APPENDIX

Contents

Facsimile of schedule for one region only.

The questions on the schedules, which relate to color and tenure of the farm operator and value of farm products, were standard for all regions.

NOTES ON PRECISION OF DATA[1]

As noted in chapter II, the figures in the tables in this monograph are marked with an asterisk wherever the coefficient of variation, as indicated by sample data, is approximately 10 percent or more. Thus, the chances are approximately 2 out of 3 that the figures not marked with an asterisk are within 10 percent of the true figures, and 19 out of 20 that they are within 20 percent of the true figures. The coefficient of variation or relative error of a sample average is

$$V_{\bar{x}} = \frac{\sigma_{\bar{x}}}{\bar{X}} = \frac{\sigma_x}{\sqrt{m}\,\bar{X}} \qquad (1)$$

where σ_x is the standard deviation, or measure of the amount of variability of x, and $\bar{X}$ is the true or population value for the average, while m is the number of farms in the sample. The coefficient of variation of a total obtained by multiplying an average by a known factor is the same as the coefficient of variation of the average. For starring purposes the problem is to find the sample size, m_s, such that, for all sample sizes, m, smaller than this number, the coefficient of variation will be larger than 10 percent; in other words:

$$\frac{\sigma^2{}_x}{m_s\bar{X}^2} = .01, \quad \text{or} \quad m_s = \frac{\sigma^2{}_x}{.01\bar{X}^2}. \qquad (2)$$

Hence, if an estimate were made of $\sigma^2{}_x/\bar{X}^2$, it would be possible to determine the appropriate value of m_s. As is indicated in chapter II, the sample drawn represented approximately 2 percent of all farms (operators) in the "Under $10,000" category. Since the stratification was purely geographic, the sampling procedure did not insure the drawing of a 2-percent sample for each of the 8 tenure groups or a 2-percent sample for each of the 2 color groups. Inasmuch as the 1940 population numbers of farms were known for the individual color-tenure groups, the sample figures for each color-tenure group were expanded by the sampling ratio, M_1/m_1, for that particular color-tenure group (which often departed markedly from 50). If the values of m_1 for the color-tenure groups appeared in the tabulations, the procedure would be to star all values of m_1 less than the corresponding values of m_s calculated from (2). Unfortunately, only the recorded total number of farms, M_1, for a particular color-tenure group is shown; the approximation used is that $m_1 = .02M_1$ and, therefore,

$$M_s \doteq \frac{\sigma^2{}_x}{(.01)(.02)\bar{X}^2} \qquad (3)$$

where M_s designates the population number of farms such that, for all numbers of farms smaller than this number, the coefficient of variation, V, will be larger than 10 percent. Hence, if the values of V^2 are known, it is possible to star the figure when the corresponding value of M is equal to or less than M_s.

The problem of obtaining V differs as between classes of items and types of statistics. The methods used for starring table entries, and the assumptions underlying their use, follow.

CLASS A.—FARM COUNTS AND DERIVED FIGURES

This class of items includes the figures on numbers of farms having specified properties, with their derived figures, which are designated in the tables as follows: (a) Farms reporting specified sources of income, such as number of farms reporting dairy products sold or traded, shown in tables 1 to 12, inclusive; (b) farms classified by specified major sources of income, such as number of poultry farms, shown in tables 13 to 22, inclusive; and (c) farms classified by total value of farm products, such as number of farms in the "$100 to $249" value group, shown in tables 23 to 28, inclusive.

Case 1.—The first case falling under this general class is that *where the number of farms in the "Under $10,000" subgroup, having a specified property, is estimated from a sample, or the derived percentage given is this estimate divided by a known total.* For example, in table 10 the number of "*Farms* reporting farm products sold or traded" for "All tenants" in the "Under $10,000" subgroup is an estimate based on the 2-percent sample and, therefore, falls under Case 1 (A). The corresponding *percentages* for "All tenants" in the "Under $10,000" subgroup, shown in the columns "Percent of all farms" and "Percent by color and tenure," were derived by dividing this estimate of the number of "Farms reporting farm products sold or traded" by known total numbers of farms. Therefore, these percentages also come under Case 1 (A).

The mathematical basis for identifying entries which have relative errors of 10 percent or more and, therefore, should be marked with an asterisk is as follows:

The estimate R'_1 for the number of farms having a specified property in Case 1 (A) is

$$R'_1 = r\frac{M_1}{m_1} \qquad (4)$$

where r is the number of farms in the sample for "All tenants" in the "Under $10,000" subgroup having a specified property, M_1 is the known total number of tenants in the "Under $10,000" subgroup, and m_1 is the number of tenants in the sample for the "Under $10,000" subgroup, that is, the sample from the M_1 farms. The coefficient of variation squared of R'_1 is approximately

$$V^2_{R'_1} = \frac{Q_1}{.02\,P_1M_1} \qquad (5)$$

where P_1 is the proportion of farms "Under $10,000" having a specified property, as for example the proportion of "Farms reporting farm products sold or traded," and $Q_1 = 1-P_1$. We want M_s, that value of M_1 such that $V^2_{R'_1} = Q_1/.02\,P_1M_1 = .01$. Therefore,

$$M_s \doteq \frac{Q_1}{.0002P_1}. \qquad (6)$$

As estimates of P_1 and Q_1, we use the sample proportions p_1 and q_1. A table was constructed showing the values of M_s for any value of p_1. Hence, for a sample estimate of P_1, that is p_1, given in the published tables, it was possible to determine whether the number of farms having a specified property should be starred, depending on whether or not the corresponding value of M_1 in the table was equal to or less than M_s. For greater

[1] These notes were prepared jointly by Morris H. Hansen, William N. Hurwitz, and Irvin Holmes of the Bureau of the Census.

accuracy in determining whether large values of p, that is values of p greater than .70, should or should not be starred, use was made of published tables and charts[1] to determine the confidence limits of p_1 for samples of varying sizes, and thereby to determine values of M_s such that the chances were approximately 1 out of 20 that the observed value of p was less than the true value by 10 percent.

As indicated before, the relative error of an estimated total is the same as the relative error of the same estimated total divided by a known total. Therefore, the *percentages* for "All tenants" in the "Under $10,000" subgroup, described above, were starred whenever the corresponding figure on number of "*Farms* reporting farm products sold or traded" was starred.

Case 2.—The second case is *where the number of farms, having a specified property, is made up of an estimate from a sample for the "Under $10,000" subgroup plus a known total for the "$10,000 and over" subgroup, and the derived percentage given is this number divided by a known total.* In table 10 the number of "*Farms* reporting farm products sold or traded" for "All tenants" is made up of the estimate from the 2-percent sample for the "Under $10,000" subgroup of "All tenants," described under Case 1 (A), plus a known total for the "$10,000 and over" subgroup of "All tenants." Therefore, this figure on number of "Farms reporting farm products sold or traded" for "All tenants" falls under Case 2 (A). The corresponding *percentages*, appearing in the columns "Percent of all farms" and "Percent by color and tenure," were secured by dividing this estimate of "Farms reporting farm products sold or traded" for "All tenants" by known total number of farms. Consequently, these percentages also come under Case 2 (A). In this case the estimate is

$$R' = M_1p_1 + M_2P_2 = R'_1 + R_2 \qquad (7)$$

where

$R'_1 = M_1p_1$, the estimated number of farms for the "Under $10,000" subgroup having a specified property

$R_2 = M_2P_2$, the known number of farms for the "$10,000 and over" subgroup having a specified property

M_1 as before, is the known number of all farms for the "Under $10,000" subgroup

M_2 is the known number of all farms for the "$10,000 and over" subgroup

p_1 as before, is the sample proportion of farms for the "Under $10,000" subgroup having a specified property

P_2 is the known proportion of farms for the "$10,000 and over" subgroup having a specified property.

