

~~CONFIDENTIAL~~

Approved For Release 1999/09/02 : CIA-RDP79-01093A000300110002-2

~~SECURITY INFORMATION~~

PROVISIONAL INTELLIGENCE REPORT

LIVESTOCK NUMBERS AND MEAT PRODUCTION IN THE USSR



CIA/RR PR-28

17 June 1953

DOCUMENT NO. 2
NO CHANGE IN CLASS.
 DECLASSIFIED
CLASS. CHANGED TO: TS S (C)
NEXT REVIEW DATE: 1989
AUTH: HR 70-2
DATE: 20079 REVIEWER: 08514

CENTRAL INTELLIGENCE AGENCY

OFFICE OF RESEARCH AND REPORTS

~~CONFIDENTIAL~~

Approved For Release 1999/09/02 : CIA-RDP79-01093A000300110002-2

W A R N I N G

This material contains information affecting the National Defense of the United States within the meaning of the espionage laws, Title 18, USC, Secs. 793 and 794, the transmission or revelation of which in any manner to an unauthorized person is prohibited by law.

~~CONFIDENTIAL~~
SECURITY INFORMATION

PROVISIONAL INTELLIGENCE REPORT

LIVESTOCK NUMBERS AND MEAT PRODUCTION IN THE USSR

CIA/RR PR-28

(ORR Project 53-51)

NOTICE

The data and conclusions contained in this report do not necessarily represent the final position of ORR and should be regarded as provisional only and subject to revision. Additional data or comments which may be available to the user are solicited.

CENTRAL INTELLIGENCE AGENCY

Office of Research and Reports

~~CONFIDENTIAL~~

S-E-C-R-E-T

FOREWORD

This report is a preliminary appraisal of livestock numbers and meat production in the USSR, based substantially on Soviet statistics, which may reflect deliberate Soviet propaganda as well as Soviet errors in collection and interpretation of the raw data. Primarily descriptive rather than analytical, this report is designed to serve as a base for further analytical study rather than as an end in itself.

There are several specialized analytical studies now under way which will provide a check on Soviet statistics on livestock numbers and a means to determine production and consumption of meat in the USSR. These studies include the following:

1. A provincial approach to Soviet livestock numbers, which will serve as a means of checking over-all Soviet livestock numbers claimed in the past and planned for the future and as a basis for estimating the production of livestock products;
2. An input-output approach to the Soviet meat-packing industry, which will examine that portion of total meat production which is processed and distributed through government channels, in order to provide a means for estimating over-all meat production and consumption, including stockpiles;
3. An analysis of the relationship of feed, including roughages and concentrates, to livestock numbers as a means of evaluating the reliability of data on numbers claimed in the past and planned for the future. In this study an attempt will be made to examine livestock numbers in terms of animal units based on the feed requirements of the various categories of livestock.

S-E-C-R-E-T

~~CONFIDENTIAL~~
~~S E C R E T~~

CONTENTS

	<u>Page</u>
Summary	1
I. Development of the Livestock Industry	3
1. Introduction	3
2. Prewar Numbers	3
3. World War II Numbers	6
4. Postwar Numbers	7
5. Reliability of Statistics	10
II. Distribution of Livestock by Ownership Category	11
III. Geographical Distribution of Livestock	12
1. Introduction	12
2. Horses	15
3. Cattle	16
4. Swine	16
5. Sheep and Goats	17
6. Over-All Pattern	18
IV. Slaughter Practices	21
V. Meat Situation	22
1. Production and Imports in 1951	22
2. Per Capita Availabilities in 1951	24
3. Production in 1952	24
4. Production under the Fifth Five Year Plan (1951-55)	25
VI. Capabilities and Intentions	25
1. Capabilities	25
2. Intentions	26

~~CONFIDENTIAL~~
~~S E C R E T~~

~~SECRET~~
CONFIDENTIAL

Appendixes

	<u>Page</u>
Appendix A. Summer and Winter Livestock Numbers	29
Appendix B. Livestock Numbers in Specified Republics, Oblasts, and Krays, 1 January 1938	33
Appendix C. Livestock Feeding Practices	45
Appendix D. Statistics on Meat Production	63
Appendix E. Methodology	67
Appendix F. Gaps in Intelligence	69
Appendix G. Sources and Evaluation of Sources	71

~~SECRET~~
CONFIDENTIAL

CIA/RR PR-28
(ORR Project 53-51)

~~CONFIDENTIAL~~
CONFIDENTIAL
SECURITY INFORMATION

LIVESTOCK NUMBERS AND MEAT PRODUCTION IN THE USSR*

Summary

Livestock numbers in the USSR have fluctuated periodically. Losses from 1916 to 1921 resulting from civil war and drought were more than made up by gains from 1923 to 1928 under the New Economic Policy. These gains were canceled by losses from 1928 to 1933 resulting from forced collectivization under the First Five Year Plan (1928-32). The losses in part were made up by 1938. The last drop in Soviet livestock numbers, suffered during World War II, has been largely offset by postwar gains. Even so, there was virtually no net gain in total livestock numbers from 1916 to 1951, allowance being made for differences between summer and winter numbers.

Since World War II, livestock numbers in the USSR have been differently distributed by category than before World War II, as is reflected in a comparison between 1952 and 1938 numbers for each category included in this report (horses, cattle, swine, and sheep and goats). In 1952, horse numbers (15 million) were much lower than in 1938; cattle numbers (59 million) were about the same; swine numbers (27 million) were much lower; and sheep and goat numbers (107 million) were very much higher.**

The Fifth Five Year Plan (1951-55) envisions further increases in all categories of livestock. The over-all goal for the end of 1955 for livestock is too high to be realistic. Of the specific increases required during the last 4 years of the Plan (1 January 1952 to 1 January 1956) in order to meet the Plan goals, only that for horses (3 percent) is entirely feasible. Those for cattle (15 percent), for swine (31 percent), and for sheep and goats (47 percent) are less likely of attainment. Although all the planned increases are biologically feasible, it is believed unlikely that

* This report contains information available as of 15 December 1952.

** The figures given above represent numbers as of the beginning of the year indicated (winter census).

~~CONFIDENTIAL~~
CONFIDENTIAL

S-E-C-R-E-T

the availability of feed-grains and the expansion of ranges, pastures, and other sources of roughage will be sufficient to support all the planned increases. One or another of the planned increases could, however, be achieved at the expense of other classes of livestock. Although the figures of the Fifth Five Year Plan will generally not be met, the total livestock numbers can be expected to increase gradually until there is a poor year for pastures and crops.

Since the beginning of collectivization, under the First Five Year Plan (1928-32), the relative importance of the socialized flocks and herds owned by state farms or by collective farms has been increased at the expense of the privately owned flocks and herds of members of collective farms, of private farmers, and of urban workers. By 1 January 1938, in spite of a temporary relaxation of the collectivization drive, the socialized sector accounted for 73 percent of the horses, 31 percent of the cattle, 29 percent of the swine, and 41 percent of the sheep and goats. Preliminary estimates as of 1 January 1952 indicate that the socialized sector then accounted for nearly all of the of the horses, 61 percent of the cattle, 76 percent of the swine, and 78 percent of the sheep and goats. Under the Fifth Five Year Plan the socialized sector is scheduled to increase at a more rapid rate than the rate for the livestock industry as a whole.

Meat production in the USSR has been increasing yearly since 1947. The total meat production in the USSR in 1951 is estimated to have been 3,460,000 metric tons. This amount was still 13 percent less than the 3,980,000 metric tons estimated to have been produced in the USSR in 1938. Meat production for 1952 is estimated to have been 3,715,000 metric tons, an amount 7.4 percent greater than 1951 production but still below 1938 production. The main reason why meat production has not regained 1938 levels is that swine numbers and the slaughter of swine are still considerably below prewar levels.

The USSR has been supplementing its production of meat with imports from the European and Asiatic Satellites. The total annual domestic production of meat in 1951 was 17 kilograms per capita. When imports from all the Satellites are added, the total per capita meat availabilities for 1951 add up to about 19.2 kilograms as compared with 21.4 kilograms for 1938. Per capita meat production is not likely to increase significantly during the period of the Fifth Five Year Plan.

- 2 -

S-E-C-R-E-T

S-E-C-R-E-T

Deliveries of livestock to government slaughterhouses represent about 30 percent of the total slaughter of livestock. The rest of the livestock is slaughtered on collective farms or privately. The meat which is processed by the government is consumed mainly by the military forces and by other favored groups. The Fifth Five Year Plan calls for an 80 to 90 percent increase in government meat production. The bottleneck will be in the construction of the required refrigeration facilities.

The only meat available in the USSR for stockpiling is that processed in government meat-packing plants. The primary limitation on stockpiling is the availability of adequate refrigeration.

I. Development of the Livestock Industry.

1. Introduction.

Livestock numbers in the USSR have fluctuated periodically. Losses from 1916 to 1921 resulting from civil war and drought were more than made up by gains from 1923 to 1928 under the New Economic Policy. These gains were canceled by losses from 1928 to 1933 resulting from forced collectivization under the First Five Year Plan (1928-32). These losses in part were made up by 1938. The last drop in Soviet livestock numbers, suffered during World War II, has been offset by postwar gains, allowance being made for differences between summer and winter numbers. Even so, there was virtually no gain in total livestock numbers from 1916 to 1951. 1/*

2. Prewar Numbers.

According to the 1916 summer livestock census** in tsarist Russia, which covered an area only slightly greater than the present-day USSR, there were 35.8 million horses, 60.6 million cattle, 20.9 million swine, and 121.2 million sheep and goats. 2

* Footnote references in arabic numerals are to sources listed in Appendix G.

** The summer census of livestock numbers is usually taken at the end of June after the spring births. Inasmuch as there is very

S-E-C-R-E-T

When the Bolsheviks came into power in 1917, they inherited a Russia minus Finland, the Baltic States, Rumanian Bessarabia, Congress Poland, and certain other Polish territories (those now incorporated in western Belorussia and western Ukraine). During the years in which the German armies occupied the western and southwestern regions of Russia, which were important livestock-producing areas, the numbers of horses, cattle, swine, and sheep and goats had been reduced. Livestock numbers had been further reduced during the civil war as a consequence of slaughter by the contending factions endeavoring to live off the land. Successive droughts in 1920 and 1921 also took their toll. The summer census of 1922 indicated 24.1 million horses, 45.8 million cattle, 12.1 million swine, and 91.1 million sheep and goats.* 3/

Under the relatively stable political conditions which prevailed in the USSR from 1923 to 1928, the period of the New Economic Policy, the Soviet livestock industry gradually recovered. With the breakup of the large estates, many small holdings were increased in acreage, and numerous additional small holdings were formed. The government policy was that every farm household should have its own livestock. This policy, coupled with the high prices then obtainable for livestock products, encouraged the recently augmented independent peasantry to increase their flocks and herds. Under the system of free enterprise thus established, horse numbers had reached 33.5 million by the summer of 1928. These numbers were almost as great as in the larger territory of tsarist Russia in 1916. At the same time, the number of cattle, swine, and sheep and goats compared as follows with those found on farms in the former empire of the tsars: 70.5 million cattle, a 16-percent increase over 1916; 26 million swine, a 24-percent increase; and 146.7 million sheep and goats, a 21-percent increase. 4/

During the period of the First Five Year Plan the livestock industry of the USSR received a severe setback. The wide-scale

little slaughter before June, summer livestock numbers usually represent the maximum number of livestock in the year. (Summer numbers are given in Table 4, Appendix A.) No summer figures are available for Soviet livestock numbers for years after 1938.

* Because of territorial changes, these data are not comparable with the census of 1916 but rather establish a starting point for an understanding of the livestock industry in the USSR.

S-E-C-R-E-T

introduction of collectivization in the early 1930's was accompanied by violence on the part of government agencies and retaliation in the form of slaughter of private livestock by the peasant owners. In addition to mass slaughter, other factors contributing to the great losses in livestock numbers during this period were the increase in the incidence of disease resulting from the concentration of large numbers of livestock in the socialized herds of the newly formed collective farms, poor handling and feeding of the animals, and inadequate housing. 5/ By 1933, the low year of the collectivization drive, horse and cattle numbers had decreased by almost 50 percent as compared with 1928, swine numbers by over 50 percent, and sheep and goat numbers by almost 66 percent. In the summer of 1933 there were in the USSR (as then constituted) 16.6 million horses, 38.4 million cattle, 12.1 million swine, and 50.2 million sheep and goats. 6/

All categories of livestock, except horses, showed substantial increases in numbers from 1934 to 1938, as a consequence of government encouragement of individual ownership of livestock by collective farm members and of a series of good harvests, with the exception of that of 1936. 7/ Another important factor of a purely statistical nature which accounted for a large part of the reported increase in livestock numbers was an improvement in the method of collecting statistical data. This improvement made possible the enumeration of a greater proportion of actual numbers on farms. 8/ Despite the very large increase in livestock numbers during the 1934-38 period, precollectivization totals had not been attained by 1938, except for swine, which showed a significant increase. The summer livestock census of 1938 indicated 17.5 million horses, slightly over half the 1928 total; 63.2 million cattle, 90 percent of the 1928 total; 30.6 million swine, almost 118 percent of the 1928 total; and 102.5 million sheep and goats, somewhat over 66 percent of the 1928 total. 9/

The 1938 summer census was the last Soviet census giving the summer numbers for livestock. Subsequently, the USSR has published only a winter census of livestock numbers.* The winter census of 1 January 1938 gave the following numbers: horses, 16.2 million; cattle, 50.9 million; swine, 25.7 million; and sheep and goats,

* The winter census normally represents the minimum number of animals during the year, since the heaviest slaughter of livestock takes place in the fall and births take place in the spring. (Winter numbers are given in Table 5 and 6, Appendix A.)

