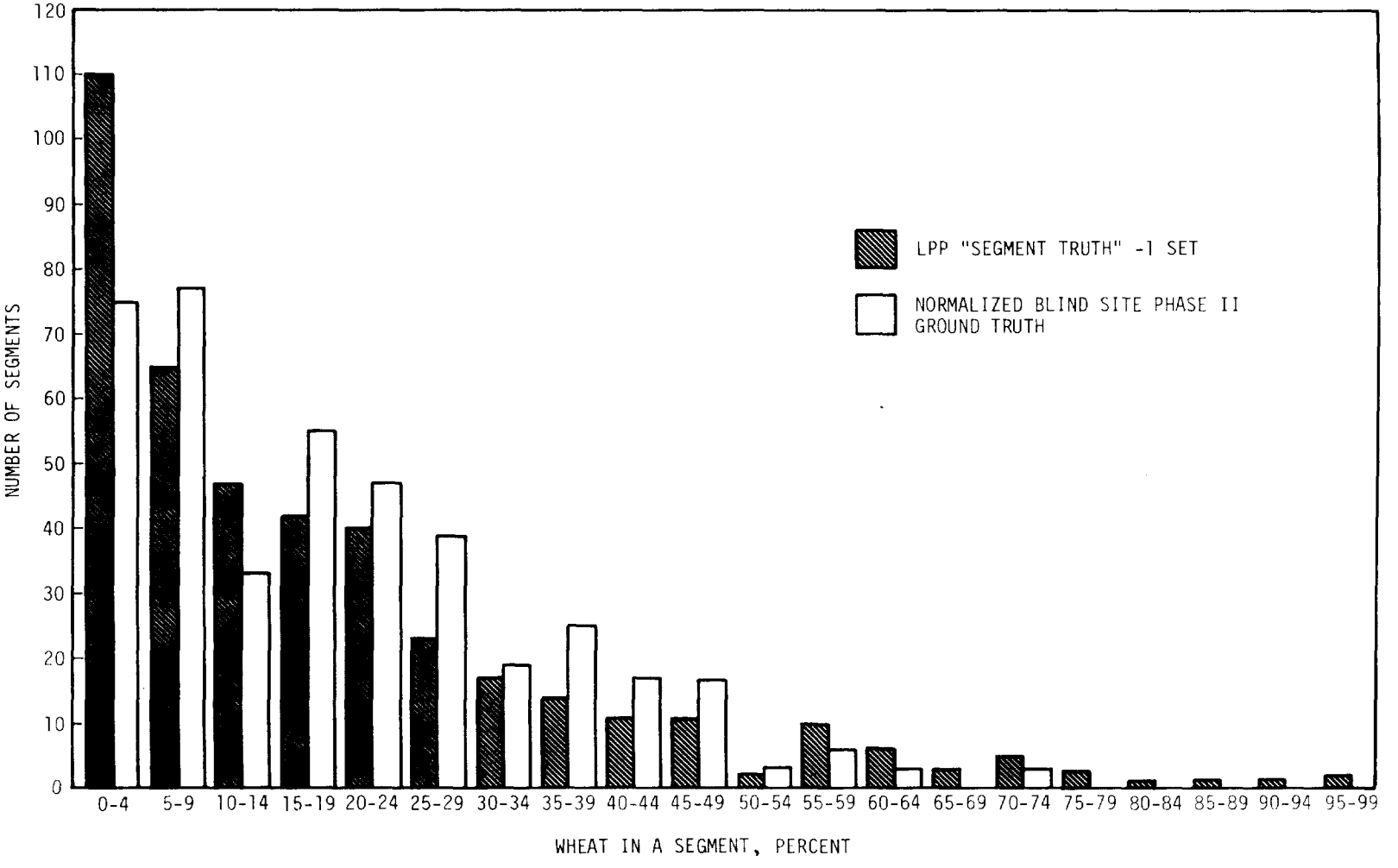

Figure 6-26.— Comparison of model-generated sample-segment wheat proportions with LACIE Phase II ground truth.