In this case the coefficient of variation squared of R′ is

$$V^2_{R'} = \frac{M^2_1\sigma^2_{p_1}}{R^2} \qquad (8)$$

where R is equal to $M_1P_1 + M_2P_2$, that is, the total number of farms having a specified property for the "Under $10,000" and $10,000 and over" subgroups combined, and $\sigma^2_{p_1}$ is the variance of p_1 the sample proportion for the "Under $10,000" subgroup. Now

$$V^2_{R'} = M^2_1 \frac{\sigma^2_{p_1}}{P^2_1}\frac{P^2_1}{R^2} = \frac{R^2_1}{R^2}V^2_{R'_1} \doteq \frac{R^2_1}{R^2}\frac{Q_1}{.02M_1P_1} \qquad (9)$$

where R_1 is equal to M_1P_1 and the other terms are defined as before. For fixed values of R_1/R we would like to find M'_s, that value of M_1 such that

$$\frac{R^2_1}{R^2}\frac{Q_1}{.02M'_sP_1} = .01 \quad \text{or} \qquad (10)$$

$$M'_s = \frac{R^2_1}{R^2}\frac{Q_1}{.0002P_1} = \frac{R^2_1}{R^2}M_s \qquad (11)$$

where M_s is defined as in Case 1 (A).

For simplicity in constructing tables for starring purposes, the values of R^2_1/R^2 were grouped into 10 classes and the midpoints of these class intervals were used as approximations. If values of R_1/R were available, the starring procedure would be to identify the interval in which R_1/R falls, and to star R′ whenever M_1 is equal to or less than M'_s. However, only sample estimates of R_1/R, that is, R'_1/R', were available. Because of the grouping and because of sampling errors in the estimates of R_1/R, some of the values of R′ which should have been starred may not have been starred, and conversely.

Since the relative error of an estimated total is the same as the relative error of that estimate divided by a known total, the *percentages* for "All tenants," already described, were starred whenever the corresponding number of "*Farms* reporting farm products sold or traded" for "All tenants" was starred.

Case 3.—This case covers the *percentages for which the numerator is the known total for a "$10,000 and over" subgroup, and therefore not subject to sampling error, and the denominator is made up of an estimated total for the corresponding "Under $10,000" subgroup and the known total for the "$10,000 and over" subgroup.* In table 10 this *percentage* is found under the column entitled "Percent by value groups," where the "Farms reporting farm products sold or traded" for the "$10,000 and over" subgroup is shown as a percent of the "Farms reporting farm products sold or traded" for "All tenants," that is, for the "Under $10,000" and "$10,000 and over" subgroups combined. This estimate is

$$p_3 = \frac{M_2P_2}{M_1p_1 + M_2P_2} = \frac{R_2}{R'} \qquad (12)$$

where $R' = M_1p_1 + M_2P_2$. In this case, $V^2_{p_3}$ is approximately equal[2] to $V^2_{R'}$ and therefore the entries for p_3 were starred whenever R′ was starred.

Case 4.—This case covers *percentages for which the numerator is an estimated total for the "Under $10,000" subgroup, and the denominator is made up of the same estimated total for the "Under $10,000" subgroup and a known total for the "$10,000 and over" subgroup.* In table 10 this *percentage* is found under the column entitled "Percent by value groups," where the "Farms reporting farm products sold or traded" for the "Under $10,000" subgroup is shown as a percent of "Farms reporting farm products sold or traded" for "All tenants," that is, for the "Under $10,000" and "$10,000 and over" subgroups combined. In this case the estimate is

$$p_4 = \frac{M_1p_1}{M_1p_1 + M_2P_2} = \frac{R'_1}{R'} \qquad (13)$$

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[1] Clopper, C. J., and E. S. Pearson, "The use of confidence or fiducial limits applied to the case of the binomial." *Biometrika* 26 (1934), 404-413.
Ricker, William E., "The concept of confidence or fiducial limits applied to the Poisson frequency distribution." *American Statistical Association Journal* 32 (1937), 349-356.

[2] The coefficient of variation squared of p_3 is given by the approximate formula

$$V^2_{p_3} \doteq V^2_{R_2} + V^2_{R'} - 2\rho_{R_2R'}V_{R_2}V_{R'}.$$

Both $\rho_{R_2R'}$ and $V^2_{R_2}$ are equal to zero, since R_2 is a known figure and not subject to sampling error; hence, $V^2_{p_3}$ is approximately equal to $V^2_{R'}$.

$V^2_{p_4}$ is approximately equal[1] to

$$\left(1 - \frac{R_1}{R}\right)^2 V^2_{R'_1} = \frac{R^2_2}{R^2} V^2_{R'_1} = \frac{R^2_2}{R^2} \frac{Q_1}{.02 M_1 P_1} . \quad (14)$$

This case is similar to that of Case 2 (A). Here, for fixed values of R_2/R we would like to find M''_s, that value of M_1 such that

$$\frac{R^2_2}{R^2} \frac{Q_1}{.02\, M''_s P_1} = .01 . \text{ Therefore,} \quad (15)$$

$$M''_s = \frac{R^2_2}{R^2} \frac{Q_1}{.0002\, P_1} = \frac{R^2_2}{R^2} M_s . \quad (16)$$

M''_s in this case differs from M'_s in Case 2 (A) only in that M_s is multiplied by R^2_2/R^2 instead of by R^2_1/R^2. Hence, the tables constructed for Case 2 (A) were used by identifying the proper group interval by R'_2/R'. The limitations indicated for Case 2 (A) also apply here.

CLASS B.—VALUE OF PRODUCTS AND DERIVED FIGURES

The four cases for the farm counts also occur for this class of items; and in addition there are two special cases involving the average value per farm reporting. This class also presented a further problem in that the tabulations did not provide information on the relative errors on which the starring procedure is based. Special tabulations to estimate roughly the value for V were made by color-tenure groups for relevant items.

Case 1.—The first case for this class of items corresponds to Case 1 (A) for the farm counts, *that is, the value figure for farms in the "Under $10,000" subgroup, having a specified property, is estimated from a sample, or the derived percentage given is this estimated value divided by a known value.* For example, in table 10 the "*Value* of farm products sold or traded" for "All tenants" in the "Under $10,000" subgroup is an estimate based on the 2-percent sample and, consequently, falls under Case 1 (B). The corresponding *percentage*, shown in the column "Percent by color and tenure," was derived by dividing this estimate of the "Value of farm products sold or traded" for "All tenants" in the "Under $10,000" subgroup by the known "Value of farm products sold or traded" for all tenure groups in the "Under $10,000" category. Consequently, this percentage also falls under Case 1 (B). The estimate for the value for reporting farms is

$$\sum_{i=1}^{m_1} d_i \frac{M_1}{m_1} = D'_1 \quad (17)$$

where $\sum_{i=1}^{m_1} d_i$ is the value figure for the sample for farms having a specified property. $V^2_{D'_1}$ is approximately equal to $\sigma^2_d/.02M_1$. As before we want to determine M_f, a particular value of M_1 such that for all values of M_1 less than this number the coefficient of variation is greater than 10 percent. In other words, we want to find M_f such that

$$V^2_{D'_1} = \frac{\sigma^2_d}{.02 M_f \bar{D}^2_1} = .01, \quad \text{or} \quad M_f = \frac{\sigma^2_d}{.0002 \bar{D}^2_1} = \frac{V^2_d}{.0002} \quad (18)$$

where $\bar{D}_1$ is the average value figure for the population for farms having a specified property.