S-E-C-R-E-T

S-E-C-R-E-T

66.6 million. These figures showed substantial increases over the low point of 1 January 1934, except for horse numbers, which registered only a 5-percent gain over the 1934 figure of 15.4 million. Cattle numbers were over 50 percent greater than the 1934 figure of 33.5 million; swine numbers, almost 125 percent greater than the 1934 figure of 11.5 million; and sheep and goat numbers, 82 percent greater than the 1934 figure of 36.5 million. 10/

Despite grandiose Soviet plans for increasing livestock numbers under the Third Five Year Plan (1938-42), 11/ total livestock numbers showed relatively slight changes between 1938 and the German invasion of 1941. Horse numbers and sheep and goat numbers increased as compared with 1938, whereas cattle and swine decreased. There were 17.6 million horses, almost a 9-percent increase over 1938, and 83.0 million sheep and goats, a 25-percent increase over 1938. Cattle and swine numbers, on the other hand, were less than in 1938. There were 49.5 million cattle, a 3-percent decrease, and 22.6 million swine, a 12-percent decrease, as compared with livestock numbers on 1 January 1938. 12/

3. World War II Numbers.

The Soviet livestock industry again suffered severe losses during World War II. The areas occupied by the Germans included such important Soviet livestock regions* as the Ukraine (Region III), Belorussia (Region IIb), the Lower Don-North Caucasus (Region IV), and the Volga (Region VI). The occupied area may have lost more than 50 percent of its cattle and as much as 75 to 80 percent of its swine and sheep and goats because of evacuation to the east and destruction by the rival armies moving back and forth over this area. The loss of horses was even more severe.

Decreases in the never-occupied areas,** though not so large as in the occupied areas, were still considerable. These decreases

* The term region in this report refers to the economic regions defined and numbered on CIA Map 12048, 9-51, USSR: Economic Regions.

** Never-occupied USSR includes all of Asiatic USSR and that part of European USSR lying north of the oblasts of Stalingrad, Voronezh, Orel, and Kursk and east of Smolensk Oblast. It also includes the unoccupied parts of Kalinin and Leningrad oblasts, and of the Karelo-Finnish ASSR, as well as Dagestan ASSR and the former Chechen-Ingush ASSR in the south.

S-E-C-R-E-T

were caused primarily by diminished feed supplies, an increase in the incidence of disease, and mismanagement and poor animal husbandry practices. The last-mentioned factors reflected losses of equipment and of experienced personnel.

In 1939 and 1940, considerably larger numbers of livestock were placed at the disposal of the Soviet authorities by the seizure and annexation of the three Baltic States of Estonia, Latvia, and Lithuania; of certain eastern districts of Poland; and of Rumanian Bessarabia, together with the northern part of the Bukovina and several thousand square miles of Finnish territory. In 1945, additional livestock were acquired by the USSR with the acquisition of a segment of German East Prussia (Kaliningrad Oblast) and of Czechoslovak Carpatho-Ukraine (Trans-Carpathian Oblast). Postwar boundaries include all the above areas in addition to the territory held by the USSR in 1938.

In all these areas, however, as in the prewar territory of the USSR, there were significant wartime losses. In the entire area included in postwar USSR, livestock numbers reached their low point in the winter of 1943-44.

It is estimated that as of 1 January 1944 there were in this area 11.5 million horses, 42 percent below the comparable 1938 figure of 19.9 million*; 40.5 million cattle, 32 percent below the comparable 1938 figure of 59.2 million; 8.2 million swine, 74 percent below the comparable 1938 figure of 31.6 million; and 67.8 million sheep and goats, 7 percent below the comparable 1938 figure of 73.1 million.**

4. Postwar Numbers.

Livestock numbers increased slightly during 1944 and 1945, but decreased with the drought of 1946. Since 1947, livestock

* The range of decline in horse numbers becomes 51 percent if the low point of 10.5 million in 1946 is compared with the 1 January 1941 figure of 21.3 million.

** The decrease in sheep and goat numbers shows an even greater loss, 26 percent, if 1 January 1944 numbers are compared with the 1 January 1941 estimate of 91.6 million sheep and goats.

S-E-C-R-E-T

S-E-C-R-E-T

numbers have increased steadily. As of 1 January 1952, estimates indicated 14.7 million horses, 58.8 million cattle, 26.7 million swine, and 107.5 million sheep and goats. 13/

Since the end of World War II the trend in livestock ownership has been toward the enlargement of the socialized flocks and herds at the expense of the privately owned flocks and herds, especially those privately owned by individual members of collective farms. Livestock in the socialized flocks and herds on collective farms has increased absolutely and relatively as compared with total Soviet numbers, whereas livestock in private hands has been decreasing annually both absolutely and relatively. (See Table 1* for distribution of livestock by ownership category.) The Fifth Five Year Plan (1951-55) proposes to continue the trend toward increases in the socialized flocks and herds on collective farms at the expense of privately owned livestock.

The Fifth Five Year Plan calls for the following percentage increases from 1 January 1951 to 1 January 1956: horses, 10 to 12 percent; cattle, 18 to 20 percent; swine, 45 to 50 percent; and sheep and goats, 60 to 62 percent. 14/ These percentages applied to the 1 January 1951 estimates give the following planned numbers for 1 January 1956: horses, 15.1 million; cattle, 67.5 million; swine, 35 million; and sheep and goats, 158.4 million.

The fulfillment of the plan to increase horse numbers offers no particular difficulties. It involves an increase of only 3 percent over 1 January 1952, the latest date for which estimates are available. The Plan figure would still be 25 percent short of the 1938 level. It is unlikely that the 1938 level will ever be regained. Because of the replacement of horses by mechanical power, horse numbers in the USSR probably will continue a long downward trend similar to that which has taken place in the US since 1918.

The planned cattle numbers for 1 January 1956 represent a 15-percent increase over numbers on 1 January 1952, which amounts to an annual increase of 3 to 4 percent. This increase in any one year is very possible. The attainment of the goal, however, will depend on continued favorable weather for the next 3 years and will require increases in summer pastures and in roughage for carrying the cattle through the winter. As indicated in Tables 10, 11, and 12 of Appendix C, hay, straw, and chaff, together with potatoes and feed-roots, account for most of the caloric intake of cattle. Even cows, which

* P. 13, below.

S-E-C-R-E-T

S-E-C-R-E-T

are generally better fed than other types of cattle, receive relatively little grain, oilcake, or concentrates.

The planned increases in swine numbers are higher than those for cattle, representing a 31-percent increase over estimated numbers on 1 January 1952. The over-all increase amounts to an annual increase of 7 percent. There is a question as to whether the availability to feed, particularly grain and potatoes, will support an increase of these proportions. Swine (see Table 13, Appendix C) are fed chiefly grain and potatoes. It is very doubtful that over one-third more grain and potatoes could be made available to make possible a swine increase of 31 percent in 4 years, particularly in view of the demands for grain and potatoes by the increasing population in the USSR. Grain has been in shorter supply than before the war, and, although other feeds for swine can be substituted for grain and potatoes, the substitutes are not generally available in sufficient quantities to permit the rise of 31 percent.

The planned increase in numbers of sheep and goats is the highest of all. The planned sheep and goat numbers represent a 47-percent increase over estimated numbers on 1 January 1952. This increase amounts to an annual increase of over 9 percent. Although both sheep and goats subsist almost exclusively on pasturage, supplemented by relatively small quantities of hay, straw, and chaff, the total number of sheep and goats is already at record or near-record levels, and there are insufficient ranges and pastures in the sheep areas to maintain such a high level. It is claimed by the USSR that irrigation projects which are proposed or under development will increase pastures and allow tremendous increases in sheep numbers. Some of these irrigation projects, however, will not be completed until the late 1950's. Thus the increases which will be possible in sheep numbers by 1956 probably will not be so large as planned.

Although they are biologically feasible, it is unlikely that all the increases projected in the Fifth Five Year Plan will be achieved. These increases are related directly to the availability of feed-grains, concentrates, and roughages, which probably will not be sufficient to support all the increases projected. One or more of the planned increases could be achieved at the expense of other categories of livestock. In any event, the total livestock numbers for the USSR can be expected to increase gradually until there is a poor year for pastures and crops, when the winter census of livestock will show a decrease.

S-E-C-R-E-T

5. Reliability of Statistics.

Most of the figures on livestock numbers in this report are drawn from official Soviet sources. These figures may reflect deliberate Soviet propaganda as well as Soviet errors in the collection and interpretation of the raw data.

The figures may be too high or too low, depending upon the impression which the Russians were trying to give. For example, during and immediately after the collectivization drive, attempts were made to minimize the extent of the losses and to maximize the number of animals still alive. By 1938 the collectivization furor had died down, and it was no longer necessary to conceal the losses incurred in 1930-33. Furthermore, if the advantages claimed for collectivization were to be made manifest to the Soviet people, it was essential that the 1 January 1938 livestock numbers following the year of maximum Soviet effort under the Second Five Year Plan (1933-37) be larger than the 1933 numbers, the low numbers under the Communist regime. Consequently, 1933 numbers published in 1938 and later were much lower than earlier published numbers for 1933. (Statistics on summer numbers are given in Table 4, Appendix A, and statistics on winter numbers are given in Tables 5 and 6, Appendix A.)

The reliability of the Soviet estimates of livestock numbers is limited. During the 1920's livestock estimates were based on a small sample. In the early 1930's, livestock numbers were estimated on the basis of information gathered from tax records. 15/ The taxes on farmers at that time were based on adult animals. The tax collectors, therefore, were not too interested in the number of young animals. The farmers, on the other hand, tended to underestimate or conceal some of their adult animals, although they were quite willing to reveal considerable information regarding young animals and annual births. Thus it is likely that statistics for this period were generally on the low side in the reporting of adult livestock numbers. Even during the middle 1930's, when improvements were made in the gathering of livestock statistics, the efforts of farmers to have their livestock numbers underestimated continued. 16/

By 1935 and 1936, Soviet collection of data on livestock numbers as well as Soviet estimating techniques had begun to improve. Since World War II the Soviet government has attempted to strengthen its control over agriculture. One facet of this control is manifested in the increased numbers of people employed in the collection

- 10 -

S-E-C-R-E-T

S-E-C-R-E-T

and presentation of livestock data for official consumption. Thus published statistics are currently less likely to be affected by error than by bias. As recently as July 1952, however, the Soviet press carried considerable criticism of the keeping of livestock records by collective farms and district organizations. 17/

II. Distribution of Livestock by Ownership Category.

Since the beginning of collectivization in the USSR, there has been a trend toward improving the relative position of livestock in the socialized flocks and herds at the expense of the privately owned flocks and herds. In the early period of collectivization, during the early 1930's, the socialized flocks and herds were built up by virtual confiscation of the livestock of peasants who were then being forced onto collective farms. Independent farms were stripped of livestock by excessive taxation. At the beginning of the First Five Year Plan (1928-32), forced collectivization was attended by excessive slaughter of animals owned by peasants who resented turning their livestock over to the collective farming groups. In order to build livestock numbers up again, the government later discontinued confiscation and advocated the policy of "a cow for every peasant household." By 1 January 1938, 27 percent of the horses, 71 percent of the swine, 69 percent of the cattle, and 59 percent of the sheep and goats were privately owned by members of collective farms, urban workers, and a few private farmers. With the virtual disappearance of the private farmer as a source of additional animals to build up the socialized flocks and herds on collective farms, the government turned primarily to the livestock owned by individual members of the collective farms. World War II accelerated this tendency, which continued through the Fourth Five Year Plan (1946-50). By the end of the Fourth Five Year Plan the livestock ownership situation as it existed in 1938 was nearly reversed. On 1 January 1951, virtually all of the horses, over 56 percent of the cattle, 67 percent of the swine, and nearly 78 percent of the sheep and goats had been socialized. Preliminary estimates as of 1 January 1952 indicate that the socialization of the herds of cattle and swine had continued during 1951 to the extent that 76 percent of the swine total and 61 percent of the cattle total had been brought into the socialized flocks and herds. On the other hand, horse numbers on collective farms, relative to total horse numbers, increased only 1.5 percent over 1951, and the ratio between privately owned and socialized sheep and goats remained static.

- 11 -

S-E-C-R-E-T

S-E-C-R-E-T

Livestock winter numbers for the various ownership categories for 1938, 1951, and 1952 and the planned numbers for 1956 are compared in Table 1.* It gives the changes in numbers for each category from one period to the next in percentage terms. The 1938 figures represent present boundaries and, consequently, include the livestock of peasant farmers in formerly non-Soviet territories which were subsequently acquired by the USSR.

The Fifth Five Year Plan calls for the following increases in livestock in the USSR (1 January 1951 to 1 January 1956) in all categories of ownership: horses, 10 to 12 percent; cattle, 18 to 20 percent; swine, 45 to 50 percent; and sheep and goats, 60 to 62 percent. In the socialized herds on collective farms, horses are to be increased 14 to 16 percent; cattle, 36 to 38 percent; swine, 85 to 90 percent; and sheep and goats, 75 to 80 percent. Cattle on state farms are to increase 35 to 40 percent; swine, 40 to 45 percent; and sheep and goats, 75 to 80 percent. 18/ In all cases the socialized flocks and herds on collective farms are planned to increase at a more rapid rate than indicated for the USSR as a whole. These relatively larger increases in the socialized livestock on collective farms will require a marked reduction in the percentage of animals slaughtered for meat; or a decrease in the percentage of animals in the privately owned sectors; or both, since planned livestock numbers on state farms, the only other source for additions to collective farm herds, are to remain generally constant in relation to total numbers.

III. Geographical Distribution of Livestock.** 19/

1. Introduction.

In 1938 the area now included in European USSR accounted for the following percentages*** of the total livestock numbers in the area now included in the USSR: 75 percent of the horses, or 15 million; 68 percent of the cattle, or 40 million; 85 percent of the swine, or 27 million; 61 percent of the sheep, or 38 million; and 38 percent of the goats, or 3.7 million.

* Table 1 follows on p. 13.

** This distribution applies to the year 1938 for all categories of livestock except sheep and goats, for which additional years are considered, as will be seen in the text.

*** Percentage figures for geographical distribution of livestock are rounded.

S-E-C-R-E-T

Table 1

Categories of Livestock Ownership in the USSR a/*
 Winter Numbers 20/ and Percentages
 1938, 1951, 1952, 1956 b/

Type of Livestock by Owner Category	1938		1951		1952		Planned 1956		Percent Changes for Given Years			
	Million Head	Percent of Total	Million Head	Percent of Total	Million Head	Percent of Total	Million Head	Percent of Total	1938 to 1951	1951 to 1952	1952 to 1956	1951 to 1956
Horses c/	2.0	10.1	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
State Farms	12.5	62.8	10.7	78.1	11.7	79.6	12.3	81.5	- 14	+ 8	+ 5	+14 to +16
Collective Farms	5.4	27.1	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Members of Collective Farms, Urban Workers, and Private Farmers	19.9	100.0	13.7	100.0	14.7	100.0	15.1	100.0	- 31	+ 7	+ 3	+10 to +12
Cattle	3.7	6.3	3.8	6.6	4.3	7.3	5.1	7.6	+ 3	+ 13	+ 19	+35 to +40
State Farms	14.8	25.0	28.3	49.5	31.7	53.9	38.5	57.0	+ 91	+ 12	+ 21	+36 to +38
Collective Farms	40.7	68.7	25.1	43.9	22.8	38.8	23.9	35.4	- 38	- 9	+ 5	N.A.
Members of Collective Farms, Urban Workers, and Private Farmers	52.2	100.0	57.2	100.0	58.8	100.0	67.5	100.0	- 3	+ 3	+ 15	+18 to +20
Total												

Footnotes for Table 1 follow on p. 14.