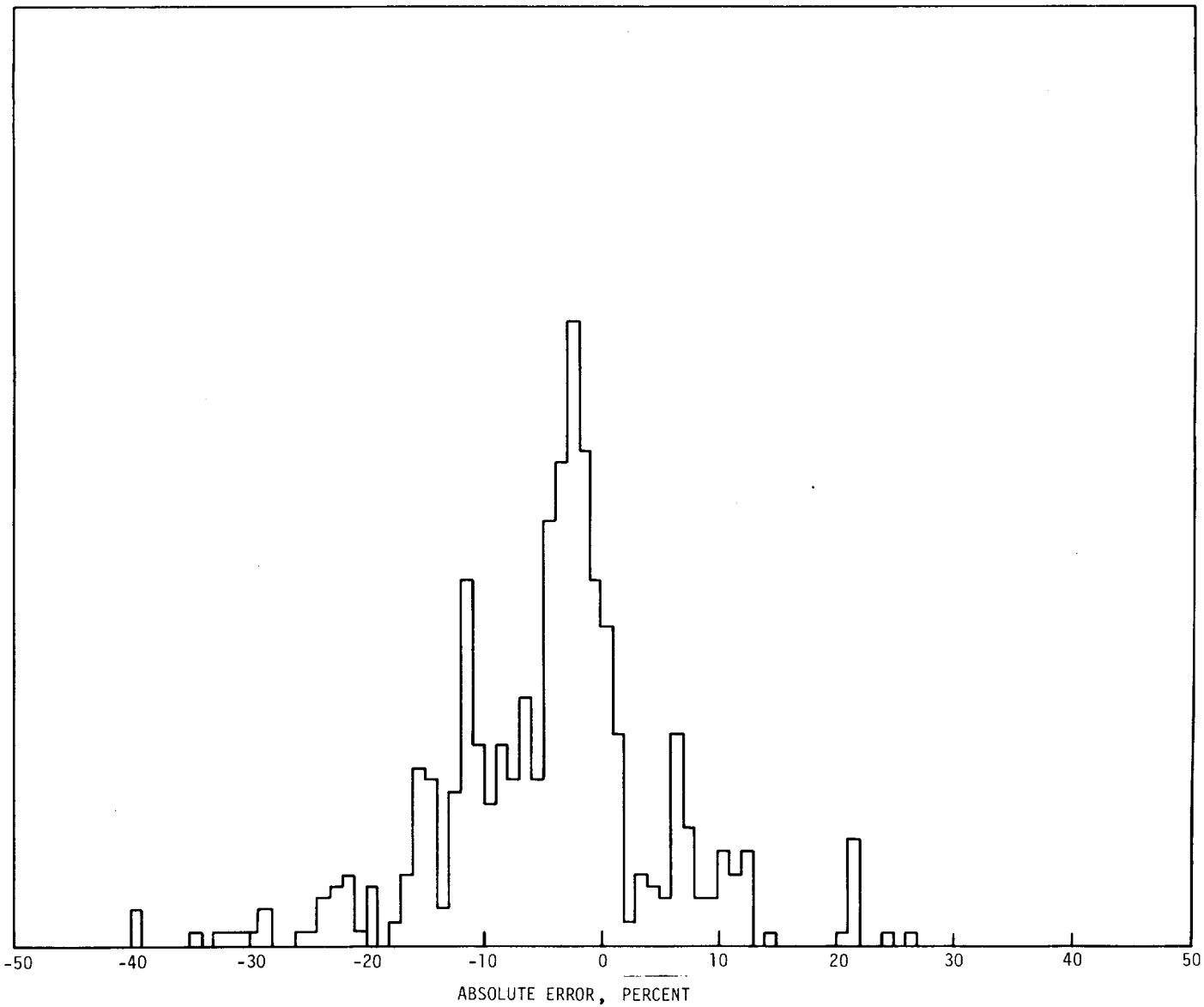

Figure 6-27.— LACIE Phase II blind site wheat proportion estimation errors.

Leptokurtosis (peakedness in the center of distribution) is evident in the LPP results. A comparison of the two distributions (figs. 6-27 and 6-28) using Kolmogorov-Smirnov statistics showed that the distributions were significantly different.

6.15.3.4 Acreage and Production Estimates for the USGP

The 15 different acreage and production estimates by the LPP for the USGP final prediction date (September 1) of the SCY1 run are plotted in figure 6-29. The abscissa and the ordinate are respectively the RD's of the production and acreage estimates relative to the true values used by the LPP for the 15 years. The true state wheat acreage value is obtained simply by adding up all the true county acreages (which are simulated by the LPP). The true state production value is obtained as follows:

a. The true acreage for each CRD is determined by summing the true county acreages for each county in the CRD.

b. The true acreage is multiplied by the true yield (input to the LPP at the CRD level) to get true production for the CRD.

c. A sum is performed over all the CRD's in the state.

The LACIE Phase II result is also plotted in figure 6-29 except that it is expressed as percentage differences from the last USDA/SRS figures.

The LACIE result is very close to the mode of the LPP values. A normal curve with the mean and the SD of the production data is shown in figure 6-30. The LACIE result is also shown. The relative bias in the LPP production estimate is the value corresponding to the peak in this distribution, -8.7 percent. At the 5-percent level of significance, the value is not significantly different from the LACIE relative bias of -11.0 percent. However, -8.7 percent is significantly different from zero, which indicates that if the assumptions made in the LPP are correct, the LACIE technology will, on the average, produce an underestimate of wheat production. This could be caused by (1) low segment proportion estimates, (2) low yield estimates, or (3) a bias