The values of V^2_d (the coefficient of variation squared for all farms where those not reporting values were assumed to have zero values) were estimated for the various items falling in this class, and tables were drawn up showing the values of M_f computed from formula 18. The starring procedure followed was to star all values of D' for which the values of M_1 were less than M_f.

As indicated before, the relative error of an estimated total is the same as the relative error of this same estimated total divided by a known total. Therefore, the percentage for "All tenants" in the "Under $10,000" subgroup, previously described, was starred whenever the corresponding figure on "Value of farm products sold or traded" was starred.

Case 2.—This case parallels Case 2 (A) for the farm counts. In other words, *the value figure for farms, having a specified property, is made up of a value estimated from a sample for the "Under $10,000" subgroup plus a known value for the "$10,000 and over" subgroup, and the derived percentage given is this value divided by a known value.* In table 10 the "*Value* of farm products sold or traded" for "All tenants" is made up of the value estimated from the 2-percent sample for the "Under $10,000" subgroup, described under Case 1 (B), plus a known value for the "$10,000 and over" subgroup of "All tenants." Therefore, this figure on "Value of farm products sold or traded" for "All tenants" falls under Case 2 (B). The corresponding *percentage*, given in the column "Percent by color and tenure," was secured by dividing this estimated value for "All tenants" by the known "Value of farm products sold or traded" for all tenure groups. Consequently, this percentage also comes under Case 2 (B). Here the estimate is

$$D' = D'_1 + D_2 \quad (19)$$

where D_2 is the known value for the "$10,000 and over" subgroup. From considerations identical to those given in Case 2 (A) for the farm counts, the value of M'_f, that is, that value of M_1 for which $V_{D'}$ is equal to 10 percent, is

$$M'_f = M_f \frac{D^2_1}{D^2} \quad (20)$$

where M_f is defined in formula 18 under Case 1 (B) and M'_f is that value of M_1, such that for all values smaller than M'_f the coefficient of variation of D' is greater than 10 percent.

For simplicity in constructing the tables for starring purposes, the values of D^2_1/D^2 were grouped into 10 classes and the midpoints of these class intervals were used as approximations. If values of D_1/D were available, the starring procedure would be to identify the interval in which D_1/D falls, and to star D' whenever M_1 is equal to or less than M'_f. However, only sample estimates of D_1/D were available. As in Case 2 (A) for the farm counts, because of the grouping and because of sampling errors in the estimates of D_1/D, some values of D' which should have been starred may not have been starred, and conversely.

As in Case 1 (B) the percentage, $\bar{d}_2$, for "All tenants," shown in the column "Percent by color and tenure," was starred whenever the corresponding figure on "Value of farm products sold or traded" was starred, since the relative error of an estimated total is the same as the relative error of this same estimated total divided by a known total.

Case 3.—This case for the value-of-products items corresponds to Case 3 (A) for the farm counts. In other words, it covers the *percentages for which the numerator is the known value for the "$10,000 and over" subgroup, and therefore not subject to*

[1] $V^2_{p_4} \doteq V^2_{R'_1} + V^2_{R'} - 2\rho_{R'_1 R'} V_{R'_1} V_{R'} = V^2_{R'_1} + V^2_{R'} - 2 V_{R'_1} V_{R'}$, since $\rho_{R'_1 R'} = 1$. Now $V^2_{R'} = \frac{R^2_1}{R^2} V^2_{R'_1}$, hence, $V^2_{p_4} = V^2_{R'_1} + \frac{R^2_1}{R^2} V^2_{R'_1} - 2\frac{R_1}{R} V^2_{R'_1}$

$= V^2_{R'_1}\left(1 - 2\frac{R_1}{R} + \frac{R^2_1}{R^2}\right) = V^2_{R'_1}\left(1 - \frac{R_1}{R}\right)^2$

sampling error, and the denominator is made up of an estimated total for the "Under $10,000" subgroup and the known total for the "$10,000 and over" subgroup. In table 10 this *percentage* is found under the column entitled "Percent by value groups," where the "Value of farm products sold or traded" for the "$10,000 and over" subgroup is shown as a percent of the "Value of farm products sold or traded" for "All tenants," that is, for the "Under $10,000" and "$10,000 and over" subgroups combined. Here the estimate is

$$\bar{d}_3 = \frac{D_2}{D'_1 + D_2}. \qquad (21)$$

In Case 3 (A) for the farm counts $V^2_{p_3}$ was found to be approximately equal to $V^2_{R'}$. From the same considerations $V^2_{\bar{d}_3}$ is approximately equal to $V^2_{D'}$. Hence, $\bar{d}_3$ was starred whenever D' was starred.

Case 4.—As for the farm counts, this case for the value-of-products items covers *percentages for which the numerator is an estimated value for the "Under $10,000" subgroup, and the denominator is made up of the same estimated value for the "Under $10,000" subgroup and a known value for the "$10,000 and over" subgroup.* In table 10 this *percentage* is found under the column entitled "Percent by value groups," where the "Value of farm products sold or traded" for the "Under $10,000" subgroup is shown as a percent of "Value of farm products sold or traded" for "All tenants," that is, for the "Under $10,000" and "$10,000 and over" subgroups combined. The estimate is

$$\bar{d}_4 = \frac{D'_1}{D'_1 + D_2}. \qquad (22)$$

Here $V^2_{\bar{d}_4}$ is equal to $V^2_{D'_1}$ (D^2_2/D^2) and M''_f is equal to M_f (D^2_2/D^2) from the reasoning given in Case 4 (A) for the farm counts. M''_f in this case differs from M'_f in Case 2 (B) for the value-of-products items only in that M_f is multiplied by D^2_2/D^2 instead of by D^2_1/D^2. Hence, the tables constructed for Case 2 (B) for the value-of-products items were used by identifying the proper group interval by D'_2/D'. The limitations indicated for Case 2 (A) of the farm counts and Case 2 (B) of the value-of-products items also apply here.

Case 5.—This case covers the *average value per farm reporting a specified value item for the "Under $10,000" subgroup for which the numerator is a value from a sample and the denominator is the sample number of farms reporting the specified value.* In table 10 the *average value* of farm products sold or traded for the "Under $10,000" subgroup for "All tenants" was secured by dividing the estimated "Value of farm products sold or traded" by the estimated "Farms reporting farm products sold or traded" for that subgroup, consequently this average value per farm reporting falls in Case 5 (B). The estimate in this case is

$$\bar{d}_5 = \frac{\sum_{i=1}^{m_1} d_i}{r_1} = \frac{\sum_{i=1}^{r_1} d_i}{r_1} \qquad (23)$$

where $\sum_{i=1}^{m_1} d_i = \sum_{i=1}^{r_1} d_i$ is the specified value figure for the sample, r_1 is the number of farms in the sample reporting the specified value, and m_1, as defined previously, is equal to all farms in the sample for the subgroup under consideration whether or not they reported the particular value item. $\sum_{i=1}^{r_1} d_i = \sum_{i=1}^{m_1} d_i$ since the farms not reporting values were assumed to have zero values.

$$V^2_{\bar{d}_5} = \frac{\sigma^2_d}{r_1 \bar{D}^2_5}, \qquad (24)$$

where σ^2_d is now calculated only for those farms reporting the specified value, that is,

$$\sigma^2_d \doteq \frac{\sum_{i=1}^{R_1} \left(d_i - \bar{D}_5\right)^2}{R_1} \qquad (25)$$

in which d_i = value for the i^{th} reporting farm, $\bar{D}_5 = \frac{\sum_{i=1}^{R_1} d_i}{R_1}$, and R_1 = the total number of farms in the population reporting a specified value.

Estimates for σ^2_d and $\bar{D}_5$ were made for the various items and substituted in formula 24.

