spring, and early summer months.

Perhaps one of the more interesting features of these data is that except in the case of prime grade no very marked seasonal variation is apparent, nor is there any great difference between one region and another. It is known that a very substantial seasonal fluctuation exists in the total production for the area. Apparently when the feeder cattle marketings are

taken out, and the slaughter cattle considered alone, much of the seasonal fluctuation in quality disappears and various production areas are more comparable.

On the other hand, these data do not take into consideration the live movement of cattle from one region to another for slaughter. Data for the in-shipment of cattle for slaughter are available only for the State of California which is the major killing area in the West. These reveal that in recent years 25 per cent or more of the slaughter during the late fall, winter, and spring months is shipped in from other states. Arizona, which was within the same OPS region, supplies approximately one quarter of the imports. In the case of Oregon, examination of the source of livestock passing through the Portland stockyards indicates that the bulk of the imported cattle originated from Idaho and Washington, which were also within the same OPS region. It is known, however, that considerable supplies of dressed beef are shipped into Oregon, and this varies seasonally. In general, the large bulk of consumption is supplied by local slaughter.

## **Class I and Class II Slaughterers**

Under OPS regulations slaughterers were classified as class 1, or class 2, depending on presence or absence of federal inspection. Class 1 plants were federally inspected and may have engaged in interstate trade. In general they were larger than the class 2 plants which had state or local inspection. There were, of course, exceptions to this generality. Some class 2 plants were fully as large as the class 1, and some of the class 1's were what

might be called small packing plants. In the 11 western states, federally inspected slaughter accounted for about three-quarters of the commercial slaughter in terms of number of cattle. For the year starting July 1, 1951 the class 1 plants had 80 per cent of the volume, in terms of pounds of beef.

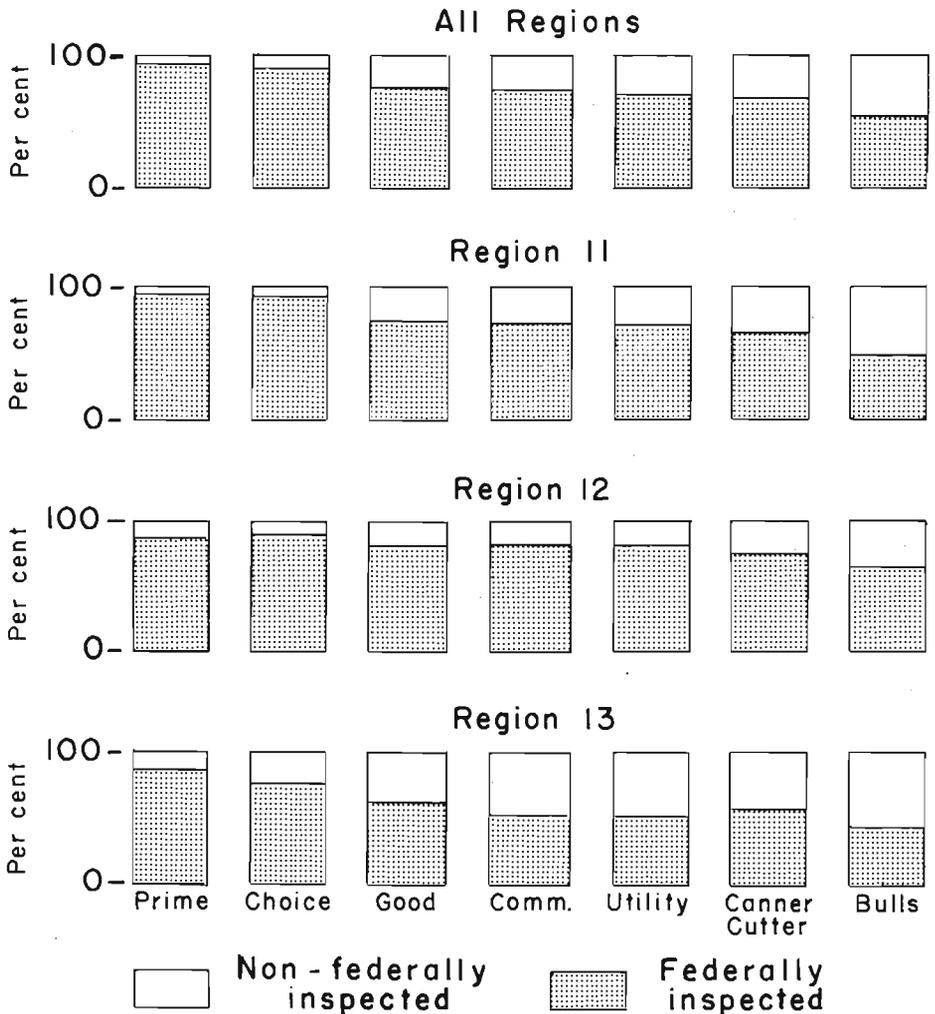
Some regional differences were observed in the proportion of total slaughter accounted for by the federally inspected plants. In Regions 11