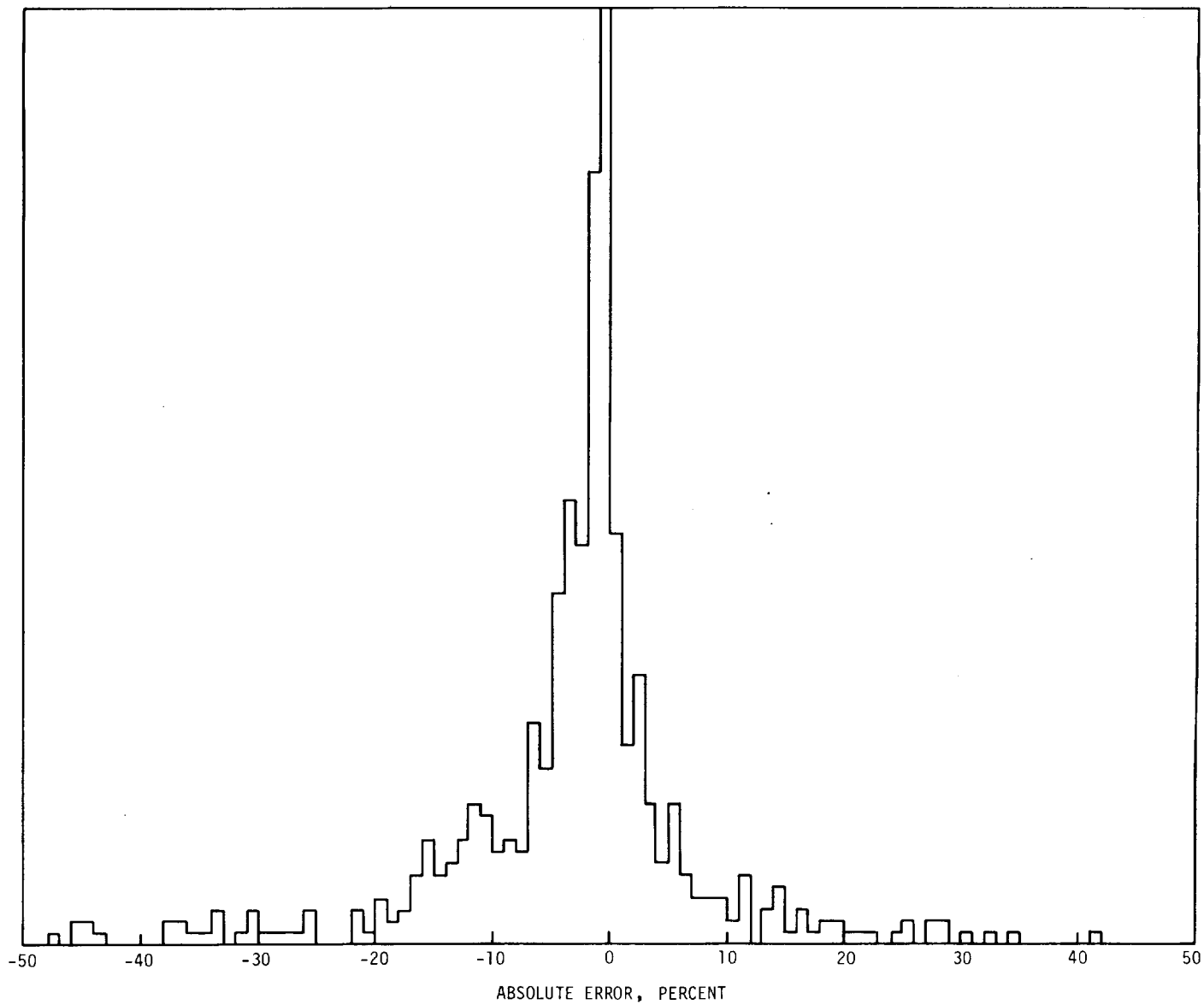

Figure 6-28.— LPP simulation of segment wheat proportion estimation errors.