The values of r_1 do not appear in the tabulations. As an approximation $.02R'_1$ was used. Hence, for starring purposes R_s, the value for which the coefficient of variation of $\bar{d}_5$ is equal to 10 percent, is approximately

$$R_s = \frac{V^2_d}{.0002}. \qquad (26)$$

A table was constructed from this formula, on the basis of which the entries for $\bar{d}_5$ were starred when the corresponding R'_1 was equal to or less than R_s.

It is to be noted that $\bar{d}_5$ is for reporting farms only, and hence the coefficient of variation depends entirely on the variability among the reporting farms. It is generally true that the coefficients of variation for these averages are less than the coefficients of variation for the preceding cases which involve totals or percentages for all farms. Hence, it is quite commonly true that the entries for the former cases may be starred while those for this case would not be starred.

Case 6.—This case covers the *average value per farm reporting a specified value item for the "Under $10,000" and "$10,000 and over" subgroups combined, for which the numerator is made up of a value estimated from the sample for the "Under $10,000" subgroup plus a known value for the "$10,000 and over" subgroup, and the denominator is made up of a figure on farms reporting the specified value estimated from the sample for the "Under $10,000" subgroup plus a known figure on farms reporting the specified value for the "$10,000 and over" subgroup.* In table 10 the *average value* of farm products sold or traded for "All tenants" was secured by dividing the estimate of "Value of farm products sold or traded" for the "Under $10,000" and "$10,000 and over" subgroups combined, by the estimate of "Farms reporting value of farm products sold or traded" for the "Under $10,000" and "$10,000 and over" subgroups combined. Consequently, this average value per farm reporting comes under Case 6 (B). The estimate is

$$\bar{d}_6 = \frac{D'}{R'} = \frac{D'_1 + D_2}{R'_1 + R_2} \qquad (27)$$

where D'_1, D_2, R'_1, and R_2 are defined as before.

The approximation[1] to the coefficient of variation squared, that was used, was

[1] A more accurate approximation could have been used. The better approximation to the coefficient of variation squared would have been

$$V^2_{D'} + V^2_{R'} - 2\rho_{D'R'} V_{D'} V_{R'}.$$

The approximation actually used assumed that the number of farms in the population reporting the specified value for the "Under $10,000" subgroup, (R_1), was known. Under this circumstance the estimate would be

$$\frac{\bar{d}_5 R_1 + D_2}{R}$$

and the coefficient of variation squared of this estimate is

$$\frac{R^2_1 \sigma^2_{\bar{d}_5}}{R^2} \frac{R^2}{(D_1 + D_2)^2} = R^2_1 \frac{\sigma^2_{\bar{d}_5}}{\bar{D}^2_1} \frac{\bar{D}^2_1}{D^2} = V^2_{\bar{d}_5} \frac{D^2_1}{D^2}$$

where $\bar{D}_1 = D_1/R_1$.

$$V^2_{\bar{d}_6} = \frac{D^2_1}{D^2} V^2_{\bar{d}_5} \qquad (28)$$

from the considerations previously given in Cases 2 (B) and 4 (B). Hence the approximate values of R'_s for starring $\bar{d}_6$ were obtained by calculating $R'_s = D^2_1/D^2 R_s$, R_6 being the values obtained from formula 26 in Case 5 (B). The values substituted in formula 28 for D^2_1/D^2 were the midpoints of group intervals as in Case 2 (B).

GENERAL COMMENTS

It may be pointed out that in every instance, with the possible exception of Case 6 (B) for the value-of-products items, the procedure used may have led to a slight overstarring of the tabulated entries. This results from three causes: (1) As was pointed out in chapter II, the cell entries were adjusted to agree with the recorded marginal totals for all items except one. The adjustment procedure used yields adjusted values approximately equivalent to those obtained from a least-squares adjustment, and hence the actual sampling error in the tabulations is likely to be slightly less than the expected sampling error for the unadjusted data. (2) For the second class of items, value of products, the values for V^2 were overestimates. (3) No account was taken of the stratification actually involved in drawing the sample for the "Under $10,000" farms. In other words, it was assumed that the sampling was made unrestricted, at random, throughout a State when actually the sampling was stratified to a county level.

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SIXTEENTH CENSUS OF THE UNITED STATES: 1940

FARM AND RANCH SCHEDULE

(Including Special Agricultural Operations)

Inventory Items, April 1, 1940 — Production Items, Calendar Year 1939

I.—FARM OPERATOR, APRIL 1, 1940

Code

1. Name of person.....
2. Address..... (Street or Route No.) (Post office) (State)
3. Age ..... NOTE.—Report age and color or race as shown on Population Schedule. — Code A, 1
4. Color or race: [Place a check (√) in proper block] — Code 2

21. White, including Mexican	22. Negro	23. Indian	24. Chinese	25. Japanese	26. Other (specify)

5. Do you reside on this farm? ..... (Yes or No) — Code 3

II.—FARM TENURE, APRIL 1, 1940

6. If you rent any farm land from others or manage any farm land for others, give names and addresses of the owners of the land and indicate for each owner whether a corporation:

Name ..... Incorporated? ..... (Yes or No)
Address ..... (Street or Route No.) (Post office) (State)
Name ..... Incorporated? ..... (Yes or No)
Address ..... (Street or Route No.) (Post office) (State)

7. What does the landlord furnish as his share in the operation of this farm?
   (a) Work animals ..... (All, Part, or None)
   (b) Tractor power ..... (All, Part, or None)
   (c) Fertilizer ..... (All, ½, ⅓, etc., or None)
   (d) Seed ..... (All, ½, ⅓, etc., or None)
   (e) Other ..... (Name and give share)

8. What did you agree to pay as rent for the year?

If cash, give total amount, explaining for what paid, as $530 for entire farm, $30 for 15 acres pasture, $75 for 25 acres hay land, etc.
If share of crops or of animal increase, give kind and report share in fractions, as ½ corn, ¼ young animals, ¼ cotton, etc.
If definite quantity, give kind and report in bushels, pounds, etc., as 600 bushels wheat, 4 bales cotton, etc.
If other rent, specify, as upkeep of farm, keep of landlord, etc.

Code B, 1

9. Do you operate this farm for others as hired manager? ..... (Yes or No)
10. How many acres in this farm do you own? ..... Acres.....
11. How many acres in this farm do you rent from others? ..... Acres.....

The sum of Questions 10 and 11 must equal Question 12, unless operated by a hired manager.

Code A, 4

III.—FARM ACREAGE, APRIL 1, 1940

The sum of Questions 13 to 18, inclusive, must equal Question 12.

12. Total number of acres in this farm ..... Acres.....
    Omit from this farm any land now rented to or cropped by others. Include all outlying or separate fields, meadows, pastures, woodland, or waste lands operated by the person whose name is given under Question 1, whether owned, rented from others, or managed for others. Secure a separate schedule for each tenant, renter, or cropper.
    Suggestion To Enumerator.—Before proceeding with the Farm Acreage, it may be helpful to fill in the information for Column 4 and for the reverse side of schedule.

Code 5, Q, 1

13. Land from which crops were harvested in 1939 ..... Acres.....
    Include all field crops, all tame and wild hay cut, and gardens, orchards, and vineyards. Do not count the same land twice, even though two crops were harvested from it.
14. Land from which no crop was harvested in 1939 because of crop failure or destruction ..... Acres.....
    List "planted crops which failed" under Supplemental Information.
15. Cropland lying idle all of 1939 or land in summer fallow in 1939 (omit crop failure and land pastured) ..... Acres.....
16. Land used ONLY for pasture or grazing in 1939 which could be plowed and used for crops without additional clearing, drainage, or irrigation (omit cropland harvested and hay cut) ..... Acres.....
17. Woodland in this farm ..... Acres.....
    Include as woodland all farm wood lots or timber tracts, natural or planted, and cutover land with young growth, which has or will have value as wood or timber. Omit chaparral and woody shrubs.
18. All other land now in this farm ..... Acres.....
    Include rough pasture land (not woodland pasture), all waste land, also house yards, barnyards, feed lots, lanes, roads, etc.