S-E-C-R-E-T

S-E-C-R-E-T

Table 1

Categories of Livestock Ownership in the USSR a/
 Winter Numbers 20/ and Percentages
 1938, 1951, 1952, 1956 b/
 (Continued)

Type of Livestock by Owner Category	1938		1951		1952		Planned 1956		Percent Changes for Given Years				
	Million Head	Percent of Total	Million Head	Percent of Total	Million Head	Percent of Total	Million Head	Percent of Total	1938 to 1951	1951 to 1952	1952 to 1956	1951 to 1956	1956 to 1956
Swine													
State Farms	2.8	8.9	3.4	14.1	4.1	15.4	4.8	13.7	+ 21	+ 21	+ 17	+ 40 to 45	
Collective Farms	6.3	19.9	12.8	53.1	16.1	60.3	23.7	67.7	+103	+ 26	+ 47	+ 85 to 90	
Members of Collective Farms, Urban Workers, and Private Farmers	22.5	71.2	7.9	32.8	6.5	24.3	6.5	18.6	- 65	- 18	0	N.A.	
Total	31.6	100.0	24.1	100.0	26.7	100.0	35.0	100.0	- 24	+ 11	+ 31	+ 45 to 50	
Sheep and Goats													
State Farms	7.0	9.6	8.9	9.0	9.9	9.2	15.6	9.8	+ 27	+ 11	+ 58	+ 75 to 80	
Collective Farms	22.7	31.0	68.1	68.8	73.5	68.4	119.2	75.3	+200	+ 8	+ 62	+ 75 to 80	
Members of Collective Farms, Urban Workers, and Private Farmers	43.4	59.4	22.0	22.2	24.1	22.4	23.6	14.9	- 51	+ 10	- 2	N.A.	
Total	73.1	100.0	99.0	100.0	107.5	100.0	158.4	100.0	+ 35	+ 9	+ 47	+ 60 to 62	

a. Present boundaries.
 b. Percentage increase according to the Fifth Five Year Plan.
 c. Although no specific information is available, nearly all horses probably are in the socialized sector.

S-E-C-R-E-T

S-E-C-R-E-T

In 1938, Asiatic USSR accounted for the following percentages of the total livestock numbers in the area now included in the USSR: 25 percent of the horses, or 5 million; 32 percent of the cattle, or 19 million; 15 percent of the swine, or 4.6 million; 39 percent of the sheep, or 25 million; and 62 percent of the goats, or 6 million.

These variations in the proportion of livestock in European USSR and Asiatic USSR can be explained by the differences in the type of agriculture practiced and in the crops raised. The very large percentage of swine in European USSR is closely related to the production of feed-grains, potatoes, and feed-roots. Seventy-five percent of the horses are found in European USSR because much of the cropland is in this area and because the horses are needed as draft power.

Although the bulk of the cultivated land is in European USSR, there are large areas of land in Asiatic USSR which serve as ranges and pastures for livestock and for hay production. For this reason, Asiatic USSR has a higher proportion of the animals which consume only roughage -- cattle, sheep, and goats -- than of swine and horses. (See Tables 9 through 15, Appendix C, for the feeding rates for livestock.)

A parallel to this is to be found in the US, where 68 percent of the swine numbers are concentrated in the north central states,* 21/ and 76 percent of the corn production is also in these states.** 22/ There are relatively few swine in the western and southwestern range areas of the US, which, however, support large numbers of beef cattle and sheep.

2. Horses.

Horses have been used widely in pulling agricultural machinery, in hauling loads, in the transportation of both people and freight, and for communication. In the many areas of the USSR where mechanical power has not yet taken over these functions, horse numbers are closely related to such needs. In 1938 the distribution

* Based on the average number of swine on farms from 1 January 1941 to 1 January 1950 by states and for the US as a whole.

** Based on the average production of corn for all purposes, 1939-48.

S-E-C-R-E-T

of horses in the present area of the USSR was as follows: the Ukraine (Region III) had 4.6 million head, or 23 percent; Central European USSR (Region VII) had 4.1 million, or 21 percent; the Baltic (Region IIa) and West Siberia (Region IX) each had 1.4 million, or 7 percent (see Table 2*).

3. Cattle.

The distribution of cattle is closely related to the availability of pastures, hay, straw, chaff, and other roughage and, in some cases, is related to the need for draft power. In 1938 the distribution of cattle in the present area of the USSR was as follows: the Ukraine (Region III) led the economic regions in percentage of total cattle in the USSR with 11 million head, or 19 percent; Central European USSR (Region VII) had 9.6 million, or 16 percent; West Siberia (Region IX) had 5.1 million, or 9 percent; and the Lower Don-North Caucasus (Region IV) had 4.4 million and the Transcaucasus (Region V) had 4 million, about 7 percent each.

4. Swine. 23/

Distribution of swine in the USSR is based upon three factors: climate, available feed-grains and feed-roots, and the religious and social customs of the people.

Climate represents a direct factor because swine are not readily adaptable to conditions of extreme heat, cold, drought, or excessive rainfall. Climate also plays a role in the particular feed-grains which may be grown and which, in turn, affect the ability of an area to sustain swine.

Very few swine are found in the extensive semiarid zones of Astrakhan' Oblast, Kazakh SSR, and the Central Asiatic republics, where the environmental conditions are more suitable for sheep and goats. Likewise, in the very cold tundra and taiga regions of Siberia and in the northern parts of European USSR the harsh climate and the lack of feed have ruled out the breeding of swine.

In certain areas of the Transcaucasus, Kazakh SSR, and Central Asia, large segments of the population are Mohammedans and will neither eat pork nor raise swine.

* P. 19, below.

S-E-C-R-E-T

The greatest concentrations of swine are in the Baltic States, Belorussia, Kaliningrad Oblast, and the western parts of the Ukraine -- all areas acquired by the USSR since 1939. Large numbers of swine are also found in the remainder of the Ukraine and in Central European USSR. Of the total swine in the USSR in 1938, the distribution in the present area of the USSR was as follows: 9.5 million, or 30 percent, were in the Ukraine (Region III); 6.3 million, or 20 percent, in Central European USSR (Region VII); 3.2 million, or 10 percent in the Baltic (Region IIa); and 2.9 million, or 9 percent, in Belorussia (Region IIb).

5. Sheep and Goats.

In the USSR, as well as in the US, sheep-raising tends to be concentrated on land which is of little use for raising crops. Sheep subsist mainly on pastures, ranges, and the necessary roughage for carrying them through the winter. In 1938, the distribution of sheep in the present area of the USSR was as follows: Central European USSR (Region VII) had 11.1 million, or 17 percent, of the sheep; the Lower Don-North Caucasus (Region IV) had 6.9 million, or 11 percent; the Ukraine (Region III) had 6.4 million, and Central Asia (Region Xb) had 6.2 million, about 10 percent each; West Siberia (Region IX) had 5.7 million, 9 percent; the Volga (Region VI) had 5.1 million, 8 percent; and Kazakh SSR (Region Xa) had 4.5 million, and the Transcaucasus (Region V) had 4.3 million, 7 percent each.

Of the 9.7 million goats in the USSR in 1938, the distribution in the present area of the USSR was as follows: 3.1 million, or 32 percent, were in Central Asia (Region Xb); 1.3 million, or 13 percent, were in the Transcaucasus (Region V); and 1 million, or 10 percent, were in Central European USSR (Region VII). The remainder were scattered in small percentages throughout other parts of the USSR.

The results of a preliminary study of sheep and goat numbers in Kazakh SSR (Region Xa) have indicated the utility of research on livestock numbers on a regional basis. Regional studies of this type will indicate the distribution of livestock, the trends in distribution, and the production of livestock products in the USSR for any given period. It should also be possible to obtain more accurate totals of current and future livestock numbers in the USSR by adding the regional totals. A knowledge of the capacity of the particular region to produce feed and roughage will serve as a check on the reliability of regional estimates.

S-E-C-R-E-T

S-E-C-R-E-T

In Kazakh SSR (Region Xa), sheep and goat numbers increased from 5.3 million head in 1938 to 14.6 million on 1 January 1949, or an increase of 9.3 million head. For the same period, sheep and goat numbers in the entire USSR increased by 12 million. Thus a major redistribution of sheep and goat numbers becomes apparent for this period. In 1949, Kazakh SSR had 17 percent of the USSR sheep and goat numbers as compared with slightly more than 7 percent in 1938. The recent increases in sheep and goat numbers indicate that Kazakh SSR again leads the USSR in the production of sheep and goats as it did in the days before collectivization. While Kazakh SSR has gained in sheep and goat numbers, other economic regions have suffered relative and actual losses. A whole new pattern of sheep and goat distribution, land use, and production of sheep and goat products emerges. 24/

6. Over-All Pattern.

The Ukraine (Region III) is the leading livestock region of the USSR. In 1938 the Ukraine had 23 percent of the horses, 19 percent of the cattle, and 30 percent of the swine in the areas now included in the USSR. This region had more horses, cattle, and swine than any other economic region but was third in number of sheep and ninth in number of goats. Large numbers of these livestock were in the areas which were formerly Polish territory.

Central European USSR (Region VII) is the next most important livestock region. In 1938 it had 21 percent of the horses, 16 percent of the cattle, 20 percent of the swine, 18 percent of the sheep, and 10 percent of the goats in the areas now included in the USSR.

The Baltic (Region IIa) had 7 percent of the horses, 6 percent of the cattle, 10 percent of the swine, but only a small proportion of the sheep and goats in the areas now included in the USSR. Belorussia (Region IIb) had 6 percent of the horses, 5 percent of the cattle, 9 percent of the swine, and less than 5 percent of the sheep and goats. West Siberia (Region IX) had 7 percent of the horses, 9 percent of the cattle, 5 percent of the swine, and 9 percent of the sheep. (The percentage breakdown for all of the economic regions is given in detail in Table 2.* Livestock numbers for specified regional areas are given in Table 7, Appendix B.)

* Table 2 follows on p. 19.

S-E-C-R-E-T

Table 2

Livestock Numbers and Percentages of the Total in Specified Economic Regions of the USSR a/*
1 January 1938 25/

Specified Economic Region	Horses		Cattle		Swine		Sheep		Goats	
	Million Head	Percent	Million Head	Percent	Million Head	Percent	Million Head	Percent	Million Head	Percent
European USSR										
Ia Northwest b/	0.4	2.0	1.1	1.9	0.6	1.9	1.0	1.6	0.1	1.1 c/
Ib Northern European USSR	0.4	2.0	1.1	1.9	0.2	0.6	0.7	1.1	0.1 c/	1.0
IIa Baltic d/	1.4	7.1 c/	3.7	6.3	3.2	10.1	1.8	2.8	e/	
IIb Belorussia f/	1.2	6.0	3.1	5.2	2.9	9.2	2.0 c/	3.2	g/	Neg- ligible
III Ukraine h/	4.6	23.1	11.0	18.6	9.5 c/	30.1	6.4	10.1	0.5	5.2
IV Lower Don-North Caucasus	1.0	5.0	4.4	7.4	2.0	6.3	6.9	10.9	0.8	8.3 c/
V Transcaucasus (See Asiatic USSR)	0.9	4.5	3.4	5.7	1.3	4.1	5.1	8.0	0.7	7.2
VI Volga	4.1	20.6	9.6 c/	16.2	6.3	19.9	11.1	17.5	1.0	10.3
VII Central European USSR	1.0	5.0	2.8	4.7	1.0	3.2	3.4	5.4	0.5	5.2
VIII Urals (European Part)	15.0	75.3 c/	40.2	67.9	27.0	85.4	38.4	60.6	3.7	38.3 c/
Subtotal										

* Footnotes for Table 2 follow on p. 20.

S-E-C-R-E-T

S-E-C-R-E-T

Table 2

Livestock Numbers and Percentages of the Total in Specified Economic Regions of the USSR as of January 1938 ^{25/}
(Continued)

Specified Economic Region	Horses		Cattle		Swine		Sheep		Goats	
	Million Head	Percent	Million Head	Percent	Million Head	Percent	Million Head	Percent	Million Head	Percent
<u>Asiatic USSR</u>										
VIII Urals (Asiatic Part)	0.3	1.5	1.2	2.0	0.4	1.3	1.1	1.7	0.1	1.0
IX West Siberia	1.4	7.1	5.1	8.6	1.6 c/	5.1	5.7	9.0	0.1	1.0
Xa Kazakh SSR	0.7 c/	3.5	3.1	5.2	0.4	1.3	4.5 c/	7.1	0.8 c/	8.2
Xb Central Asia	0.9	4.5	2.6	4.4	0.2	0.6	6.2	9.8	3.1	31.9
XI East Siberia i/	1.1	5.6	2.7 c/	4.6	0.8	2.5	3.1	4.9	0.6	6.2
XII Far East	0.1	0.5	0.3	0.5	0.3	0.9	0.1	0.1 c/	g/	Neg-
V Transcaucasus	0.4	2.0	4.0	6.8	0.9	2.9 c/	4.3	6.8	1.3	ligible
Subtotal	4.9	24.7 c/	19.0	32.1	4.6	14.6	25.0	39.4	6.0	61.7 c/
USSR Total	19.9	100.0	59.2	100.0	31.6	100.0	63.4	100.0	9.7	100.0

a. Present boundaries.

b. Includes territory acquired from Finland.

c. Rounded to balance total.

d. Includes territory acquired from Germany and Poland.

e. Included with sheep or not available.

f. Includes territory acquired from Poland.

g. Less than 50,000.

h. Includes territory acquired from Czechoslovakia, Poland, and Rumania.

i. Includes the Tuva Autonomous Oblast, incorporated in 1945.