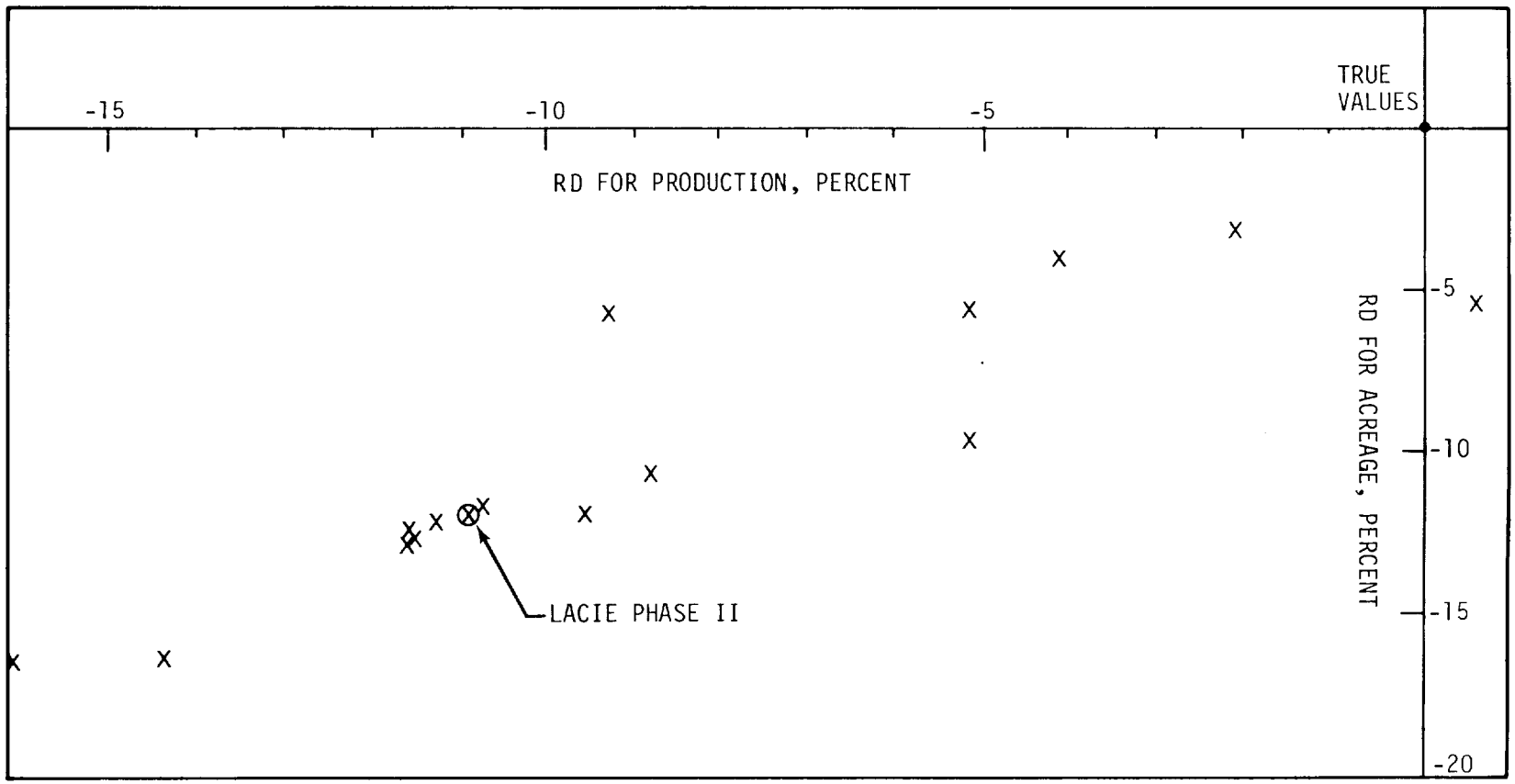

Figure 6-29.— LPP estimates for acreage and production for the USGP.

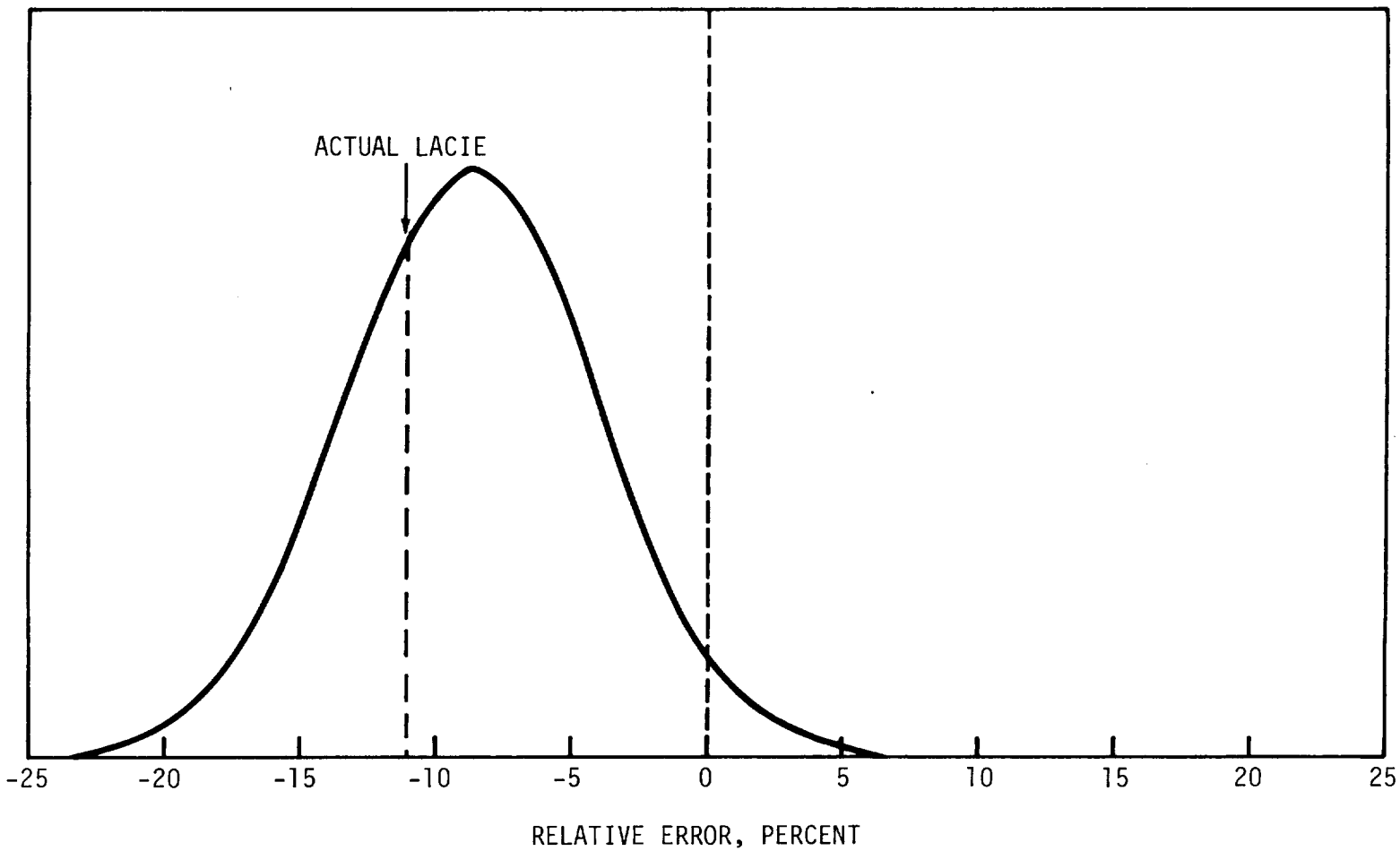

Figure 6-30.— Normal distribution approximating 15 iterations of the LPP.

in the aggregation system. It has been shown (ref. 4) that the aggregation system was not biased, and the fact that the actual LACIE aggregated acreage estimate has a larger (negative) RD than the actual LACIE production estimate indicates that low acreage estimates cause the low production estimates. Finally, it should be noted that a relative bias of -8.7 is too large to satisfy the 90/90 criterion.