and 12, 84 per cent of the total pounds of beef slaughtered was federally inspected, whereas, in Region 13, only 62 per cent of the total volume was handled by the federally inspected, class 1, plants.

The class 1 plants tended to slaughter a much higher proportion of the better quality of beef than did the class 2 plants. Of the prime quality

slaughtered in the West, 92 per cent was killed by class 1 slaughterers. On the other hand, class 1 slaughterers killed only 57 per cent of the bulls. These data are illustrated in Figure 3. The percentage of each grade slaughtered by the class 1 plants decreased as the quality decreased. A similar relationship was apparent in all regions, although minor discrepancies existed.

**Figure 3. Class I and Class II Beef Slaughter**



## Regional Comparisons for Class I Slaughterers

Inter-regional comparisons of the grade of beef slaughtered have some shortcomings. For the whole United States data are available for only the class 1, federally inspected slaughterers. The proportion of the total slaughter accounted for in the different regions by the federally inspected plants varies considerably. Furthermore, in no area is it possible to make a direct comparison of the OPS regions with those of the Bureau of Agricultural Economics reporting total commercial slaughter. Divisional boundaries are sufficiently different so no possible combination gives a direct comparison. On the other hand, certain general observations can be made on the extent to which the class 1 slaughter plants account for our total beef production. About 90 per cent of the beef slaughtered in the Corn Belt area is federally inspected. The proportion drops in any direction from that area, with the low in those South Atlantic States where slightly more than one-third of the beef slaughtered is federally inspected. The South, including Texas and Oklahoma, has about two-thirds of its slaughter federally inspected, which is slightly more than the proportion federally inspected in the New England and Central Atlantic States. The Mountain States and Pacific Coast have about three-fourths of the total cattle slaughter federally inspected. These regional differences must be kept in mind, along with the differences pointed out in the previous section, between the quality of the kill in class I and class II plants when considering the data presented in this section.

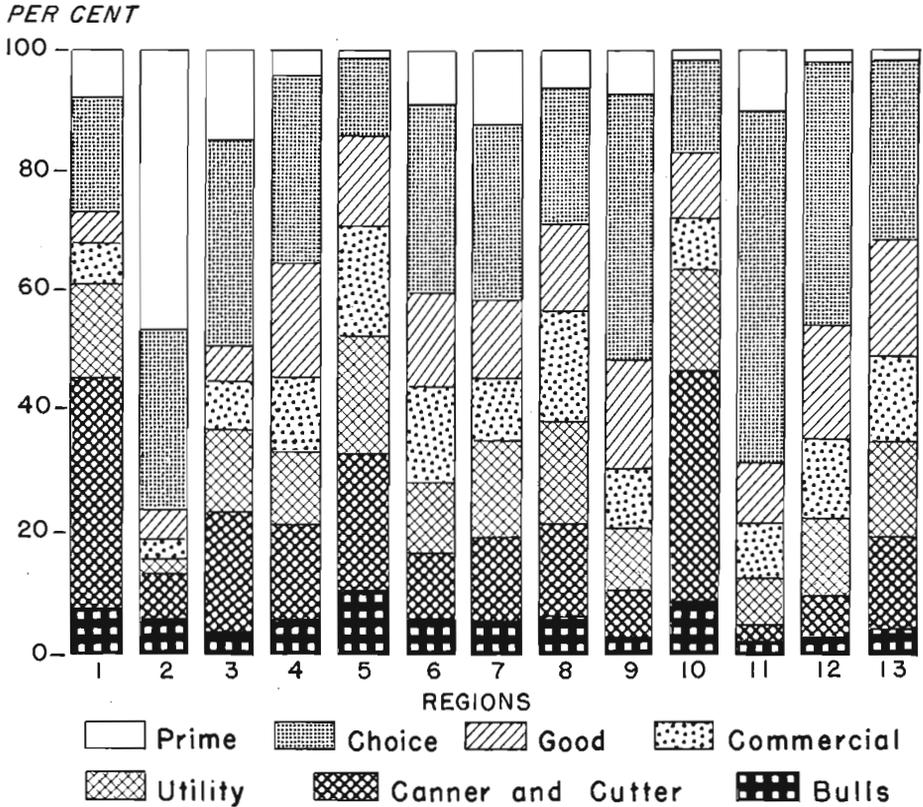
A remarkable amount of prime beef is slaughtered in the New York-New