Code A, 6, 7, 8, 9, 10, 11

IV.—VALUES, APRIL 1, 1940

Code A

19. Total value of this farm (land and buildings), including farm land and buildings rented from others ..... $..... (Omit cents) — 12
    Give the amount for which this farm (Question 12) would sell. Include the land actually operated by you as owner, renter, or manager, and all farm buildings and improvements. Omit farm implements and machinery, livestock, and land rented by you to tenants or croppers.

    If you own a part, but not all, of this farm—
    (a) How much of the total amount under Question 19 represents the value of the land and buildings owned by you? ..... $..... (Omit cents) — 13

20. Value of all buildings on this farm ..... $..... (Omit cents) — 14
    Included in answer to Question 19.
21. Value of farm implements and machinery used in operating this farm, including automobiles, tractors, motortrucks, and trailers (present market value) ..... $..... (Omit cents) — 15
    Include all farm implements; tools; wagons; harnesses; dairy equipment; cotton gins; threshing machines; combines; apparatus for making cider, grape juice, and sirup and for drying fruits; and all other farm machinery. Omit commercial mills and factories; also permanently installed irrigation and drainage equipment.

V.—FARM MORTGAGE DEBT AND FARM TAXES

If you own all or part of this farm—

Code B

22. Was there any mortgage debt on the land and buildings so owned on April 1, 1940? ..... (Yes or No) — 2
23. Total amount of outstanding mortgage debt on such land and buildings ..... $..... (Omit cents) — 3
24. What was the annual rate (contract rate) of interest on the first mortgage debt? (Report fractions) ..... (Percent) — 4

If you own all or part of this farm—

25. Give amount of taxes levied in 1939 on the REAL ESTATE of this farm owned by you on April 1, 1940 (include buildings and other improvements, but do not include taxes levied by drainage or irrigation districts) ..... $..... (Omit cents) — 5
26. Give amount of taxes levied in 1939 on PERSONAL property owned by you on this farm (include livestock, machinery, etc., but do not include automobile taxes, fees, or licenses) ..... $..... (Omit cents) — 6

VI.—OTHER LAND OWNED, APRIL 1, 1940

27. Do you own any land in addition to that shown under Question 10? (Do not include residential and nonfarm building sites) ..... (Yes or No) — 7
28. How many acres of such land are rented or are to be rented this year to others (including that rented to croppers)? ..... Acres..... — 8

VII.—WORK OFF FARM AND YEARS ON THIS FARM

Code C

29. How many days in 1939 did you work for pay or income off the farm you operated? ..... Days..... (If no days, write "None") — 1

    OF THESE, HOW MANY WERE SPENT—
    (a) At farm work, not connected with your farm? ..... Days..... — 2
    (b) At nonfarm jobs (including road work and relief or "made" work), businesses, or professions? ..... Days..... — 3
    NOTE.—Total of (a) and (b) must equal total days worked off the farm. — 4

    For (b), specify principal nonfarm occupation and industry:
    Nonfarm occupation ..... (Miner, spinner, proprietor, teacher, foreman, section hand, etc.)
    Industry ..... (Coal mine, cotton mill, general store, public school, road work, railroad, W.P.A., C.C.C., N.Y.A., etc.)

30. Year when you began to operate THIS farm ..... (Year) — 5

VIII.—IRRIGATION

Code A

31. Land from which irrigated crops were harvested in 1939 ..... Acres.....
    Do not count land twice, even though two crops were harvested from it. — 16
32. Land irrigated in 1939 and used ONLY for grazing or pasture ..... Acres..... — 17
33. Irrigation enterprise supplying water:
    If water is not supplied by an irrigation enterprise, explain, as pumped from own well, stream diversion, or city water, etc.

    NAME .....
    ADDRESS ..... (Street or Route No.) (Post office) (State)

(Reduced facsimile)

names or identity, from your census reports. Only sworn census employees will see your statements. Data collected will be used solely for preparing statistical information concerning the Nation's Census Reports Cannot Be Used for Purposes of Taxation, Regulation, or Investigation 16—11334

SCHEDULE No.

THIS COLUMN FOR OFFICE USE ONLY

CODE

TENURE

1. Full owner.
2. Part owner.
3. Manager.
4. Cash tenant.
5. Share-cash tenant.
6. Share tenant.
7. Cropper.
8. Other tenant.

SIZE

1. Under 10.
2. 10–29.
3. 30–49.
4. 50–69.
5. 70–99.
6. 100–139.
7. 140–179.
8. 180–219.
9. 220–259.
10. 260–499.
11. 500–999.
12. 1,000 and over

STATES

Alabama.
Georgia.
Mississippi.
South Carolina.

REGION 3

DEFINITION OF A FARM

A farm, for Census purposes, is all the land on which some agricultural operations are performed by one person, either by his own labor alone or with the assistance of members of his household, or hired employees. The land operated by a partnership is likewise considered a farm. A "farm" may consist of a single tract of land, or a number of separate tracts, and the several tracts may be held under different tenures, as when one tract is owned by the farmer and another tract is rented by him. When a landowner has one or more tenants, renters, croppers, or managers, the land operated by each is considered a farm. Thus, on a plantation the land operated by each cropper, renter, or tenant should be reported as a separate farm, and the land operated by the owner or manager by means of wage hands should likewise be reported as a separate farm.

Include dry-lot or barn dairies, nurseries, greenhouses, hatcheries, fur farms, mushroom cellars, apiaries, cranberry bogs, etc.

Exclude "fish farms," fish hatcheries, "oyster farms," and "frog farms."

Do not report as a farm any tract of land of less than 3 acres, unless its agricultural products in 1939 were valued at $250 or more.

IX.—COOPERATIVE SELLING AND PURCHASING, 1939

Did you, in 1939, transact any business with or through—

34. A cooperative SELLING organization?..... (Yes or No) — Code C 6
35. A cooperative BUYING organization?..... (Yes or No) — 7
36. A cooperative SERVICE organization?..... (Yes or No) — 8

X.—FARM LABOR

37. Number of workers 14 years old and over and wages paid for farm work on this farm (do not include housework or contract construction work):

CLASS OF LABOR	Number of persons 14 years old and over working the equivalent of 2 or more days the week of— Mar. 24–30, this year	Sept. 24–30, last year	Total cash wages paid for all hired labor in 1939	Code D
	Number	*Number*	*Dollars*	
(a) Operator and unpaid members of his family			x x x x x x x	1, 2
(b) Labor hired by month			(Omit cents)	3, 4, 5
(c) Labor hired by day or week			(Omit cents)	6, 7, 8
(d) Others (include piece work and contract labor)			(Omit cents)	9, 10, 11

XI.—FARM EXPENDITURES IN 1939

38. Amount expended in 1939 for hay, grain, mill feed, and other products for use as feed for domestic animals and poultry..... $..... (Omit cents) — 12
39. Amount expended in 1939 for purchase of farm implements and machinery, including automobiles, tractors, motortrucks, and trailers..... $..... (Omit cents) — 13
See kinds of machinery listed under Question 21.
40. Amount expended in 1939 for gasoline, distillate, kerosene, and oil for use on this farm..... $..... (Omit cents) — 14
41. Amount expended in 1939 for building materials, including lumber, roofing materials, hardware, cement, paint, fencing material, etc., for use on this farm..... $..... (Omit cents) — 15

	Tons	Cost	
42. Commercial fertilizer bought in 1939 for use on this farm (report fractional tons).....		$..... (Omit cents)	16, 17
43. Liming materials—lime, marl, gypsum, etc., bought in 1939 for use on this farm..... Underline or give kind.		$..... (Omit cents)	18, 19

XII.—FARM MACHINERY AND FACILITIES, APRIL 1, 1940

	Number of units	Year of latest model	Code C
44. Number of automobiles on this farm			9, 10
45. Number of motortrucks on this farm			11, 12
46. Number of tractors on this farm			13, 14

47. Is there an electric distribution line within ½ mile of the farm dwelling?..... (Yes or No) — 15
48. If the dwelling is lighted by electricity, check (√) source of current:
[ ] 1. Power line [ ] 2. Home plant — 16
49. Is there a telephone on this farm?..... (Yes or No) — 17
50. Check (√) each kind of road on which this farm is located:
[ ] 1. Hard-surfaced [ ] 2. Gravel, shell, chale, etc. [ ] 3. Improved dirt [ ] 4. Unimproved dirt — 18

ENUMERATOR'S RECORD AND CERTIFICATE

Code

State ..... County ..... E. D. No. .....