6.15.3.5 Overall Variability of Area and Production Estimates

Figure 6-31 shows (1) histograms of the estimated SD σ_i calculated for each of the 15 iterations, (2) the SD σ of the area estimates produced by the 15 iterations, and (3) the estimated SD σ_L of the LACIE estimate.[5] Each of these is divided by the USDA/SRS acreage estimate. The number after the name of each state is the number of segments acquired by the LPP for that state. For most states, there is a rather broad distribution of the σ_i for the 15 years. The width of the distribution is generally smaller when the number of segments acquired in a state is larger. In particular, the states with the largest number of acquisitions, Kansas and North Dakota, have quite narrow distributions.

Two important observations about these results can be made:

a. For every state except Texas and Colorado, σ_L is smaller than all of the σ_i. This is partly due to the tendency of CAMS to overestimate the wheat in segments with low wheat proportions and underestimate the wheat in segments with high wheat proportions, which reduces the variance in the CAMS estimates. This phenomenon is apparent in the significant difference between the distributions of proportion estimation errors shown in figures 6-27 and 6-28.

b. With the exceptions of Kansas, South Dakota, and Texas, σ falls near the lower end of the distribution of the σ_i, as expected, because the formulas for calculating σ_i were designed to give a conservative estimate (i.e.,

[5] σ_i is calculated by the LPP in the same manner that σ_L is calculated by CAS.