S-E-C-R-E-T

S-E-C-R-E-T

IV. Slaughter Practices.

From a Western point of view, livestock marketing in the USSR is insignificant. It is restricted to a few animals sold locally in the market places designated for the use of peasants or workers near large population centers.

Although an appreciable percentage of the livestock is delivered annually to the Ministry of the Meat and Dairy Industry for slaughter in government slaughter houses, the bulk of the livestock is slaughtered on collective farms. On the average, the total slaughter comprises about 30 percent of all cattle (including calves); 100 percent of all swine; and about 60 percent of all sheep and goats, as of 1 January for the year under consideration. In the prewar period the quotas for deliveries to the government were apparently based on a percentage of the estimated live weight of the total number of animals to be slaughtered, but they are now assigned according to agricultural land, with a variable quota per hectare.* 26/ These deliveries may average about 30 percent of the total slaughter, being somewhat higher for swine and lower for cattle. As the trend toward collectivization of livestock continues, greater numbers of livestock will be made available for delivery to government agencies. The meat thus obtained goes into a complicated system of government storage installations. Government stockpiling needs get primary consideration, followed by the armed forces and, finally, by the nonfarm sectors of the civilian population, with key industrial workers and Party members being given preference in these sectors.

The bulk of the remaining 70 percent of the livestock is slaughtered on the collective farms or privately. The meat from the animals in the socialized herds of the collective farms is utilized by the collective farm to pay its members or is sold directly to consumers for cash on the various peasant markets. The meat from the animals slaughtered by the individual members of collective farms is usually eaten by the owner and his family.

Most of the government meat-packing plants obtain their slaughter animals from nearby rural areas. Some of the largest meat-packing plants, however, such as the Mikoyan Meat Combine in Moscow, may receive live animals from as far away as Kazakhstan. 27/ Ukrainian meat-packing plants obtain swine from Hungary and Rumania, 28/ and

* One hectare equals 2.472 acres.

S-E-C-R-E-T

the meat-packing plant in Ulan-Ude, in eastern Siberia, imports swine from Manchuria and cattle, sheep, and goats from the Mongolian People's Republic. 29/

For the first 9 months of the calendar year the government meat-packing plants are usually able to slaughter the livestock as received daily from government procurement agencies. However, because about 50 percent of the annual slaughter input is received by the plants during the 3 months from 1 October through 31 December, the number of animals received during the peak period is in excess of the daily slaughtering capacities. The excess animals are held on farms or feeding lots controlled by government meat-packing plants until they can be slaughtered. In the case of the larger meat-packing plants, such as the Mikoyan Meat Combine in Moscow, the livestock farms controlled by the plants are located in the rural areas outside the city proper. 30/ The principal government meat-packing plants and collection points for livestock in the USSR are located in Moscow, Leningrad, Ulan-Ude, Bryansk, Baku, Leninakan, Semipalstinsk, Chkalov, Alma-Ata, and Petropavlovsk. 31/ In the past, there has been considerable criticism of the care and feeding of the animals awaiting slaughter.

V. Meat* Situation.

1. Production** and Imports in 1951.

The total meat production in the USSR in 1951 is estimated at 3,460,000 metric tons as compared with 3,980,000 metric tons estimated to have been produced in the same area in 1938 (see Table 3).*** 32/

A breakdown of meat production by categories of livestock indicates considerably less production of pork and pork fat in 1951 than in 1938; a slight decrease in the production of beef and veal; and a substantial increase in the production of mutton, lamb, and goat meat. The 1951 production of pork and pork fats was 28 percent less than the 1938 production. Beef and veal production in

* Only meat coming from cattle, swine, sheep, and goats is considered in this report.

** For the purposes of this report, weight of meat is reported in terms of carcass weight (bone-in) and includes all body fats.

*** Table 3 follows on p. 23.

S-E-C-R-E-T

Table 3

Estimated Livestock Numbers and Meat Production in the USSR
1938 a/ and 1951 33/

Livestock Numbers (Million Head)			Meat Production (Thousand Metric Tons)		
Livestock	1938	1951	Meat	1938	1951
Cattle	59.2	57.2	Beef <u>a/</u>	1,497	1,429
Swine	31.6	24.1	Pork <u>b/</u>	2,018	1,451
Sheep and Goats	73.1	99.0	Mutton, Lamb, and Goat Meat	465	580
			Total Meat	<u>3,980</u>	<u>3,460</u>

- a. Present boundaries.
- b. Includes veal.
- c. Includes lard.

1951 was almost equal to the 1938 production. The production of mutton, lamb, and goat meat in 1951 was almost 25 percent greater than in 1938. (See Tables 16 and 17, Appendix D, for estimates of meat production for 1928-51.)

Between 1938 and 1951, there were changes in the relative importance of the various meats to total meat production. In 1951, pork represented only 42 percent of total meat production as compared with over 50 percent in 1938. The production of beef and veal in 1951 was 43 percent of the total as compared with 38 percent in 1938. Mutton, lamb, and goat meat accounted for almost 17 percent of the total meat production in 1951 as compared with 12 percent in 1938.

The USSR supplements its domestic meat supply with imports from the European 34/ and Asiatic 35/ Satellites. It is estimated that at least 450,000 metric tons of meat were imported from the European and Asiatic Satellites during a period of 12 months beginning with the summer of 1951 and ending in the summer of 1952, with the European Satellites contributing an estimated 300,000 metric

S-E-C-R-E-T

tons and Communist China and the Mongolian People's Republic probably contributing at least 150,000 metric tons in addition.*

2. Per Capita Availabilities in 1951.**

Meat production in the USSR on a per capita basis reached a very low level during and shortly after World War II. (See Table 18, Appendix D, for statistics on the per capita meat production in the USSR and the US.) The annual per capita production of meat in the USSR in 1947 was 11 kilograms but had increased to an estimated 17 kilograms in 1951, as compared with a per capita production in the US of 72.4 kilograms in 1951 and an average of 76.8 kilograms for the 1938-51 period. 36/

If the supplement of 450,000 metric tons of imports is added to the 1951 indigenous meat production of the USSR, a total of 3,897,000 metric tons is obtained. This quantity of meat distributed over an estimated population of 203.8 million 37/ indicates a total annual per capita supply of 19.2 kilograms, of which 17 kilograms represents indigenous production and 2.2 kilograms may be attributed to imports. In 1938 the meat availabilities of the USSR were estimated at 21.4 kilograms per capita per year for a population of 186 million; 38/

3. Production in 1952.

Meat production in the USSR in 1952 is estimated at 3,715,000 metric tons. 39/ The estimated composition is as follows: 1,470,000 metric tons of beef and veal; 1,600,000 metric tons of pork; and 645,000 metric tons of mutton, lamb, and goat meat. According to this preliminary estimate, meat production in 1952 showed a 7.4-percent increase over the 1951 estimated meat production but was still only 93.3 percent of the 1938 meat production estimated for the areas presently included in the USSR.

The above estimate of 1952 meat production is based mainly on the livestock numbers at the beginning of 1952 and on a general estimate of 1952 current weather, crop, and pasture conditions. In

* Imported largely on the hoof via Ulan-Ude.

** This excludes consideration of stockpiling, which will be taken up in a subsequent report on the meat-packing industry of the USSR.

S-E-C-R-E-T

1952, better than average conditions seem to have prevailed for the country as a whole. Although indications are that pasture conditions and hay production have been slightly below average in Belorussia (Region IIb), the Baltic (Region IIa), part of the Ukraine (Region III), and the eastern Urals (Region VII), pasture conditions and hay production elsewhere seem to have been much better than average. The country as a whole may be able, therefore, to carry more livestock through the winter of 1952-53 than through the winter of 1951-52. This probable increase in livestock numbers should result in a lower meat production than would be the case if livestock numbers remained steady or declined during 1952.

4. Production under the Fifth Five Year Plan (1951-55).

The total meat production in the USSR can be expected to show only gradual increases, in line with gradual increases in livestock numbers and possible increases in productivity per animal. When there is a poor year for pastures and crops, however, livestock herds will generally show a decrease, which will be reflected in increased meat production for a short period of time.

The Fifth Five Year Plan (1951-55) calls for an 80 to 90 per cent increase in government meat production. ^{40/} An increase of this size depends upon the availability of animals for slaughter and upon meat-processing facilities. With the continued expansion of livestock in the socialized sector, enough additional animals could be made available to the government for slaughter in government meat-packing plants to meet the planned increase. It appears doubtful, however, that government processing and storage facilities could be increased sufficiently to handle twice as many animals as are now processed. Lack of refrigeration, as in the past, is expected to remain a significant drawback. ^{41/}

VI. Capabilities and Intentions.

1. Capabilities.

Soviet capabilities for increasing livestock numbers will depend primarily upon the availability of summer pastures and particularly upon the availability of roughage which can be stored for use through the winter for horses, cattle, sheep, and goats. An increase in swine numbers is contingent upon the availabilities

S-E-C-R-E-T

of feed-grains and other concentrates. A possible additional source of concentrated feed for all livestock may be found in the relatively large oilcake surplus at the disposal of Communist China. ^{42/} If large enough quantities of this oilcake could be diverted to the USSR, a more balanced ration and thus a more efficient use of total feeds would be possible. This would result in improved capabilities for increasing livestock numbers.

The only meat available for stockpiling in the USSR is that produced in government packing plants. Of the meat processed by government meat-packing plants, only that quantity which can be effectively stored can be stockpiled. The lack of adequate refrigeration capacity to store meat awaiting processing or meat already processed is a serious restriction in the meat industry. Although many plans have been made to increase refrigeration capacity, this was still a major problem in 1951. ^{43/} An increase in processing facilities, such as canning, smoking, and curing, would tend to alleviate the refrigeration problem by providing products that could be stored without refrigeration.

To meet the demands of an increasing population, it may be necessary for the Soviet government to divert meat from stockpiling requirements. It is believed, however, that the Russians would allocate fewer supplies of meat for consumption by the civilian population rather than divert meat intended for stockpiles.

2. Intentions.

Although meat and animal fats constitute less than 7 percent of the total caloric intake in the Soviet diet, meat is an important source of protein, and fats are concentrated sources of energy particularly needed for the army and industrial workers. Increased production of livestock at the expense of food crops, particularly grain, would indicate a shift in the long-term policy motivated by a desire on the part of the Soviet government for an eventual increase of meat production.

If the Russians do increase livestock numbers when sufficient feed is available, such an increase would, for a short term, have to come at the expense of meat production. Conversely, if the Russians increase slaughter of livestock and meat production, they cannot increase livestock numbers to any appreciable extent. An effort by the USSR to increase livestock numbers at a greater rate than meat

S-E-C-R-E-T

production would seem to indicate more concern for long-term planning than for the present. On the other hand, increased slaughter and meat production, not caused by natural factors such as disease or drought attended by feed shortages, would indicate a more immediate concern for the current meat supply.

In some instances it may be possible to raise any of several categories of livestock on the same feed supply. For example, horses and cattle may live on roughly the same diet, and in range country, sheep and cattle are to some extent interchangeable. Under these circumstances, allocation of feed to one category of livestock rather than to another would indicate intentions. Diversions of feed from cattle to horses with the ultimate aim of increasing horse numbers at the expense of cattle numbers would indicate willingness to sacrifice meat and dairy products for draft power.

- 27 -

S-E-C-R-E-T

S-E-C-R-E-T

APPENDIX A

SUMMER AND WINTER LIVESTOCK NUMBERS

Table 4

Summer Livestock Numbers in the USSR, a/ 1921-38 b/
and in Tsarist Russia, 1916 ⁴⁴/₄₄

<u>Year</u>	<u>Thousand Head</u>			
	<u>Horses</u>	<u>Cattle</u>	<u>Swine</u>	<u>Sheep and Goats</u>
1916	35,800	60,563	20,900	121,200
1921	29,600	50,800	19,400	110,900
1922	24,100	45,800	12,100	91,100
1923	24,600	52,900	12,900	95,300
1924	25,700	59,000	22,200	109,000
1925	27,100	62,100	21,800	122,900
1926	29,200	62,500	21,600	132,500
1927	31,600	68,000	23,200	139,700
1928	33,500	70,541	26,000	146,700
1929	34,600	67,100	20,400	147,000
1930	30,200	52,500	13,600	108,800
1931	26,200	47,900	14,400	77,700
1932	19,600	40,700	11,600	52,100
1933	16,600	38,380	12,100	50,200
1934	15,700	42,400	17,400	51,900
1935	15,900	49,244	22,560	61,064
1936	16,649	56,691	30,457	73,657
1937	16,700	57,000	22,800	81,300
1938	17,500	63,200	30,600	102,500

a. Prewar boundaries.

b. No summer numbers are available after 1938.

S-E-C-R-E-T

Table 5

Winter Livestock Numbers in the USSR a/ 45/
1932, 1934-41, 1943

<u>Beginning of Year</u>	<u>Thousand Head</u>			
	<u>Horses</u>	<u>Cattle</u>	<u>Swine</u>	<u>Sheep and Goats</u>
1932	21,700	38,300	10,900	47,600
1934	15,400	33,500	11,500	36,500
1935	14,932	38,869	17,116	40,771
1936	15,514	45,960	25,904	49,897
1937	15,884	47,492	20,044	53,777
1938	16,221	50,921	25,716	66,595
1939	17,100	47,900	20,500	67,500
1940	17,800	48,400	22,900	74,000
1941	17,600	49,546	22,612	83,037
1943	11,500	35,169	12,391	51,986

a. Prewar boundaries.

S-E-C-R-E-T

Table 6

Winter Livestock Numbers in the USSR a/ 46/
1938, 1941-52, 1956

<u>Beginning of Year</u>	<u>Thousand Head</u>			
	<u>Horses</u>	<u>Cattle</u>	<u>Swine</u>	<u>Sheep and Goats</u>
1938	19,900	59,200	31,600	73,100
1941	21,000	54,500	27,500	91,600
1942	14,500	46,500	20,000	85,100
1943	12,900	41,000	14,000	71,300
1944	11,500	40,500	8,200	67,800
1945	10,800	43,300	9,000	69,000
1946	10,500	46,900	10,400	69,400
1947	10,800	46,800	8,600	69,100
1948	11,300	50,000	12,000	74,500
1949	12,000	54,000	15,000	85,100
1950	12,700	56,000	19,000	89,700
1951	13,700	57,200	24,100	99,000
1952	14,700	58,800	26,700	107,500
1956 b/	15,100	67,500	35,000	158,400

- a. 1938 and 1941-45 figures adjusted to present boundaries.
b. According to the Fifth Five Year Plan.