Number of farm in order of visitation.....

From Population Schedule:
Farm operator's name appears on Sheet No. .....; Line No. .....
Visitation number of farm operator's household.....
Visitation numbers of other households on this farm.....
If no dwelling, or if no occupied dwelling, on this farm, give the identification used to designate the place on your map, as: F–1; V–3, F–2; etc.....

Minor Civil Division .....
Give name, also class, as township, town, ward, precinct, district, beat, etc.

If any part of this farm is in another Minor Civil Division, give location and acreage—

M. C. D.	COUNTY	ACRES

Code D 20 Q 2, 3, 4, 5

If this farm is located—
In surveyed area, give Sec. No. .....; Township .....; Range .....
Sec. No. .....; Township .....; Range .....
In incorporated place, give name .....
Enumeration completed by me at ..... {a. m. / p. m.} on the ..... day of ....., 1940.
(Signed) ....., Enumerator.

XIII.—SUPPLEMENTAL INFORMATION

Give any changes in the area of this farm or in your tenure since September 1, 1939 (if none, write "None")

Clarify any unusual entries in this report by adequate explanations below. Comment on unusual crops, yields, values, acreages, location and ownership of livestock, etc.:

SUMMER FALLOW

Land in tilled summer fallow in 1939 on which no crop was planted for harvest in 1939..... Acres.....
Include also in Question 15.

SOIL IMPROVEMENT CROPS

Total acres of crops plowed under in 1939 for soil improvement purposes ONLY—not pastured, grazed, hogged, or otherwise harvested (green manure crops)..... Acres.....
Cowpeas, soybeans, vetches, rye, etc. Underline or give kind. Include *all* such crops even though another crop was grown on the same land in 1939. That part of this acreage from which no crop of any kind was harvested or grazed in 1939 should also be included under Question 15.

CROP FAILURE

Crops planted for harvest in 1939 which were not harvested because of crop failure, destruction, or low prices (do not consider as failure any crops which were grazed, hogged, or otherwise harvested for any purpose):

Name of first crop planted for harvest in 1939 which failed (1)	If replanted to a crop for harvest in 1939, name of second crop (2)	Acres of first crop which failed (3)	Acres of second crop harvested (4)

Report as reply to Question 14 the sum of acres in Column 3 minus the sum of acres in Column 4.

DOUBLE CROPPING

Crops which were harvested in 1939 in succession from the same acreage:

Name of first crop harvested (1)	Name of second crop harvested (2)	Acres of first crop harvested (3)	Acres of second crop harvested (4)

Interplanted crops which were harvested in 1939:

Name of principal crop (1)	Name of interplanted crop (2)	Acres of principal crop (3)	Acres of interplanted crop (4)

NOTE.—Double cropping must be considered in arriving at your reply to Question 13.

(Reduced facsimile)

OMITTED INQUIRY NUMBERS REPRESENT CROPS WHICH WILL BE INFREQUENTLY REPORTED IN THIS

XIV.—LIVESTOCK, APRIL 1, 1940, AND LIVESTOCK PRODUCTS, 1939

Includes animals on this farm or ranch, whether belonging to the farm operator or not, also animals belonging to this farm but grazing in national forests or on open range.

	Total over 3 months old	3- to 27-month-old colts	Code
51. Horses of all kinds, including ponies, April 1, 1940 — Number			E 1, 2
52. Mules, April 1, 1940 — Number			3, 4

53. Cattle and calves *over 3 months old*, Apr. 1, 1940 — Number ____ — 5

Of this number, how many were—

54. Cows and heifers that were 2 years old and over on January 1, 1940, and are—
(a) Kept mainly for milk production? — Number ____ — 6
(b) Kept mainly for beef production? — Number ____ — 7

Cows milked and dairy products, 1939:

55. Total cows milked during any part of 1939 (include heifers milked) — Number ____ — 8
56. Milk produced in 1939 (report in gallons: 8.6 pounds=1 gallon) — Gallons ____ — 9
Report all milk produced, whether consumed, sold, fed to stock, or otherwise disposed of.
57. Butter churned on farm in 1939 — Pounds ____ — 10

58. Whole milk sold in 1939	59. Cream sold in 1939 (Butterfat content)	60. Butter sold in 1939	Code
Gallons	Pounds of butterfat	Pounds	11, 12, 13

61. Value of all dairy products sold or traded in 1939—milk, cream, butter, cheese, etc. (Omit cents) — $ ____ — P 1

62. Sheep and lambs *over 6 months old*, April 1, 1940 — Number ____ — E 14

Of this number how many were—

63. Yearling ewes? — Number ____ — 15
64. Other ewes? — Number ____ — 16

NOTE.—If this farm has sheep on hand and no wool shorn in 1939, EXPLAIN.

65. Sheep and lambs shorn in 1939	Number shorn	Pounds of wool shorn	Code
Report the number of sheep and lambs shorn and not the number of fleeces. If shorn twice, write "Shorn twice."			17, 18

66. Hogs *over 4 months old*, April 1, 1940 — Number ____ — 19

Of this number, how many were—

67. Sows and gilts that farrowed since Dec. 1, 1939, or will farrow before June 1, 1940? — Number ____ — 20

68. Animals butchered in 1939 for use on this farm or for sale from this farm	Cattle (excl. calves) 1.	Calves 2.	Hogs and pigs 3.	Sheep and lambs 4.	Code
Number					F 1, 2, 3, 4

69. Goats and kids *over 4 months old*, April 1, 1940 — Number ____ — Angoras ____ — Other ____ — 5, 6

70. Mohair and kid hair clipped in 1939 — Pounds ____ — 7

71. Goats milked during any part of 1939 — Number ____ — 8

Livestock purchases and sales:	Cattle (excl. calves) 1.	Calves 2.	Hogs and pigs 3.	Sheep and lambs 4.	Code
72. Bought in 1939 — Number					9, 10, 11, 12
73. Sold alive in 1939 — Number					13, 14, 15, 16

74. Value of all livestock sold or traded in 1939, except poultry, bees, and fur animals. (Omit cents) — $ ____ — P 2

NOTE.—If this farm has chickens on hand but raised none or produced no eggs in 1939, EXPLAIN.

	Number on hand over 4 months old on April 1, 1940	Number raised in 1939	Code
75. Chickens			G 1, 2
76. Turkeys			3, 4
77. Ducks			5, 6
78. Other (specify)			7, 8

For office use only ↓

Report separately geese, guineas, pigeons, quail, pheasants, etc.