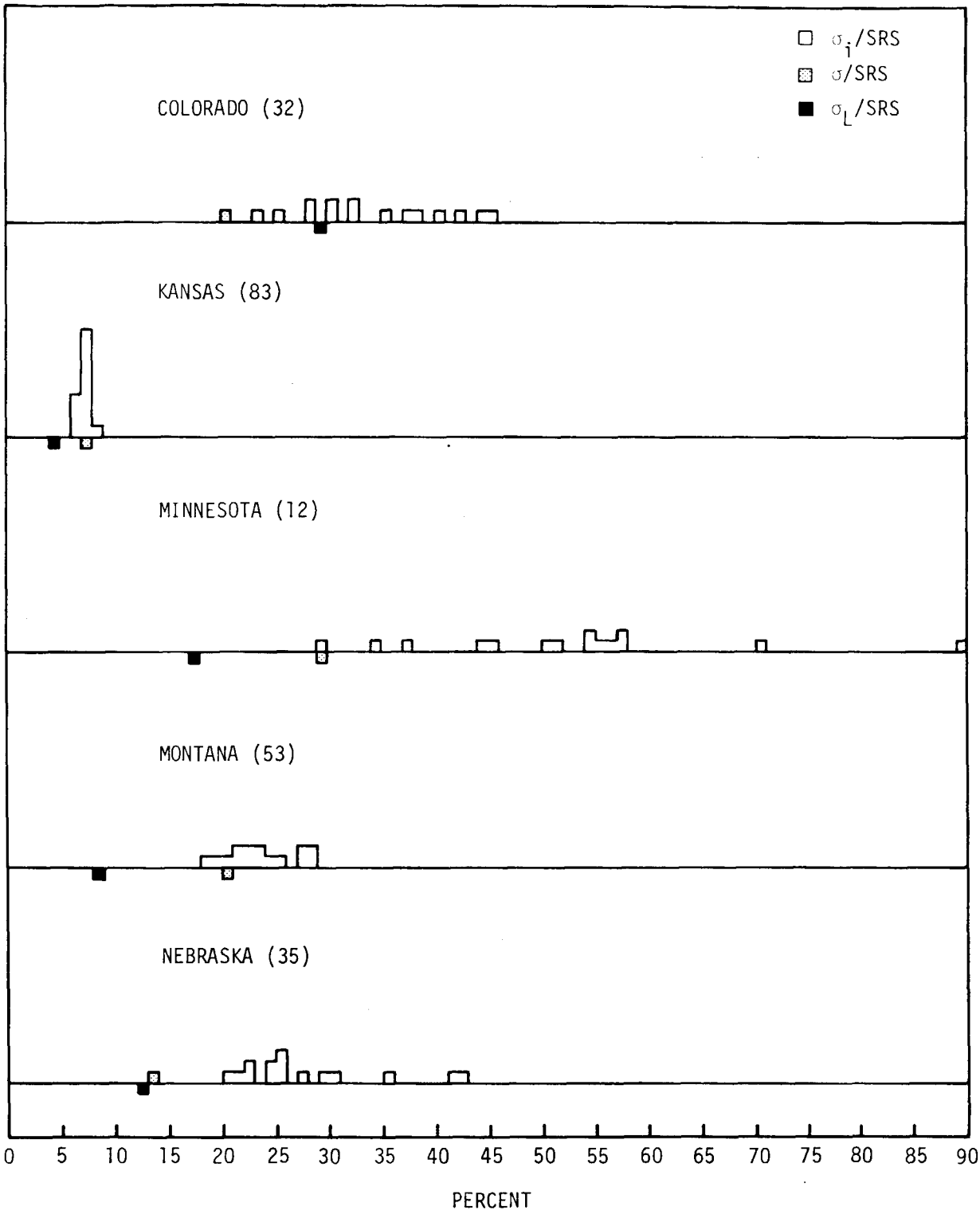

Figure 6-31.— CV's of acreage estimates by state.

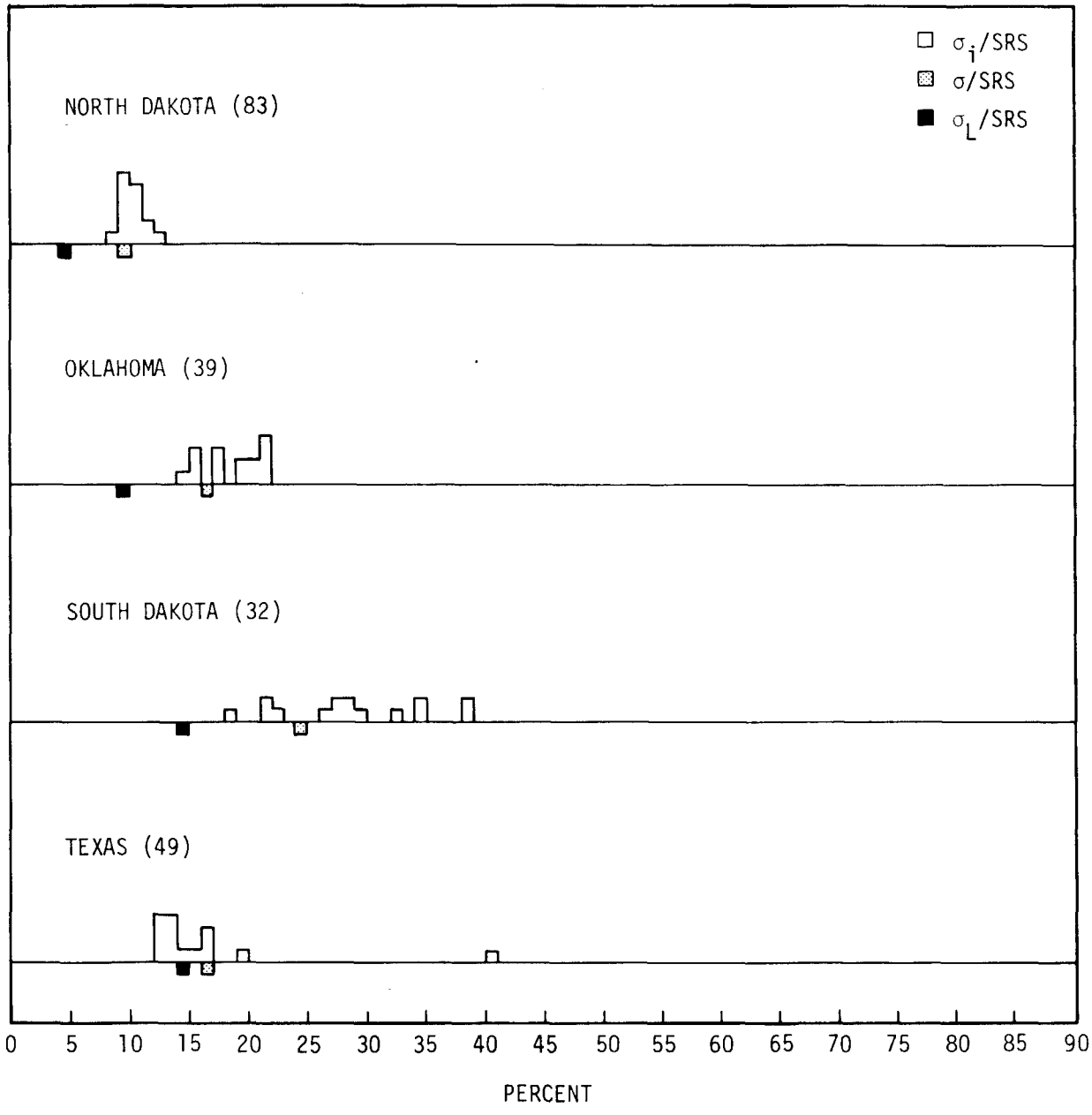

Figure 6-31.– Concluded.

on upper bound). This result is important because it implies that σ_L as calculated by the CAS is also likely to be an overestimate of the true LACIE SD.

Figure 6-32 shows similar results for the production SD's. These histograms are very similar to those in figure 6-31, and the same observations apply.