S-E-C-R-E-T

APPENDIX B

LIVESTOCK NUMBERS IN SPECIFIED REPUBLICS, OBLASTS, AND KRAYS a/ * 47/
1 JANUARY 1938

Table 7

Republic, Oblast, or Kray	Horses	Cattle	Swine	Sheep	Goats
<u>Northwest (Ia) b/</u>					
Karelo-Finnish SSR	51,900	152,900	47,500	93,900	10,400
Murmansk Oblast	5,100	6,900	5,700	7,900	5,700
Leningrad Oblast	98,500	306,000	151,800	246,900	13,200
Pskov Oblast	108,700	279,500	168,100	277,700	20,900
Novgorod Oblast	142,000	340,900	210,000	365,300	26,200
Subtotal	<u>406,200</u>	<u>1,086,200</u>	<u>583,100</u>	<u>991,700</u>	<u>76,400</u>
<u>Northern European USSR (Ib)</u>					
Arkhangel'sk Oblast	139,500	375,400	57,300	251,300	23,300
Vologda Oblast	200,000	600,000	110,000	350,000	25,000
Komi ASSR	54,400	122,000	19,800	98,900	1,000
Subtotal	<u>393,900</u>	<u>1,097,400</u>	<u>187,100</u>	<u>700,200</u>	<u>49,300</u>

* Footnotes for Table 7 follow on p. 43.

S-E-C-R-E-T

Table 7
(Continued)

Republic, Oblast, or Kray	Horses	Cattle	Swine	Sheep	Goats
<u>Baltic (IIa) c/</u>					
Estonian SSR	220,000	660,900	384,600	326,000	d/
Latvian SSR	401,900	1,224,300	813,500	680,600	N.A.
Lithuanian SSR	615,000	1,293,100	1,285,800	724,400	d/
Kaliningrad Oblast	174,000	554,000	712,000	39,000	N.A.
Subtotal	<u>1,410,900</u>	<u>3,732,300</u>	<u>3,195,900</u>	<u>1,770,000</u>	<u>e/</u>
<u>Belorussia (IIb) f/</u>					
Eastern Belorussia					
Polotsk Oblast	123,800	273,300	216,800	292,400	2,300
Vitebsk Oblast	96,400	265,500	231,500	236,300	3,200
Mogilev Oblast	120,500	307,300	382,800	164,800	2,800
Minsk Oblast	104,100	311,800	353,400	171,300	5,000
Bobruysk Oblast	94,500	290,100	316,200	150,800	3,200
Gomel' Oblast	100,100	279,700	307,900	75,200	4,900
Poles'ye Oblast	65,400	308,000	234,600	130,200	700
Western Belorussia					
Grodno Oblast	111,800	203,800	155,400	169,300	300
Melodechno Oblast	113,100	219,300	180,900	212,800	600
Baranovichi Oblast	119,000	223,600	191,700	154,300	700
Pinsk Oblast	72,600	220,100	127,100	128,100	500
Brest Oblast	97,300	215,300	189,500	174,300	500
Subtotal	<u>1,218,600</u>	<u>3,117,800</u>	<u>2,887,800</u>	<u>2,059,800</u>	<u>24,700</u>

S-E-C-R-E-T

S-E-C-R-E-T

Table 7
(Continued)

Republic, Oblast, or Kray	Horses	Cattle	Swine	Sheep	Goats
<u>Ukraine (III) g/</u>					
Ukrainian SSR					
West Ukraine					
Volyn Oblast	209,800	397,900	277,600	135,800	1,000
Rovno Oblast	184,600	380,800	293,700	104,800	1,700
L'vov Oblast	171,400	303,700	167,500	44,000	2,200
Ternopol' Oblast	230,000	356,000	227,900	64,900	12,800
Stanislav Oblast	115,800	304,400	139,900	112,800	15,900
Drogobych Oblast	107,100	269,900	71,500	32,200	4,500
Trans-Carpathian Oblast	41,300	344,000	93,000	110,000	N.A.
Chernovtsy Oblast	83,100	154,000	108,600	247,600	4,300
North Ukraine					
Vinnitsa Oblast	239,400	625,500	577,000	122,300	22,200
Zhitomir Oblast	208,200	611,700	496,900	109,600	2,200
Kiev Oblast	284,300	804,400	850,000	122,500	40,100
Chernigov Oblast	243,400	522,700	620,800	139,000	26,800
Sumy Oblast	199,400	418,200	534,800	124,200	36,100
Poltava Oblast	262,600	630,900	732,800	179,500	59,000
Khark'ov Oblast	186,500	535,100	540,500	147,500	44,200
Kamenets-Podol'sk Oblast	248,800	499,300	493,000	89,300	5,000

S-E-C-R-E-T

S-E-C-R-E-T

Table 7
(Continued)

Republic, Oblast, or Kray	Horses	Cattle	Swine	Sheep	Goats
<u>Ukraine (III) & (Continued)</u>					
South Ukraine					
Izmail' Oblast	119,400	77,300	59,000	372,300	800
Odessa Oblast	165,000	387,800	346,700	221,800	20,300
Nikolayev Oblast	68,800	234,000	138,400	193,200	4,600
Kherson Oblast	81,300	273,100	209,300	228,600	5,500
Kirovograd Oblast	134,700	362,700	374,800	66,700	13,000
Dnepropetrovsk Oblast	182,400	524,000	531,000	192,500	24,800
Zaporozh'ye Oblast	107,700	357,000	340,900	302,900	7,300
Stalino Oblast	144,300	458,100	508,900	288,200	64,100
Voroshilovgrad Oblast	106,900	367,000	295,500	201,000	53,900
Crimea Oblast	81,600	265,400	139,400	779,200	41,500
Moldavian SSR	358,900	505,600	395,400	1,633,800	15,000
Subtotal	<u>4,566,700</u>	<u>10,970,900</u>	<u>9,564,800</u>	<u>6,366,200</u>	<u>528,800</u>
<u>Lower Don-North Caucasus (IV)</u>					
Rostov Oblast	235,000	1,222,600	559,000	1,550,000	82,000
Krasnodar Kray	317,400	1,021,700	918,500	640,300	92,100

S-E-C-R-E-T

S-E-C-R-E-T

Table 7
(Continued)

Republic, Oblast, or Kray	Horses	Cattle	Swine	Sheep	Goats
<u>Lower Don-North Caucasus (IV)</u> (Continued)					
Stavropol' Kray	334,700	1,315,200	425,900	2,975,600	147,700
Groznyy Oblast	19,900	82,700	29,000	187,400	100,000
Dagestan ASSR	76,400	605,200	13,700	1,316,800	364,000
North Ossetia ASSR	30,900	128,700	50,000	200,000	30,000
Subtotal	<u>1,016,300</u>	<u>4,376,100</u>	<u>1,996,100</u>	<u>6,870,100</u>	<u>815,800</u>
<u>Transcaucasus (V)</u> (See Asiatic USSR)					
<u>Volga (VI)</u>					
Astrakhan' Oblast	51,200	301,600	73,400	482,700	46,000
Stalingrad Oblast	162,800	952,100	282,000	1,259,100	161,400
Saratov Oblast	140,600	711,900	329,700	1,042,100	150,400
Kuybyshev Oblast	93,200	304,100	136,700	714,700	102,300
Ul'yansovsk Oblast	139,800	456,200	136,800	476,400	68,200
Tatar ASSR	328,800	656,700	310,500	1,132,600	205,100
Subtotal	<u>916,400</u>	<u>3,382,600</u>	<u>1,269,100</u>	<u>5,107,600</u>	<u>733,400</u>

S-E-C-R-E-T

S-E-C-R-E-T

Table 7
(Continued)

Republic, Oblast, or Kray	Horses	Cattle	Swine	Sheep	Goats
Central European <u>USSR (VII)</u>					
Upper Volga					
Kirov Oblast	275,900	637,100	269,700	552,600	50,900
Chuvash ASSR	133,300	246,800	214,000	581,600	54,000
Mari ASSR	61,300	147,300	88,300	208,500	33,000
Central Industrial					
Gor'kiy Oblast	230,400	553,200	342,400	850,000	175,000
Kostroma Oblast	125,000	300,000	137,000	300,000	16,800
Ivanovo Oblast	70,000	210,000	64,300	300,000	35,000
Yaroslavl' Oblast	100,000	300,000	83,600	300,000	18,000
Vladimir Oblast	100,000	233,800	95,600	350,000	35,000
Ryazan' Oblast	246,800	508,800	460,400	772,700	37,300
Tula Oblast	201,000	400,000	298,600	517,000	8,000
Kaluga Oblast	225,100	540,400	334,400	579,000	20,000
Moscow Oblast	200,000	550,000	390,000	475,000	60,000
Western					
Kalinin Oblast	240,000	562,100	309,300	672,800	12,000
Velikiye Luki Oblast	125,900	302,300	187,100	324,000	15,000
Smolensk Oblast	300,000	700,000	597,200	750,000	4,000

S-E-C-R-E-T

S-E-C-R-E-T

Table 7
(Continued)

Republic, Oblast, or Kray	Horses	Cattle	Swine	Sheep	Goats
<u>Central European</u>					
<u>USSR (VII)</u>					
(Continued)					
<u>Central Agricultural</u>					
Bryansk Oblast	210,000	420,000	414,100	380,000	22,000
Orel Oblast	210,000	420,000	407,700	380,000	22,000
Kursk Oblast	366,500	807,400	572,100	563,900	68,500
Voronezh Oblast	262,000	808,600	508,600	844,200	148,800
Tambov Oblast	150,800	341,800	200,800	522,500	20,800
Penza Oblast	142,000	364,800	205,700	524,100	67,400
Mordvin ASSR	97,100	229,200	129,200	393,300	73,000
Subtotal	<u>4,073,100</u>	<u>9,657,600</u>	<u>6,310,100</u>	<u>11,140,700</u>	<u>996,500</u>
<u>Urals (VIII)</u>					
<u>European</u>					
Udmurt ASSR	140,900	279,000	197,000	324,100	19,600
Molotov Oblast	198,300	502,600	287,800	445,300	89,700
Bashkir ASSR	458,800	1,136,000	342,300	1,484,100	280,500
Chkalov Oblast	189,900	858,300	190,900	1,168,200	85,000
Subtotal	<u>987,900</u>	<u>2,775,900</u>	<u>1,018,000</u>	<u>3,421,700</u>	<u>474,800</u>
Total Euro- pean USSR	<u>14,990,000</u>	<u>40,196,800</u>	<u>27,012,000</u>	<u>38,428,000</u>	<u>3,699,700</u>

S-E-C-R-E-T

Table 7
(Continued)

Republic, Oblast, or Kray	Horses	Cattle	Swine	Sheep	Goats
<u>Urals (VIII)</u> (Continued)					
Asiatic					
Sverdlovsk Oblast	187,200	600,500	260,900	410,700	59,200
Chelyabinsk Oblast	141,700	604,600	148,100	694,400	39,000
Subtotal	<u>328,900</u>	<u>1,205,100</u>	<u>409,000</u>	<u>1,105,100</u>	<u>98,200</u>
<u>West Siberia (IX)</u>					
Kurgan Oblast	120,700	515,000	126,200	591,500	33,200
Tyumen' Oblast	12,300	44,700	16,300	43,600	200
Omsk Oblast	259,400	940,100	342,400	916,800	4,900
Novosibirsk Oblast	333,400	1,208,500	440,200	1,178,700	6,300
Kemerovo Oblast	205,800	746,100	271,800	727,700	3,900
Altay Kray	432,900	1,466,000	408,400	2,091,800	46,900
Tomsk Oblast	45,300	164,200	59,800	160,100	900
Subtotal	<u>1,409,800</u>	<u>5,084,600</u>	<u>1,665,100</u>	<u>5,710,000</u>	<u>96,300</u>
<u>Kazakh SSR (Xa)</u>					
North Kazakhstan Oblast	17,200	106,800	8,800	102,400	7,500
Kokchetav Oblast	34,100	211,400	17,400	202,800	14,900
Pavlodar Oblast	27,000	226,900	18,300	304,000	10,700

S-E-C-R-E-T

Table 7
(Continued)

Republic, Oblast, or Kray	Horses	Cattle	Swine	Sheep	Goats
<u>Kazakh SSR (Xa)</u> (Continued)					
Kustanay Oblast	427,000	326,500	30,200	274,900	27,000
Akmolinsk Oblast	38,000	233,800	18,300	228,300	22,200
Akt'yubinsk Oblast	41,000	257,300	12,100	181,200	34,000
West Kazakhstan Oblast	63,600	375,600	11,000	392,800	40,900
Gur'yev Oblast	422,000	91,000	1,600	193,100	47,500
East Kazakhstan Oblast	43,300	199,800	44,400	258,600	44,800
Semipalatinsk Oblast	68,200	291,100	69,100	471,500	81,200
Taldy-Kurgan Oblast	35,300	120,700	34,700	323,100	55,300
Alma-Ata Oblast	29,800	102,000	29,400	273,000	46,700
Dzhambul Oblast	45,400	136,500	28,600	393,000	91,000
Karaganda Oblast	32,000	187,700	10,600	200,200	42,400
Kzyl-Orda Oblast	13,500	46,500	2,800	131,000	37,200
South Kazakhstan Oblast	57,200	150,500	22,400	477,800	132,300
Subtotal b/	<u>638,700</u>	<u>3,095,400</u>	<u>367,900</u>	<u>4,551,400</u>	<u>736,400</u>
<u>Central Asia (Xb)</u>					
Kirgiz SSR	361,600	486,000	91,000	1,318,600	567,500
Uzbek SSR	381,400	1,410,900	76,300	2,801,000	1,179,200
Tadzhik SSR	102,200	500,100	21,000	725,500	909,400
Turkmen SSR	64,100	233,300	22,700	1,360,100	470,800
Subtotal	<u>909,300</u>	<u>2,630,300</u>	<u>211,000</u>	<u>6,205,200</u>	<u>3,126,900</u>

S-E-C-R-E-T

S-E-C-R-E-T

Table 7
(Continued)