79. Total chickens sold (including broilers and fryers) alive or dressed in 1939 — Number ____ — 9
Omit any sold as baby chicks.
80. Chicken eggs produced in 1939 — Dozens ____ — 10

81. Value of all poultry, eggs, baby chicks, poults, etc., sold or traded in 1939. (Omit cents) — $ ____ — P 3

82. Hives of bees, April 1, 1940: — G
(a) Owned by others, but kept on this farm — Number ____ — 11
(b) Owned by you, on this farm and on non-farm land such as deserts, hills, swamps, etc. — Number ____ — 12

83. Honey produced by your bees in 1939 — Pounds ____ — 13

FUR ANIMALS IN CAPTIVITY:	Silver fox	Mink	Code
84. Females *over 3 months old*, April 1, 1940 — Number			14, 15
85. Pelts taken in 1939 — Number			16, 17

Include only pelts taken from silver foxes and minks kept in captivity.

86. Value of wool, mohair, meat, hides, etc., bees, honey, wax, and fur animals and pelts sold or traded in 1939. (Omit cents) — $ ____ — P 4

XV.—CROPS HARVESTED ON THIS FARM IN 1939

	Acres harvested in 1939	Quantity harvested in 1939	Code
CORN: Omit sweet corn (except for silage primarily). Also omit popcorn, "Egyptian corn," kafir, and milo maize. If grown with other crops, report total acreage of mixture.			
NOTE.—The sum of the acres reported under Questions 88-90 must equal the answer to Question 87.			H-1
87. Total acreage of corn for all purposes		x x x x x	1, X, X
88. Corn for grain, whether snapped, husked, or machine-harvested for grain		Bu.	4, 6, X
56 lb. shelled corn or 70 lb. ear corn=1 bu.			
89. Corn cut for silage		Tons	7, 8, X
90. Whole plant hogged or grazed off by livestock, or cut for green or dry fodder and not husked or snapped		x x x x x	10, X, X
SORGHUMS: "Egyptian corn," kafir, milo, hegari, atlas, sorghum cane, sweet sorghums, etc.			H-2
91. All sorghums harvested for grain		Bu.	1, 2, X
Either threshed or fed in the head after cutting from stalk. 1 ton heads=25 bushels grain.			
92. All sorghums cut for silage only (green wt.)		Tons	4, 5, X
93. All sorghums cut for hay or fodder (dry wt.)		Tons	7, 8, X
Heads not cut off or threshed.			
94. Sweet sorghums harvested for sirup		Gal.	10, 11, X
Omit cane grown from stalks or cuttings. Report fractional acreage.			
SMALL GRAINS threshed (or combined):			
NOTE.—Report grain hay under Question 121.			J-95
95. Mixed grains, other than a flax and wheat mixture		Bu.	2, 3, X
Wheat and oats; wheat and barley; wheat and rye; oats and barley; oats and peas; etc. Underline or give mixture.			H-3
96. Oats threshed (or combined)		Bu.	1, 2, X
97. Oats cut for grain when ripe or nearly ripe and fed unthreshed (omit oat hay)		x x x x x	4, X, X J-98
98. Barley threshed (or combined)		Bu.	2, 3, X J-99
99. Rye threshed (or combined)		Bu.	2, 3, X
101. Winter wheat (fall or winter sown) threshed (or combined)		Bu.	H-4 1, 2, X
107. Rice (rough or paddy) threshed (or combined)		162-lb. bbl.	J-07 2, 3, X
ANNUAL LEGUMES for all purposes, except plowed under for green manure:			
Where grown with corn or other crops, report acreage of mixture in second column. The annual legumes cured for hay included under Questions 108-115 must also be reported under Question 116. Report fractional acreage.	Acres grown in 1939: Alone	Acres grown in 1939: With other crops	Nuts, peas, beans, and seed harvested in 1939 — Code
			K-8
108. Soybeans, total		x x x x x	2, 3, X, X
For hay, beans, grazed or hogged off.			
(a) Harvested for beans only		Bu.	6, 7, 8, X K-9
109. Peanuts, total		x x x x x	2, 3, X, X
For hay, nuts, grazed or hogged off.			
(a) Harvested for picking and threshing		Lb.	6, 7, 8, X K-0
110. Cowpeas, total		x x x x x	2, 3, X, X
For hay, peas, grazed or hogged off.			
(a) Harvested for peas		Bu.	6, 7, 8, X K-1
111. Vetches, velvetbeans, mung and horse beans (underline kind)		Bu.	2, 3, 4, X
112. Other dry field and seed beans (navy, pea bean, Great Northern, kidney, lima, pinto, etc.) and lentils		Bu.	K-2 2, 3, 4, X
Underline or give kind. Report green lima, snap, string, and wax beans under vegetables.			K-5
115. Dry field and seed peas (specify kind)		Bu.	2, 3, 4, X
Omit cowpeas. Report peas harvested green under vegetables.			

HAY CROPS: For each hay, give total production all cuttings, counting only once acres of land on which grown.

116. HAY FROM:	Acres harvested in 1939	Quantity harvested in 1939	Code
Cowpeas. Soybeans. Peanuts. Velvetbeans. Canada peas. Horsebeans. Austrian peas. Mungbeans. Other peas. Other beans. Vetches. Beggarweed. Crotalaria. Lupines		Tons	J-16 2, 3, X
Underline kind. Acres for hay included under Questions 108-115 must be reported here also. Include peanut vines saved for hay, but omit "straw" where beans or peas have been threshed.			J-17
117. Alfalfa cut for hay		Tons	2, 3, X J-18
118. Sweetclover cut for hay		Tons	2, 3, X J-19
119. Lespedeza cut for hay		Tons	2, 3, X J-20
120. Clover or timothy, alone or mixed, cut for hay (do not include sweetclover)		Tons	2, 3, X J-21
121. Small grain hay—wheat, oats, barley, rye, etc.		Tons	2, 3, X
Underline or give kind. Omit oats reported under Question 97.			J-22
122. All other tame hay cut		Tons	2, 3, X
Include old meadows, millet, Sudan, Johnson grass, orchard grass, redtop, crested wheatgrass, etc. Underline or give kind.			J-23
123. Wild hay cut—marsh, prairie, or range grasses		Tons	2, 3, X

(Reduced facsimile)

GENERAL AREA. WHERE FRACTIONAL ACREAGE OR PRODUCTION IS REQUIRED, REPORT AS: 1/8, 1/4, 3/8, 1/2, 5/8, 3/4, 7/8, 1, 1 1/8, ETC.

SCHEDULE No.

THE ABOVE SPACE FOR OFFICE USE ONLY

STATES

Alabama.
Georgia.
Mississippi.
South Carolina.

REGION 3

CLOVER AND GRASS SEEDS: Report on "country-run" basis.	Acres harvested in 1939	Quantity harvested in 1939	Code
			J-24
124. Alfalfa seed		Bu.	2, 3, X J-25
125. Sweetclover seed		Bu.	2, 3, X J-26
126. Lespedeza seed. Korean, Kobe, sericea, etc. Underline or give kind.		Lb.	2, 3, X J-27
127. Clover seed. Red, mammoth, Ladino, alsike, crimson, white Dutch, etc. Underline or give kind.		Bu.	2, 3, X J-28
128. Grass seed. Timothy, redtop, bluegrass, millet, Sudan, canary, bent, ryegrass, crested wheatgrass, etc. Underline or give kind.		Bu.	2, 3, X

MISCELLANEOUS CROPS: Report fractional acreage.			
			L-29
129. Irish potatoes. Grown for home use or for sale.		Bu.	1, 2, X L-30
130. Cotton harvested. If sold in the seed, estimate square bales of lint.		Running square bales. (Fractions)	1, 2, X L-31
131. Sweetpotatoes and yams. Grown for home use or for sale.		Bu.	1, 2, X L-32
132. Tobacco (total, all types). Give type number or local designation. If more than 1 type, give separate reports for each below:		Lb.	1, 2, X
		Lb.	
		Lb.	L-33
133. Sugarcane (not sorghum) for sirup. Include both thick and slender stalk varieties grown from stalks, cuttings, or stubble.		Gal. (Sirup)	1, 2, X L-40
140. Silage crops, other than corn and sorghums (specify). Alfalfa silage, soybean silage, oat silage, etc. Omit byproducts, as beet tops and pulp, pea vines, etc.		Tons	1, 2, X L-41
141. Root and grain crops (other than corn and annual legumes) hogged or grazed off		X X X X X	1, X, X
142. Other field crops not elsewhere reported. Give name and unit of measure.		Unit	L- 1, 2, X
		Unit	L- 1, 2, X

Report: Broomcorn. Buckwheat. Chufas. Flax for grain. Ginseng. Golden seal. Kudzu. Popcorn, etc.