6.15.4 CONCLUSIONS

The LPP has been used to replicate LACIE Phase II for a 15-year period using AA results for Phase II error components. The results indicate that the LPP simulates the LACIE Phase II procedures reasonably well. For the 15-year simulation, only 7 of the 15 production estimates were within 10 percent of the true production. Further, the simulations indicate that the acreage estimator, based on CAMS Phase II procedures, has a negative bias. This bias is too large to support the 90/90 criterion with the CV observed and simulated for the Phase II production estimator. Results of this simulation study validate the theory that the acreage variance estimator in LACIE is conservative. The simulated results also indicate that the estimated variance for the production estimator is conservative; that is, it tends to overestimate the true variance of the production estimator. Hence, more bias can be tolerated than what is indicated by the estimated CV. However, even with a reduction in the estimated CV to account for this overestimation, the bias indicated by the simulations is still too large to support the 90/90 accuracy goal.

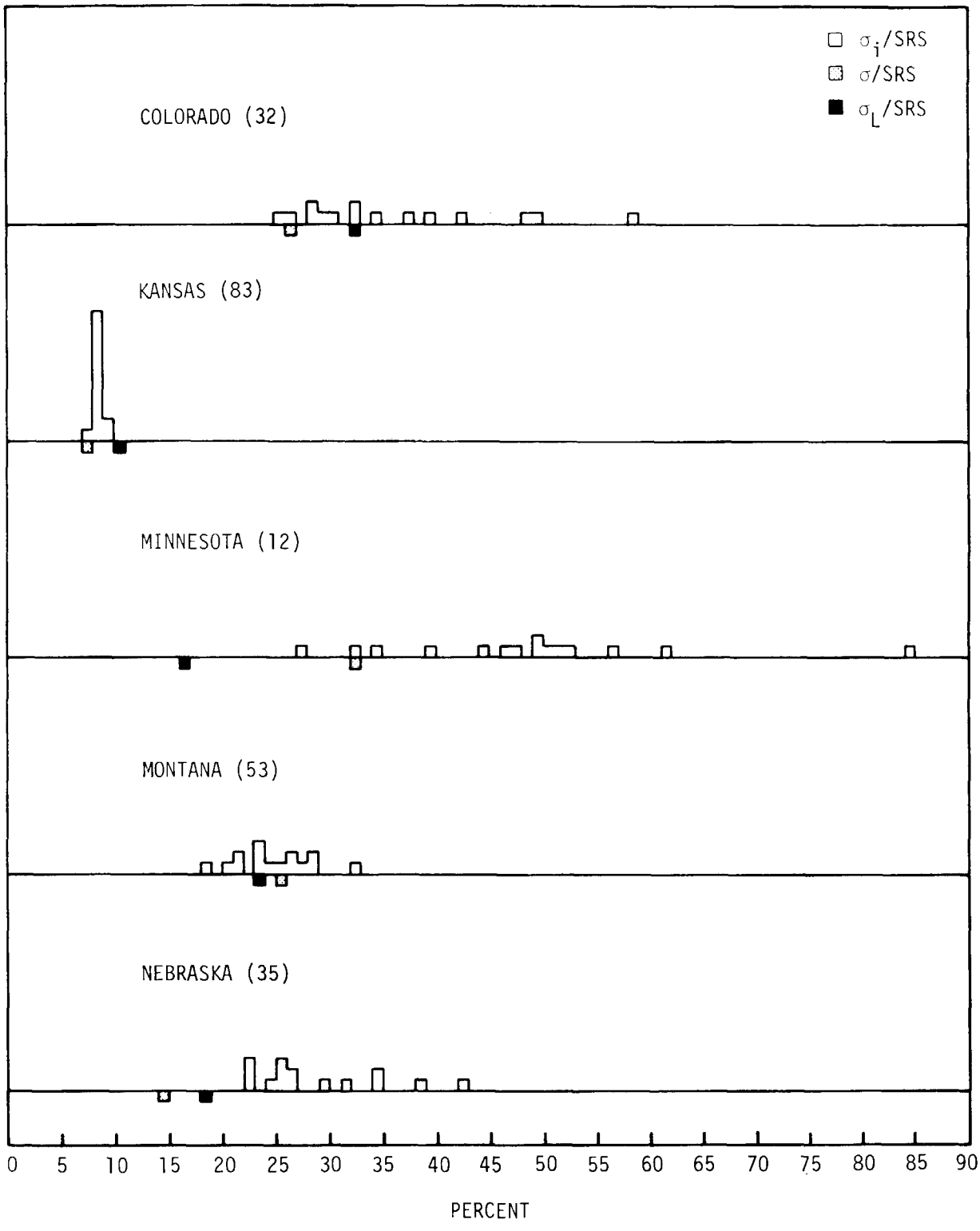

Figure 6-32.— CV's of production estimates by state.