Jersey region. This region far exceeded any other in both the total quantity of prime beef slaughtered and in the proportion of the total slaughter which fell into that grade (Figure 4). For the year, nearly half of the beef slaughter was graded prime in Region 2 (New York and New Jersey). Several things are responsible for this. A major factor is that grade cattle are imported for the extensive kosher trade with the hindquarters finding a ready outlet through the restaurant and hotel supply houses. Areas which show a small amount of prime are the South, Southeast, and Southwest, as well as the Pacific Coast. In these regions only 1 to 2 per cent of the beef slaughtered was graded prime. This compares with a U. S. total figure of 9 per cent graded prime.

In the case of the good and choice grades combined, the Corn Belt States of Iowa, Kansas, Missouri, and Nebraska, the Mountain States, and the California-Arizona-Nevada region have the highest percentage falling into these grades. The New England States and the South, including Texas, are again low in proportion of the slaughter graded as good and choice.

Combining the top 3 grades, one finds the New York-New Jersey region in high position, with 81 per cent of the slaughter. Second position is held by the Mountain States where 78 per cent of the total slaughter is prime, good or choice. Third position goes to the Corn Belt—Iowa, Kansas, Missouri and Nebraska with 68 per cent, closely followed by the California-Arizona-Nevada region with 64 per cent of all slaughter in the top 3 grades. Again it should be emphasized that this is only a partial picture

## Figure 4. Class I Slaughter by OPS Region



and does not necessarily reflect the quality of the total production, nor the quality of the consumption in those areas.

The deep South region, and Region VIII consisting of Montana, North Dakota, South Dakota, and Minnesota, lead in the proportion of the kill graded commercial and utility. The Pacific Northwest is in third position for these grades.

Cutter and canner beef shows up most prominently in Region 1, the New England area, and in Region 10 (Arkansas, Louisiana, Oklahoma, and

Texas). In both these areas, 38 out of each 100 head of cattle slaughtered were graded cutter and canner.

While the relative importance of the dairy industry in different regions undoubtedly has some effect on the quality of beef slaughtered, no close relationship can be traced through these data. No data exist as to the quality of the in- and out-shipments of live cattle on a state or regional basis, consequently it is impossible to assess the full impact of the dairy discards on the quality of the total slaughter.

## Summary

It is apparent from the quality of beef slaughter data obtained through OPS offices that substantial regional differences existed during the year starting July 1, 1951. The Mountain States region had almost three-quarters of the total kill graded prime, choice, or good. The California-Arizona-Nevada region had 61 per cent in these categories, while the Pacific Northwest had only 44 per cent of the total grading good or better. This general relationship tended to persist throughout the year.

Less seasonal difference in quality was apparent than was expected. While the bulk of the cattle slaughtered in the West during the fall months are grassers, more than one-half of the kill graded good or better.

Plants having federal inspection, enabling them to engage in interstate trade, killed beef of higher quality than did nonfederally inspected plants. Some indications showed this was related to size of business. Insufficient evidence existed to establish this definitely.

Comparisons with other regions in the United States are inadequate for the reason data were available only for class I, federally inspected, slaughter. The West, except for the Pacific Northwest, had a quality of beef kill that compared favorably with the best in the country. The Mountain States region was topped only by the New York-New Jersey region in this respect.

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