Republic, Oblast, or Kray	Horses	Cattle	Swine	Sheep	Goats
<u>East Siberia (XI) 1/</u>					
Krasnoyarsk Kray	328,400	767,000	382,800	1,253,600	10,900
Irkutsk Oblast	162,700	436,100	181,000	256,400	38,000
Buryat-Mongol, ASSR	120,300	382,700	67,900	360,900	83,800
Chita Oblast	212,700	501,500	137,100	694,900	138,200
Yakut ASSR	162,700	392,000	14,000	300	0
Tuva Autonomous Oblast	110,000	170,000	10,000	500,000	300,000
Subtotal	<u>1,096,800</u>	<u>2,649,300</u>	<u>792,800</u>	<u>3,066,100</u>	<u>570,900</u>
<u>Far East (XII)</u>					
Primorskiy Kray	64,000	147,200	166,700	24,600	5,000
Khabarovsk Kray	59,700	166,100	111,000	33,800	3,900
Subtotal	<u>123,700</u>	<u>313,300</u>	<u>277,700</u>	<u>58,400</u>	<u>8,900</u>
<u>Transcaucasus (V)</u>					
Azerbaijdzhan SSR	199,400	1,535,400	120,500	1,855,200	584,000
Georgian SSR	168,200	1,754,900	684,100	1,471,900	482,300
Armenian SSR	53,600	711,500	82,200	947,100	250,400

S-E-C-R-E-T

S-E-C-R-E-T

Table 7
(Continued)

Republic, Oblast, or Krai	Horses	Cattle	Swine	Sheep	Goats
Subtotal	421,200	4,001,800	886,800	4,274,200	1,316,700
Total Asiatic USSR	4,928,400	18,979,800	4,610,300	24,970,600	5,954,300
USSR Grand Total	19,918,400	59,176,600	31,622,300	63,398,600	9,654,000

- a. Present boundaries.
- b. Includes territory acquired from Finland.
- c. Includes territory acquired from Germany and Poland.
- d. Included with sheep.
- e. Included with sheep or not available.
- f. Includes territory acquired from Poland.
- g. Includes territory acquired from Poland, Czechoslovakia, and Rumania.
- h. As reported in the original source, there is a slight discrepancy between the Kazakh SSR figure and the totals for the individual oblasts. The reported Kazakh SSR total is assumed to be correct.
- i. Includes the Tuva Autonomous Oblast incorporated in 1945.

S-E-C-R-E-T

S-E-C-R-E-T

APPENDIX C

LIVESTOCK FEEDING PRACTICES

1. Feeding Patterns.

The estimated Soviet requirements for roughage for 1938 and 1951 are given in Table 8.* The annual feeding rates for the different categories of livestock in the 1925-28 period are given in Tables 9 through 15.** Statistics on feeding rates have been scattered and incomplete since the beginning of the Five Year Plans. The 1925-28 base is considered to represent the most complete and accurate information available.

As can be seen in the tables, there are wide variations in regional types of feed and in rates of feeding. These differences result from the regional specializations in crop production and the wide variations in types of feed, which in turn are caused by divergence in climate, livestock feed requirements, the different evaluations placed on livestock and livestock products, and the varying costs of production for livestock products. The pasture capacity, especially in Kazakhstan and other nomadic regions, may not yet be fully utilized by existing flocks and herds.

The small size of Soviet livestock, especially of horses and cows, reflects the low feeding rates which prevail in the USSR as compared with the US. Horses, which provide critical draft power, fare best among the livestock in the amount of the annual feed base which they receive. The amount of hay, straw, and chaff, and feed-roots required by the roughage-consuming animals in 1951 was less than in 1938 because of the decrease in horse numbers.

Any planned increase of horse, cattle, and sheep and goat numbers is limited by the availabilities of pastures and roughage to carry livestock through the winter. There has been and continues to be a heavy emphasis by the Soviet government on the improvement of grasses and pastures, on the adoption of good crop rotation systems, and on the increased production of hay and other roughage

* Table 8 follows on p. 47.

** Tables 9 through 15 follow on pp. 48-61.

S-E-C-R-E-T

for carrying livestock through the winter. To the extent that the improvements are carried out, the limit on the number of livestock will be raised.

2. Pasturing Period.

The period during which livestock are pastured in the USSR varies according to latitude, altitude, and general climatic conditions. The pasturing period ranges from 4 to 5 months -- May to September -- in the northern forest regions to 10 months -- excluding January and February -- in such southern regions as Central Asia or the Transcaucasus. 48/

Swine numbers are less influenced by seasonal supplies of roughage than are other categories of livestock because they are more dependent upon feed-grains, tubers, and feed-roots.

S-E-C-R-E-T

Table 8

Estimated Livestock Requirements for Roughage in the USSR 49/
1938 a/ and 1951

Livestock	Hay		Straw and Chaff		Feed-Roots	
	1938	1951	1938	1951	1938	1951
Horses over 3 Years of Age	22,815	15,660	14,399	9,883	1,572	1,079
Horses 1 to 3 Years of Age	1,920	1,320	1,280	880	104	72
Horses under 1 Year of Age	1,134	810	840	600	49	35
Total for Horses	<u>25,869</u>	<u>17,790</u>	<u>16,519</u>	<u>11,363</u>	<u>1,725</u>	<u>1,186</u>
Cows	19,800	18,936	25,190	24,091	6,270	5,996
Young Cattle over 1 Year of Age	3,285	3,154	3,840	3,686	585	562
Calves	3,560	3,400	2,080	1,986	760	726
Other Cattle	3,360	3,220	3,840	3,680	720	690
Total for Cattle and Calves	<u>30,005</u>	<u>28,710</u>	<u>34,950</u>	<u>33,443</u>	<u>8,335</u>	<u>7,974</u>
Sheep and Goats	5,685	7,524	3,516	4,653	449	594
Total for Sheep and Goats	<u>5,685</u>	<u>7,524</u>	<u>3,516</u>	<u>4,653</u>	<u>449</u>	<u>594</u>
Hogs and Shoats	0	0	1,166	871	8,874	6,630
Small Pigs	0	0	209	155	2,280	1,698
Total for Swine	<u>0</u>	<u>0</u>	<u>1,375</u>	<u>1,026</u>	<u>11,154</u>	<u>8,328</u>
Total Requirements	<u>61,559</u>	<u>54,024</u>	<u>56,360</u>	<u>50,485</u>	<u>21,663</u>	<u>18,082</u>

a. Present boundaries.

S-E-C-R-E-T

S-E-C-R-E-T

Table 9
 Average Annual Feeding Rates for Adult Horses a/* in the USSR b/50/
 1925-28

Area	Kilograms per Year per Head										
	Hay	Straw and Chaff	Grain and Grain Products	Potatoes	Beets, Carrots, and Other Roots	Succulent Feeds	By-Products of the Processing of Technical Crops			Total in Starch Equivalent	
							Oilcake	Other By-Products			
USSR	1,351	852	502	37	46	10	3	17		908	
RSFSR	1,535	743	505	22	19	9	4	17		929	
Bashkir ASSR	1,797	1,090	484	2	1	0	1	2		1,040	
Buryat-Mongol ASSR	1,486	438	209	0	0	0	0	0		684	
Central Black Soil Oblast	577	1,481	782	66	164	12	18	9		941	
Crimea ASSR	580	1,316	796	0	0	4	1	1		958	
Dagestan ASSR	808	297	202	0	0	2	3	0		445	
Far Eastern Kray	1,637	411	413	1	0	5	4	4		830	
Nizhegorod Kray	1,371	983	783	26	3	0	3	11		1,114	
Ivanovo Oblast	2,612	226	640	19	1	1	0	3		1,245	
Kazakh SSR <u>c</u> / <u></u>	700	148	108	0	0	22	0	0		310	
Kirgiz SSR <u>c</u> / <u></u>	586	122	125	0	2	2	0	0		284	
Leningrad Oblast and Karelian ASSR	2,711	96	310	23	0	0	0	10		1,077	
Lower Volga Kray	1,581	1,444	590	10	18	77	16	35		1,119	
Middle Volga Kray	1,328	1,686	737	29	10	17	13	212		1,211	
Moscow Oblast	1,873	559	476	72	40	7	1	8		989	
Northern Kray	3,133	93	203	3	0	1	1	0		1,081	

* Footnotes for Table 9 follow on p. 49.

S-E-C-R-E-T

S-E-C-R-E-T

Table 9
Average Annual Feeding Rates for Adult Horses a/ in the USSR b/ 50/
1925-28
(Continued)

Area	Kilograms per Year per Head											
	Hay	Straw and Chaff	Grain and Grain Products	Potatoes	Beets, Carrots, and Other Roots	Other Succulent Feeds	By-Products of the Processing of Technical Crops			Total in Starch Equivalent		
							Oilcake	Other By-Products				
USSR (Continued)												
RSFSR (Continued)												
North Caucasian Kray	805	1,349	670	1	13	22	5	1	1	982		
Siberian Kray	1,856	595	495	2	2	0	1	0	0	965		
Tatar ASSR	1,005	1,542	708	18	0	4	3	4	4	1,026		
Ural Oblast	1,779	610	707	3	d/	0	1	0	0	1,084		
Western Kray	1,968	377	245	89	16	3	6	43	43	857		
Belorussian SSR	1,708	362	156	211	5	0	1	4	4	725		
Ukrainian SSR	507	1,517	608	59	185	35	2	23	23	863		
Transcaucasia SFSR <u>c/</u>	582	557	151	0	0	0	0	0	0	374		
Uzbek SSR <u>c/</u>	878	432	450	0	0	1	0	0	0	670		
Turkmen SSR <u>c/</u>	412	870	202	0	0	45	0	0	0	407		

a. Probably includes all horses over 3 years of age but may include horses from 2 to 3 years of age.

b. 1928 boundaries.

c. 1926-28 average.

d. Less than 1/2 kilogram.

S-E-C-R-E-T

S-E-C-R-E-T

Table 10

Average Annual Feeding Rates for Cows a/* in the USSR b/ 51/
1925-28

Area	Kilograms per Year per Head									
	Hay	Straw and Chaff	Grain and Grain Products	Potatoes	Beets, Carrots, and Other Roots	Other Succulent Feeds	By-Products of the Processing of Technical Crops			Total in Starch Equivalent
							Oilcake	Other By-Products		
USSR	720	916	91	101	80	48	17	66		476
RFSFR	822	914	83	90	53	33	11	32		487
Bashkir ASSR	766	1,313	62	45	11	4	e/	2		492
Buryat-Mongol ASSR	541	536	10	8	4	0	0	0		266
Central Black Soil Oblast	273	1,343	119	168	267	78	13	57		454
Crimea ASSR	297	965	187	1	11	135	7	9		361
Dagestan ASSR	460	375	17	4	0	12	0	0		212
Far Eastern Kray	891	600	56	46	10	54	6	7		435
Nizhegorod Kray	404	1,362	171	164	56	11	34	47		533
Ivanovo Oblast	1,144	893	103	172	69	33	43	37		658
Kazakh SSR d/	679	134	8	4	0	6	0	2		240
Kirgiz SSR d/	230	289	7	4	50	19	4	2		146
Leningrad Oblast and Karelian ASSR	1,317	742	98	97	26	17	22	15		622
Lower Volga Kray	773	877	58	26	25	106	4	16		445
Middle Volga Kray	600	1,318	135	89	31	94	5	259		541
Moscow Oblast	1,248	981	92	284	152	42	55	69		716
Northern Kray	825	948	57	64	11	3	17	3		596

* Footnotes for Table 10 follow on p. 51.

S-E-C-R-E-T

S-E-C-R-E-T

Table 10
Average Annual Feeding Rates for Cows a/ in the USSR b/ 51/
1925-28
(Continued)

Area	Kilograms per Year per Head											
	Hay	Grain and Grain Products		Potatoes	Beets, Carrots, and Other Roots	Other Succulent Feeds	By-Products of the Processing of Technical Crops			Total in Starch Equivalent		
		Straw and Chaff	Grain				Grain Products	Oilcake	Other By-Products		Starch	
USSR (Continued)												
RSFSR (Continued)												
North Caucasian Kray	667	655	98	5	38	55	17	4	4	396		
Siberian Kray	1,110	684	44	38	17	5	4	0	0	501		
Tatar ASSR	429	1,643	190	84	16	19	3	4	4	529		
Ural Oblast	871	1,045	90	38	7	2	4	3	3	509		
Western Oblast	1,013	904	65	253	81	22	24	111	111	589		
Belorussian SSR	558	970	43	264	91	12	3	6	6	547		
Ukrainian SSR	342	1,247	159	118	243	163	9	292	292	500		
Transcaucasia SFSR	281	454	20	3	0	0	1	0	0	268		
Uzbek SSR	184	504	87	0	0	19	30	0	0	190		
Turkmen SSR	98	472	30	0	0	32	18	0	0	153		

a. Cows in general, since the Soviet government does not generally differentiate between beef cows and dairy cows.
 b. 1928 boundaries.
 c. Less than 1/2 kilogram.
 d. 1926-28 average.

S-E-C-R-E-T

S-E-C-R-E-T

Table 11

Average Annual Feeding Rates for Young Cattle a/* in the USSR b/ 52/
1925-28

Area	Kilograms per Year per Head									
	Hay	Straw and Chaff	Grain and Grain Products	Potatoes	Feed-Roots and Other Vegetables	By-Products of the Processing of Technical Crops			Total in Starch Equivalent	
						Oilcake	Other By-Products			
USSR	438	512	31	36	42	3	12		251	
RSFSR	477	484	28	29	28	3	5		259	
Bashkir ASSR	488	823	24	23	5	0	2		304	
Buryat-Mongol ASSR	256	317	2	1	0	1	0		134	
Central Black Soil Oblast	157	907	56	94	183	8	30		274	
Crimea ASSR	108	502	25	0	30	0	2		130	
Dagestan ASSR	275	169	5	0	4	0	0		116	
Far Eastern Kray	525	373	14	19	19	1	0		270	
Nizhegorod Kray	256	854	91	66	18	9	26		305	
Ivanovo Oblast	939	397	83	111	69	38	54		468	
Kazakh SSR	383	85	3	1	2	0	1		130	
Kirgiz SSR	104	120	1	1	6	0	0		56	
Leningrad Oblast and Karelian ASSR	974	364	50	61	19	4	7		410	
Lower Volga Kray	455	565	12	5	56	1	6		252	
Middle Volga Kray	558	813	47	30	40	0	76		352	
Moscow Oblast	636	609	46	166	73	22	83		384	

* Footnotes for Table 11 follow on p. 53.