143. Value of the crops reported under Questions 87–142 (including landlord's share) which were or are to be sold or traded $ (Omit cents)		P 5

VEGETABLES FOR FARM HOUSEHOLD(S') USE:		
144. Value of vegetables grown on this farm in 1939 for consumption by your family and by all households on this farm $ (Omit cents) Omit Irish and sweet potatoes, also any vegetables fed to animals.		M-44 X, X, 3

VEGETABLES harvested in 1939 FOR SALE (not for home use): Includes vegetables sold to canneries. For office use only → P 6

NOTE.—Where a crop was harvested following another on the same land during the year, report acreage for each crop.

Report fractional acreage. Omit cents	Vegetables harvested in 1939 for sale: Acres	Value	Code	Report fractional acreage. Omit cents	Vegetables harvested in 1939 for sale: Acres	Value	
			M-46				M-61
146. Asparagus		$.	2, 3 M-47	161. Lettuce		$.	2, 3 M-62
147. Green lima beans		$.	2, 3 M-48	162. Dry onions		$.	2, 3 M-63
148. Snap, string, or wax beans		$.	2, 3 M-49	163. Green peas		$.	2, 3 M-64
149. Beets (table)		$.	2, 3 M-51	164. Sweet peppers and pimientos		$.	2, 3 M-65
151. Cabbage		$.	2, 3	165. Spinach		$.	2, 3 M-66
152. Cantaloups, muskmelons, honeyballs, honeydews, casabas, Persian, etc.		$.	M-52 2, 3 M-53	166. Tomatoes		$.	2, 3 M-67
153. Carrots		$.	2, 3 M-55	167. Watermelons		$.	2, 3 M-
155. Celery		$.	2, 3 M-56	168. Other* Specify.		$.	2, 3 M-
156. Sweet corn		$.	2, 3 M-57			$.	2, 3
157. Cucumbers		$.	2, 3	List separately any other vegetables sold except Irish and sweet potatoes.			

* The following, if for sale, to be reported under Question 168: Globe artichokes. Italian green sprouting broccoli. Brussels sprouts. Cauliflower. Swiss chard. Chayote. Chinese cabbage. Collards. Water cress. Dandelions. Dasheen. Eggplant. Endive. Escarole. Garlic. Horseradish. Kale. Kohlrabi. Mustard (greens). Okra. Green onions and shallots. Parsley. Parsnips. Hot peppers. Pumpkins. Radishes. Rhubarb. Romaine. Rutabagas. Salsify. Squash. Turnips, etc.

For office use only → P 7

HORTICULTURAL SPECIALTIES: Report fractional acreage.	Area in 1939	Sales in 1939	Code
169. Crops grown under glass (flowers and plants, also vegetables) and propagated mushrooms. Underline which.	(Sq. feet)	$. (Omit cents)	M-69 2, 3
170. Nursery products (trees, shrubs, vines, ornamentals, etc.)	(Acres)	$. (Omit cents)	M-70 2, 3
171. Flower and vegetable seeds, bulbs, and flowers and plants grown in the open. Underline which.	(Acres)	$. (Omit cents)	M-71 2, 3

SMALL FRUITS: Report fractional acreage. NOTE.—Do not report nonbearing acreage.	Acres harvested in 1939	Quantity harvested in 1939	Code
172. Blackberries and dewberries (tame only)		Qt.	M-72 2, 3 M-78
178. Raspberries (tame only)		Qt.	2, 3 M-81
181. Strawberries		Qt.	2, 3 M-
183. Other (specify)		Qt.	2, 3 M-
		Qt.	2, 3

Report: Blueberries, boysenberries, currants, gooseberries, loganberries, youngberries, etc.

TREE FRUITS, NUTS, AND GRAPES:				
184. Land in bearing and nonbearing fruit orchards, vineyards, and planted nut trees, April 1, 1940 (omit nurseries) Acres. Report fractional acreage.				N (1st item only) 1, X
KIND OF FRUIT: Report dried fruits on fresh-weight basis. Do not include trees and vines in nursery.	Number of trees or vines, April 1, 1940: Not of bearing age	Of bearing age	Quantity harvested in 1939 Report fruits on fresh basis	
				N-85
185. Apples			Bu.	4, 5, 6 N-86
186. Cherries			Lb.	4, 5, 6 N-89
189. Peaches			Bu.	4, 5, 6 N-92
192. Pears			Bu.	4, 5, 6 N-95
195. Plums and prunes			Bu.	4, 5, 6 N-98
198. Grapes			Lb.	4, 5, 6 N-99
199. Figs (all varieties)			Lb.	4, 5, 6
208. Other tree fruits, except citrus. Give name and unit of measure.			Unit	N- 4, 5, 6
			Unit	N- 4, 5, 6
			Unit	N- 4, 5, 6
			Unit	N- 4, 5, 6

Report: Apricots, jujubes, nectarines, Japanese persimmons, pomegranates, quinces, etc.

210. Improved pecans (budded, grafted, or top-worked)			Lb.	N-10 4, 5, 6
211. Wild or seedling pecans			Lb.	7, 8, 9 N-14
214. Tung nuts			Lb.	4, 5, 6 N-
215. Other nuts. Specify.			Lb.	4, 5, 6 N-
			Lb.	4, 5, 6 N-
			Lb.	4, 5, 6

Report: Cultivated chestnuts, English or Persian walnuts, etc.

CITRUS FRUITS: Crop harvested, season of 1939–40. From the bloom of 1939.	Number of trees, April 1, 1940: Not of bearing age	Of bearing age	Quantity harvested in 1939–40 from the bloom of 1939	
216. Oranges (satsumas, tangerines, mandarins, etc.)			Bu.	N-16 4, 5, 6
			Unit	N- 4, 5, 6
228. Other citrus. Give name and unit of measure.			Unit	N- 4, 5, 6
			Unit	N- 4, 5, 6

Report: Grapefruit, kumquats, lemons, limes, etc.

229. Value of all fruits and nuts, including small fruits, produced in 1939 (1939–40 season for citrus) that were or are to be sold or traded $ (Omit cents)		P 8

XVI.—VALUE OF PRODUCTS USED AND OF FOREST PRODUCTS SOLD IN 1939

231. Value (estimated) of products of this farm in 1939 that were used by your family and by all households on this farm (meat milk, poultry, eggs, honey, vegetables, fruits, firewood, fuel wood, etc.) $ (Omit cents)		P 9
232. Value of forest products sold in 1939 $ (Omit cents). Includes firewood, fuel wood, standing timber, sawlogs, veneer logs, pulpwood, mine props, tanbark, charcoal, fence posts, railroad ties, poles and piling, turpentine, resin, maple sirup and sugar, etc.		10

(Reduced facsimile)