S-E-C-R-E-T

S-E-C-R-E-T

Table 11

Average Annual Feeding Rates for Young Cattle a/ in the USSR b/ 52/
1925-28
(Continued)

Area	Kilograms per Year per Head									
	Hay	Straw and Chaff	Grain and Grain Products	Potatoes	Feed-Roots and Other Vegetables	By-Products of the Processing of Technical Crops			Total in Starch Equivalent	
						Oilcake	Other By-Products			
USSR (Continued)										
RSFSR (Continued)										
Northern Krai	823	490	48	38	7	4	1		380	
North Caucasian Krai	304	400	27	0	26	4	1		180	
Siberian Krai	674	482	18	13	9	1	0		308	
Tatar ASSR	284	1,085	74	56	11	2	4		310	
Ural Oblast	499	668	31	12	3	1	1		291	
Western Oblast	783	439	39	166	52	7	27		386	
Belorussian SSR	393	618	24	167	50	1	3		271	
Ukrainian SSR	190	762	66	55	178	3	103		267	
Transcaucasia SFSR	173	267	1	1	0	0	0		94	
Uzbek SSR	110	269	18	0	0	6	0		85	
Turkmen SSR	19	616	7	0	0	0	0		112	

a. Primarily includes cattle from 1 to 2 years of age but may include some cattle from 2 to 3 years of age.
b. 1928 boundaries.

S-E-C-R-E-T

S-E-C-R-E-T

Table 12

Average Annual Feeding Rates for Calves a/* in the USSR b/ 53/
1925-28

Area	Kilograms per Year per Head									
	Hay	Straw and Chaff	Grain and Grain Products	Potatoes	Feed-Roots and Other Vegetables	By-Products of the Processing of Technical Crops		Oilcake	Other By-Products	Total in Starch Equivalent
						Oilcake	Other By-Products			
USSR	178	104	28	19	19	3	7	3	7	100
RSFSR	196	86	28	17	10	3	2	3	2	100
Bashkir ASSR	187	146	24	5	1	0	1	0	1	97
Buryat-Mongol ASSR	474	14	5	0	2	0	0	0	0	151
Central Black Soil Oblast	69	170	32	41	52	3	5	3	5	85
Crimea ASSR	69	81	20	0	6	1	0	1	0	45
Dagestan ASSR	126	32	18	2	1	1	0	1	0	54
Far Eastern Kray	258	66	19	11	17	1	0	1	0	105
Nizhegorod Kray	167	155	53	27	5	5	3	5	3	124
Ivanovo Oblast	176	25	37	48	9	22	2	2	2	105
Kazakh SSR	246	21	6	0	1	0	0	0	0	84
Kirgiz SSR	60	77	2	2	0	1	0	1	0	34
Leningrad Oblast and Karelian ASSR	232	23	36	32	7	9	0	9	0	114
Lower Volga Kray	242	149	9	5	19	0	3	0	3	112
Middle Volga Kray	176	121	27	16	11	1	19	1	19	98
Moscow Oblast	190	67	28	74	25	21	8	21	8	121
Northern Kray	339	38	41	24	4	5	0	5	0	145

* Footnotes for Table 12 follow on p. 55.

S-E-C-R-E-T

S-E-C-R-E-T

Table 12
 Average Annual Feeding Rates for Calves a/ in the USSR b/ 53/
 1925-28
 (Continued)

Area	Kilograms per Year per Head									
	Hay	Straw and Chaff	Grain and Grain Products	Potatoes	Feed-Roots and Other Vegetables	By-Products of the Processing of Technical Crops			Total in Starch Equivalent	
						Oil/Leake	Other By-Products			
USSR (Continued)										
RSFSR (Continued)										
North Caucasian Kray	157	110	28	0	7	2	0	0	85	
Siberian Kray	241	62	41	6	3	1	0	0	109	
Tatar ASSR	83	177	48	17	2	1	0	0	86	
Ural Oblast	209	99	43	5	1	1	1	1	108	
Western Kray	232	29	37	61	13	8	4	4	130	
Belorussian SSR	186	98	32	83	20	1	0	0	115	
Ukrainian SSR	85	213	43	26	80	1	38	38	104	
Transcaucasia SFSR	80	86	1	0	0	0	0	0	37	
Uzbek SSR	16	38	5	0	0	1	0	0	13	
Turkmen SSR	70	180	6	0	0	1	0	0	51	

a. Cattle under 1 year of age.
 b. 1928 boundaries.

S-E-C-R-E-T

S-E-C-R-E-T

Table 13

Average Annual Feeding Rates for Swine a/* in the USSR b/ 54/
1925-28

Area	Kilograms per Year per Head									
	Straw and Chaff	Grain and Grain Products	Potatoes	Feed-Roots and Other Vegetables	By-Products of the Processing of Technical Crops			Total in Starch Equivalent		
					Oilcake	Other By-Products				
USSR	67	237	403	107	10	12		262		
RSFSR	65	212	338	73	12	13		226		
Bashkir ASSR	98	119	328	18	3	0		153		
Buryat-Mongol ASSR	22	199	77	6	0	0		133		
Central Black Soil Oblast	103	349	761	224	46	13		431		
Crimea ASSR	14	491	2	23	11	0		364		
Dagestan ASSR	0	331	16	294	0	0		261		
Far Eastern Kray	59	139	157	110	7	18		137		
Mizhegorod Kray	64	91	246	26	3	19		128		
Ivanovo Oblast	40	212	908	35	9	48		334		
Kazakh SSR	32	291	121	101	13	10		217		
Kirgiz SSR	3	286	124	134	6	14		214		
Leningrad Oblast and Karelian ASSR	73	212	616	90	6	46		286		
Lower Volga Kray	12	218	151	273	17	6		193		
Middle Volga Kray	37	237	404	98	21	29		250		
Moscow Oblast	101	212	1,004	81	15	17		363		

* Footnotes for Table 13 follow on p. 57.

S-E-C-R-E-T

S-E-C-R-E-T

Table 13

Average Annual Feeding Rates for Swine a/ in the USSR b/ 54/
1925-28
(Continued)

Area	Kilograms per Year per Head							Total in Starch Equivalent
	Straw and Chaff	Grain and Grain Products	Potatoes	Feed-Roots and Other Vegetables	By-Products of the Processing of Technical Crops		Oilcake	
					Other	By-Products		
USSR (Continued)								
RSFSR (Continued)								
Northern Kray	88	172	396	22	4	19		204
North Caucasian Kray	17	444	41	192	29	1		333
Siberian Kray	73	177	143	18	4	2		149
Tatar ASSR	39	119	183	5	3	5		131
Ural Oblast	46	148	129	10	3	3		115
Western Oblast	106	186	819	56	9	43		329
Belorussian SSR	60	132	620	53	0	4		231
Ukrainian SSR	82	389	490	252	13	13		396

a. Swine over 4 months of age.
b. 1928 boundaries.

S-E-C-R-E-T

S-E-C-R-E-T

Table 14

Average Annual Feeding Rates for Young Pigs a/* in the USSR b/ 55/
1925-28

Area	Kilograms per Year per Head									
	Chaff	Grain and Grain Products	Potatoes	Beets, Carrots, and Other Roots	Succulent Feeds	Other Technical Crops	By-Products of the Processing of Technical Crops	Total in Starch Equivalent		
USSR	14	72	124	13	16	5	79			
RSFSR	12	67	130	10	9	6	72			
Bashkir ASSR	24	34	57	0	3	1	37			
Buryat-Mongol ASSR	7	53	8	0	1	0	33			
Central Black Soil Oblast	27	109	329	44	15	16	146			
Crimea ASSR	6	85	0	1	3	1	55			
Dagestan ASSR	0	53	0	0	75	0	35			
Far Eastern Kray	9	34	34	0	16	2	25			
Nizhegorod Kray	13	43	114	4	0	8	59			
Ivanovo Oblast	10	81	378	2	45	67	135			
Kazakh SSR	12	124	50	2	18	8	86			
Kirgiz SSR	0	44	24	0	10	1	31			
Leningrad Oblast and Karelian ASSR	29	134	361	25	36	8	166			
Lower Volga Kray	4	48	67	9	26	5	38			
Middle Volga Kray	5	88	112	4	20	11	68			
Moscow Oblast	7	79	463	19	0	14	147			
Northern Kray	19	71	181	12	0	3	86			
North Caucasian Kray	4	99	7	1	15	2	66			
Siberian Kray	12	39	33	2	1	0	28			

* Footnotes for Table 14 follow on p. 59.

S-E-C-R-E-T

Table 14
 Average Annual Feeding Rates for Young Pigs a/ in the USSR b/ 55/
 1925-28
 (Continued)

Area	Kilograms per Year per Head						
	Chaff	Grain and Grain Products	Potatoes	Beets, Carrots, and Other Roots	Other Succulent Feeds	By-Products of the Processing of Technical Crops	Total in Starch Equivalent
USSR (Continued)							
RSFSR (Continued)							
Tatar ASSR	8	54	83	0	1	2	65
Ural Oblast	7	38	22	0	1	0	28
Western Oblast	8	38	156	1	2	6	64
Belorussia SSR	5	19	90	4	1	0	19
Ukrainian SSR	23	109	128	23	39	6	93

a. Pigs 4 months of age and under.
 b. 1928 boundaries.

S-E-C-R-E-T

S-E-C-R-E-T

Table 15

Average Annual Feeding Rates for Sheep and Goats a/* in the USSR b/ 56/
1925-28

Area	Kilograms per Year per Head							Total in Starch Equivalent
	Hay	Straw and Chaff	Grain and Grain Products	Succulent Feeds	By-Products of the Processing of Technical Crops			
USSR	76	47	3	6	2		34	
RSPSR	85	49	3	6	3		36	
Bashkir ASSR	86	99	6	2	0		46	
Buryat-Mongol ASSR	95	11	1	0	0		33	
Central Black Soil Oblast	16	120	4	13	4		27	
Crimea ASSR	27	13	3	0	0		12	
Dagestan ASSR	7	0	0	0	0		2	
Far Eastern Kray	92	51	3	4	1		40	
Nizhegorod Kray	75	72	9	9	2		43	
Ivanovo Oblast	129	21	7	20	2		52	
Kazakh SSR	42	1	0	0	0		14	
Kirgiz SSR	1	0	0	0	0		2	
Leningrad Oblast and Karelian ASSR	171	11	7	15	1		63	
Lower Volga Kray	87	79	2	4	2		42	
Middle Volga Kray	77	118	3	7	23		47	
Moscow Oblast	75	69	2	19	8		39	
Northern Kray	210	7	10	11	1		74	

* Footnotes for Table 15 follow on p. 61.

S-E-C-R-E-T

S-E-C-R-E-T

Table 15

Average Annual Feeding Rates for Sheep and Goats a/ in the USSR b/ 56/
1925-28
(Continued)

Area	Hay	Straw and Chaff	Grain and Grain Products	Succulent Feeds	By-Products of Processing of Technical Crops	Total in Starch Equivalent
USSR (Continued)						
RSFSR (Continued)						
North Caucasian Kray	65	40	4	1	0	30
Siberian Kray	197	54	3	2	0	73
Tatar ASSR	43	144	5	5	1	38
Ural Oblast	158	60	10	2	0	67
Western Oblast	132	17	2	7	2	45
Belorussian SSR	132	19	1	13	0	47
Ukrainian SSR	42	90	5	10	11	31
Transcaucasia SFSR	26	7	3	0	0	9
Uzbek SSR	45	18	5	0	2	22
Turkmen SSR	9	16	4	11	0	8

a. Probably includes all sheep and goats.

b. 1928 boundaries.

S-E-C-R-E-T

S-E-C-R-E-T

APPENDIX D

STATISTICS ON MEAT PRODUCTION

Table 16

Meat Production in the USSR a/ 57/
1928-40

<u>Year</u>	<u>Thousand Metric Tons</u>			
	<u>Beef and Veal</u>	<u>Pork</u>	<u>Mutton, Lamb, and Goat</u>	<u>Total Meat</u>
1928	1,779	1,396	766	3,941
1929	2,287	1,303	963	4,553
1930	1,658	683	874	3,215
1931	1,433	551	596	2,580
1932	1,083	640	420	2,143
1933	673	547	230	1,450
1934	680	570	259	1,509
1935	657	846	266	1,769
1936	835	1,325	340	2,500
1937	1,020	1,000	350	2,370
1938	1,295	1,569	444	3,308
1939	1,200	1,070	440	2,710
1940	1,200	1,260	480	2,940

a. Prewar boundaries.

S-E-C-R-E-T

S-E-C-R-E-T

Table 17

Meat Production in the USSR a/ 58/
1938 and 1941-52

Thousand Metric Tons				
<u>Year</u>	<u>Beef and Veal</u>	<u>Pork</u>	<u>Mutton, Lamb, and Goat</u>	<u>Total Meat</u>
1938	1,497	2,018	465	3,980
1941	1,360	1,650	640	3,650
1942	1,160	1,200	600	2,960
1943	1,025	840	500	2,365
1944	960	500	433	1,893
1945	1,030	540	440	2,010
1946	1,230	645	445	2,320
1947	1,150	533	427	2,110
1948	1,230	748	460	2,438
1949	1,330	930	521	2,781
1950	1,406	1,134	535	3,075
1951	1,429	1,451	580	3,460
1952 b/	1,470	1,600	645	3,715

a. 1938 and 1941-45 figures adjusted to present boundaries.
b. CIA preliminary estimate.

S-E-C-R-E-T

Table 18

Per Capita Meat Production in the USSR and the US
for Selected Years ^{59/}
1928, 1938, 1946-51

<u>Year</u>	<u>Kilograms</u>	
	<u>USSR</u> ^{a/}	<u>US</u> ^{b/}
1928	26.3 ^{c/}	69.9
1938	21.4 ^{d/}	63.2
1946	12.3	79.9
1947	11.0	80.5
1948	12.6	72.6
1949	14.1	73.2
1950	15.3	73.4
1951	17.0	72.4

a. Based on total meat production and 1 January population estimates.

b. Based on production from all slaughter, including farm slaughter, and on 1 July population estimates, which are adjusted for underenumeration of children under 5 years of age.

c. 1928 Soviet figure not adjusted to postwar boundaries.

d. Present boundaries.

S-E-C-R-E-T

S-E-C-R-E-T

APPENDIX E

METHODOLOGY

Estimates for livestock numbers for the years through 1938 are based almost entirely on Soviet published statistics. Estimates for 1939-45 are based partially on Soviet statistics and partially on observations in the field by one of the authors of this report. To obtain 1946 livestock numbers, the planned goals given by the Fourth Five Year Plan (1946-50) were divided by the percentage increases, as indicated in the Plan, envisaged over 1946. The USSR has published 1 January totals for 1947 and 1951 and the increase during 1951. This increase added to 1951 gave 1 January 1952. The years 1948-50 represent preliminary CIA estimates based, in part, on published and unpublished estimates of the Office of Foreign Agricultural Relations, US Department of Agriculture. The 1956 planned increases are based on percentages given in the Fifth Five Year Plan. In every case the low figure of the planned range was accepted as the 1956 planned figure.

Estimates for meat production are based primarily on Soviet published figures for the years prior to 1938. Estimates for 1938 and 1948-51 are preliminary CIA estimates based on published and unpublished estimates of the Office of Foreign Agricultural Relations, US Department of Agriculture, while 1941-47 and 1952 represent preliminary CIA estimates based on the relation between meat production and livestock numbers as indicated in the years prior to 1938.

Figures for Table 4 on the distribution of livestock by ownership categories break down livestock totals for 1951, 1952, and 1956 by collective farms, state farms, and private owners. Figures for state and collective farms were calculated by the application of percentage increases on known bases. Private holdings represented the residual after collective and state farm numbers were subtracted from over-all livestock totals.

The estimates for Tables 5 and 6, which are Soviet regional and oblast distributions of livestock for 1938, present boundaries, are based upon Soviet published statistics for the prewar boundaries of the USSR. To these prewar Soviet territories are added these territories acquired by the USSR from 1938 to 1946, including areas under

- 67 -

S-E-C-R-E-T

S-E-C-R-E-T

Polish, Rumanian, Czechoslovak, Finnish, German, Lithuanian, Latvian, and Estonian jurisdiction in 1938. CIA estimates were then made for the acquired territories based on official livestock statistics for Poland, Rumania, and the Baltic States and on unofficial data for the other countries.

In Table 18, in order to obtain the Soviet annual per capita meat production, annual total meat production was divided by annual total population.

- 68 -

S-E-C-R-E-T

S-E-C-R-E-T

APPENDIX F

GAPS IN INTELLIGENCE

The principal gap in information on the Soviet livestock industry is in regard to livestock products, especially meat. Information is needed on production, consumption, and stockpiling of meat.

Based on materials on the Soviet meat-packing industry already exploited, it is anticipated that continuing research may reveal much more about the meat-packing industry in the USSR and, as a consequence, may furnish clues which will ultimately result in the determination of Soviet meat production figures and consumption patterns.

Another gap in the Soviet livestock picture is the current regional distribution of the various categories of livestock. It is believed that a historical treatment of regional livestock numbers will ultimately fill the current gap on regional distribution, which in turn may make possible the determination of meat production and consumption on a regional basis.

- 69 -

S-E-C-R-E-T

S-E-C-R-E-T

APPENDIX G

SOURCES AND EVALUATION OF SOURCES

1. Evaluation of Sources.

Overt Soviet sources including books, journals, and newspapers have furnished the basis for most of the material contained in this report. Of these Soviet sources, the most valuable were publications of the USSR State Planning Commission, including both general studies, such as Demidov's book on the postwar development of Soviet agriculture, and statistical data, published either as results of plan fulfillment or as projected plans. Two basic works on the Soviet livestock industry by Sautin and Nifontov were the primary sources for most of the pre-World War II data. Studies by the US Departments of State and Agriculture were the basis for wartime data, and independent studies by Otto Schiller, Naum Jasny, Lazar Volin, and Frank Lorimer supplied useful background material, especially for the early postwar years.

The reliability of Soviet statistics and all foreign sources, official and unofficial, which depend primarily on published Soviet material, is suspect as a consequence of the official Soviet state policy restricting the dissemination of information about all phases of Soviet activity. Statistics, when published by the Russians, frequently take the form of vague percentages set up on unknown bases and are often misleading.

Secondary Western sources can be no more reliable than the Soviet sources quoted. The background, knowledge, intellectual integrity, and political bias of the secondary Western source, however, tend to qualify the reliability of these official and unofficial studies.

Additional sources used were official Polish and Rumanian publications and the International Yearbook of Agriculture (for the prewar Baltic States). These sources are generally reliable, limited primarily by the statistical techniques used by a given country. The captured German documents which were used are reliable, but again within the limitations of the Soviet sources on which they were based. Prisoner-of-war interrogations of Germans repatriated from the USSR

- 71 -

S-E-C-R-E-T

S-E-C-R-E-T

25X1C5b
furnished some information on Soviet meat-packing plants. Interrogations, although not too reliable in isolation, were apt to give a reliable picture, when available in sufficient numbers, to permit a median picture of an individual installation. A very intelligent [redacted] supplied some useful information on slaughter turnover at the rayon level. Completely reliable US statistics were furnished by the US Department of Agriculture for comparative purposes, and a fairly reliable report from the US military attache to Taipei, Formosa, filled in a gap with regard to the Tuvinian People's Republic. Information on Chinese oilcake availability was obtained from Shen's book on Chinese agriculture, a generally reliable book based on pre-Communist China.

2. Sources.

1. CIA/RR, IP-229, 5 Nov 1951. S.
2. I.V. Sautin, Zhivotnovodstvo SSSR za 1916-1938 (Animal Husbandry of the USSR during 1916-1938), Gosplanizdat, Moscow and Leningrad, 1940, p. 4. U.
3. Ibid.
4. Ibid.
5. Otto Schiller, Die Krise der Sozialistischen Landwirtschaft in der Sowjet Union (The Crisis of Socialist Agriculture in the Soviet Union), Paul Parey, Berlin, 1933, p. 27. U.
6. Sautin, op. cit.
7. Lazar Volin, A Survey of Soviet Russian Agriculture, US Department of Agriculture, Washington, D.C., 1951, p. 152. U.
Naum Jasny, The Socialized Agriculture of the USSR, Plans and Performance, Stanford University Press, 1949, pp. 556-558. U.
8. V.P. Nifontov, Proizvodstvo zhivotnovodstva v SSSR (Production of Animal Products in the USSR), Moscow, 1937, pp. 101-103. U.
9. Sautin, op. cit.
10. Ibid.
11. USSR State Planning Commission, Tretiy pyatiletniy plan razvitiya narodnogo khozyaystva soyuza SSSR, 1938-1942 (Third Five Year Plan for the Development of the National Economy of the USSR, 1938-1942), Moscow, 1939, p. 82. U.
USSR State Planning Commission, Gosudarstvennyy plan razvitiya narodnogo khozyaystva SSSR na 1941 (State Plan for the Development of the National Economy of the USSR in 1941), American

S-E-C-R-E-T

- Council of Learned Societies reprint, Baltimore, 1951, pp. 4-5. U.
12. Louis G. Michael, The 1943-44 and 1944-45 Meat Situation in the Soviet Union in Relation to Lend-Lease Supplies (Including Livestock Worksheets), American Embassy, Moscow, Feb 1945. U.
13. CIA ORR, D/M consultation with US Department of Agriculture, Office of Foreign Agricultural Relations, Washington, D.C. R.
14. Pravda, Moscow, 20 Aug 1952. U.
15. V.P. Nifontov, Proizvodstvo zhivotnovodstva v SSSR, Moscow, 1937, p. 102. U.
16. Ibid., pp. 102-103.
17. Sotsialisticheskoye zemledeliye (Socialist Agriculture), 9 Jul 1952, as reported in The Current Digest of the Soviet Press, Vol. IV, No. 28, p. 26. U.
18. Pravda, Moscow, 20 Aug 1952. U.
19. Main Administration for Statistics of the Republic of Poland, Statystyka rolnicza (Statistics of Agriculture), Polish Statistics Series C, No. 104, Warsaw, 1939. U.
- Main Administration for Agricultural Economics, Rumanian Ministry of Agriculture for Provinces, Statistica: Animalelor domestice, pasarilos de curte si stupilor cu albine pe anul 1937 (Statistics: Domestic Animals, Poultry, and Beehives for the Year 1937), Bucharest, 1938. U.
- International Institute of Agriculture, International Yearbook of Agriculture Statistics, 1938-39, pp. 61, 97, 100, 380, 390, 394, 402. U.
- Sautin, op. cit., pp. 4-107.
- GMDS X-66-C-12-44/244, AGO, USA, German State Statistical Office, Die Landwirtschaft der Sowjet Union (The Agriculture of the Soviet Union), Berlin, Nov 1942. C.
- Volin, op. cit.
- USARMA, Taipei, Formosa, ID 866885, Report No. R-1-52, 2 Jan 1952, p. 7. U.
- Bol'shaya Sovetskaya entsiklopediya (Great Soviet Encyclopedia), Ogiz, Moscow, 1947, p. 934. U.
- S.F. Demidov, Razvitiye sel'skogo khozyaystva v poslevoyennoy pyatiletke (The Development of Agriculture in the Postwar Five Year Plan), Gosplanizdat, Moscow, 1946, p. 122. U.
- Sotsialisticheskoye zemledeliye, Moscow, 17 Apr 1951. U.
20. Pravda, Moscow, 20 Aug 1952. U.
- Sautin, op. cit., p. 108.
21. US Department of Agriculture, Livestock on Farms January 1, Released 14 Feb 1952. U.

S-E-C-R-E-T

25X1A2g

22. US Department of Agriculture, Agricultural Statistics, 1951, p. 38. U.
23. [REDACTED]
24. Kazakhstanskaya Pravda, Information from FDD files of Pravda and Kazakhstanskaya Pravda. C.
25. Main Administration for Statistics of the Republic of Poland, op. cit.
Directorate of Agricultural Economics, Rumanian Ministry of Agriculture for Provinces, op. cit.
International Institute of Agriculture, op. cit.
Sautin, op. cit., pp. 4-107.
State Statistical Office, Germany, op. cit.
Volin, op. cit.
USARMA, op. cit.
Bol'shaya Sovetskaya entsiklopediya, op. cit.
Demidov, op. cit.
Sotsialisticheskoye zemledeliye, op. cit.
Pravda, Moscow, 20 Aug 1952. U.
26. CIA ORR, D/M interrogation of a foreign national.
Jasny, op. cit., pp. 378-379.
27. Myasnaya industriya SSSR (Meat Industry of the USSR), Main Administration for Meat, People's Commissariat of Food Industry, Moscow, Sep 1936. U.
28. CIA IR 7019107. S.
29. CIA IR 7041057. S.
30. Myasnaya industriya SSSR, 1936, various issues, especially Sep 1936. U.
31. CIA IR, Median of Plant Files. S.
32. CIA ORR, D/M consultation with US Department of Agriculture, Office of Foreign Agricultural Relations, Washington, D.C. R.
CIA ORR estimate.
33. Ibid.
34. CIA IR 7019107. S.
35. CIA IR 7041057. S.
36. US Department of Agriculture, Bureau of Agricultural Economics, The Livestock and Meat Situation, Washington, D.C., May-Jun 1952. U.
37. CIA ORR estimate.
38. Frank Lorimer, The Population of the Soviet Union: History and Prospects, Geneva, 1946. U.
39. CIA ORR estimate.

S-E-C-R-E-T

S-E-C-R-E-T

40. Pravda, Moscow, 20 Aug 1952. U.
41. Myasnaya industriya SSSR, No. 1, 1949. U.
Myasnaya industriya SSSR, No. 1, 1952. U.
42. T.H. Shen, Agricultural Resources of China, Ithaca, 1951,
p. 243. U.
43. Myasnaya industriya SSSR, No. 1, 1949. U.
Myasnaya industriya SSSR, No. 1, 1952. U.
44. Sautin, op. cit., pp. 4-5.
45. Ibid.
Jasny, op. cit., p. 797, partly based on V.S. Nemchinov,
Sel'skokhozyaystvennaya statistika s osnovami obshchey teorii
(Agricultural Statistics with the Principles of General
Theory), Moscow, 1945, p. 130. U.
Michael, op. cit.
46. Main Administration for Statistics of the Republic of Poland,
op. cit.
Directorate of Agricultural Economics, Rumanian Ministry
of Agriculture for Provinces, op. cit.
International Institute of Agriculture, op. cit.
Sautin, op. cit., pp. 4-107
State Statistical Office, Germany, op. cit.
Volin, op. cit.
USARMA, op. cit.
Bol'shaya Sovetskaya entsiklopediya, op. cit.
Demidov, op. cit.
Sotsialisticheskoye zemledeliye, op. cit.
Pravda, Moscow, 20 Aug 1952. U.
47. Ibid.
48. V.A. Chuvikov, Spravochnik predsedatelya kolkhozov (Handbook
for Chairman of Collective Farms), Moscow, 1944, p. 437. U.
49. V.P. Nifontov, Zhivotnovodstvo SSSR v tsifrakh (Animal Hus-
bandry of the USSR in Figures), Gossotsekizdat, Moscow and
Leningrad, 1932, pp. 128-143. U.
50. Ibid.
51. Ibid.
52. Ibid.
53. Ibid.
54. Ibid.
55. Ibid.
56. Ibid.
57. Ibid., p. 155.
V.P. Nifontov, Proizvodstvo zhivotnovodstvo v SSSR, Moscow,
1937, pp. 101-103. U.
Sotsialisticheskoye sel'skoye khozyaystvo SSSR (Socialist

~~CONFIDENTIAL~~
~~SECRET~~

- Agriculture of the USSR), Moscow and Leningrad, 1939,
p. 73. U.
USSR State Planning Commission, op. cit.
58. US Department of Agriculture, Office of Foreign Agricultural
Relations, Washington, D.C. R.
CIA ORR preliminary estimates.
59. US Department of Agriculture, Bureau of Agriculture Economics,
The Livestock and Meat Situation, Washington, D.C., May-
Jun 1952. U.
Lorimer, op. cit.
CIA ORR estimate.

~~CONFIDENTIAL~~
~~SECRET~~

CONFIDENTIAL
~~**SECRET**~~