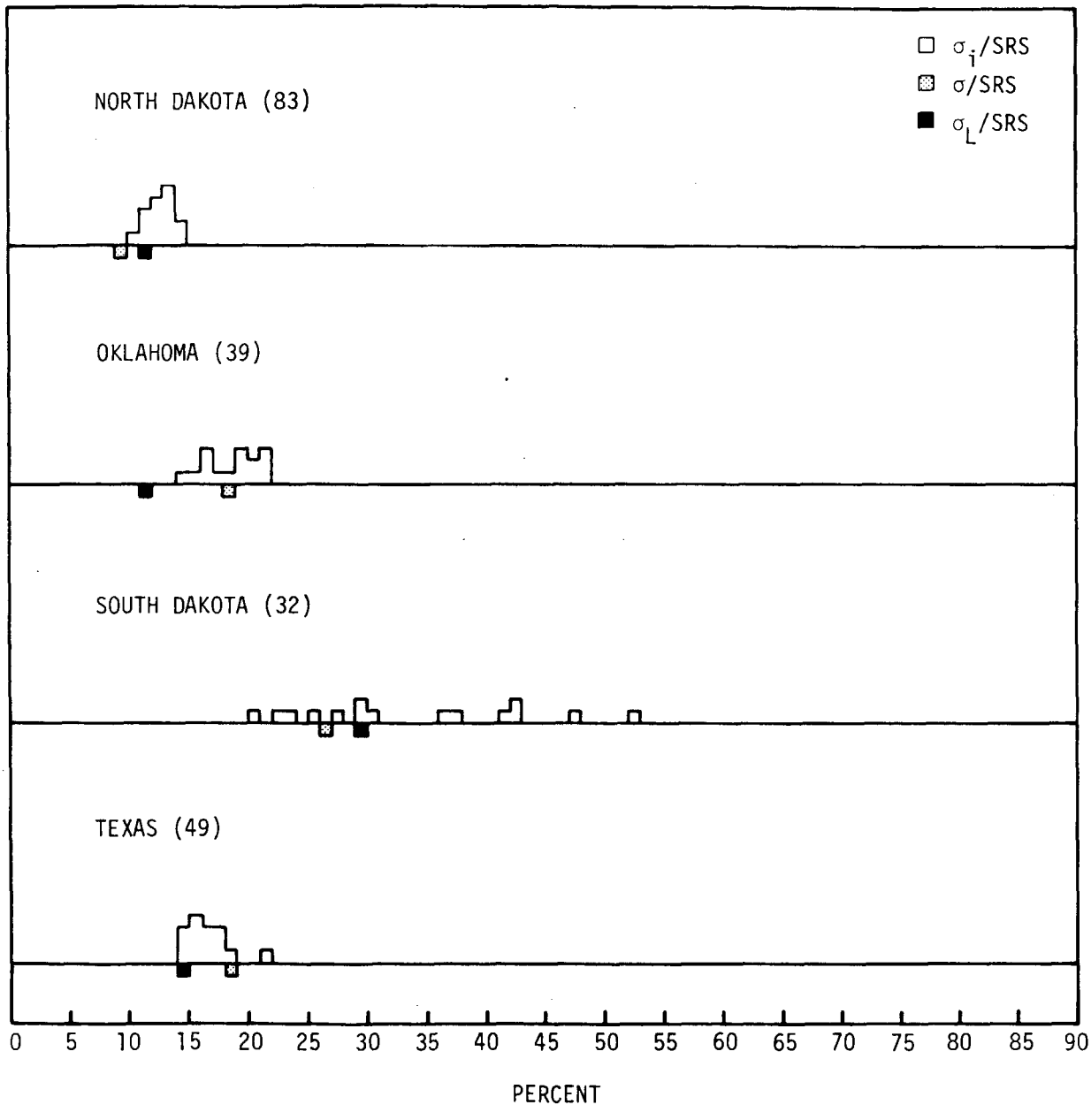

Figure 6-32.— Concluded.

7. COMPARISON OF LACIE AND USDA/FAS U.S.S.R. PRODUCTION, AREA, AND YIELD ESTIMATES

LACIE estimates were available for each month from April through October and for a final estimate, which was published January 23, 1978. The comparative data consist of monthly estimates compiled by a UDSA/FAS task force for July through October and a final estimate for the country released by the Government of the U.S.S.R.

Four types of LACIE estimates are considered in this section.

a. *Baseline* estimates use the entire population of CAMS aggregatable estimates.

b. *Modified* estimates (first used in the September CMR) employ a thresholding procedure to eliminate early-season (pre-emergence) acquisitions; they were later modified to screen inaccurate midseason classification results.

c. *Revised* estimates,[6] released in the CAR, were recalculated for the entire season on the basis of the updated data base and used the thresholding procedure.

d. *Revised estimates with a 30-day delay* employ Landsat data acquired up to 30 days before the report date and aggregated so that area data would be more directly comparable to yield data. These estimates were not generated during the growing season but were simulated at the end of the growing season before the final U.S.S.R. release. This LACIE estimate in the text and the tables in the following sections is referenced rev30 and reflects data published on January 23, 1978.

7.1 PRODUCTION ESTIMATES

The LACIE wheat production estimates for the U.S.S.R. are presented in table 7-1 with statistics and comparative data with respect to the in-season

[6]Faulty data acquisition orders led to the loss of some Landsat data, which caused some confusion of spring barley with winter grains. This revised procedure involved designation of estimates for the affected signatures as total grains rather than as winter grains.

TABLE 7-1.– COMPARISON OF LACIE AND USDA/FAS U.S.S.R. IN-SEASON PRODUCTIONS ESTIMATES[a]

Month of estimate	USDA/FAS U.S.S.R. estimate, MMT	LACIE baseline		RD, %	Value of test statistic	LACIE modified		RD, %	Value of test statistic	LACIE revised		RD, %	Value of test statistic	LACIE revised 30-day delay		RD, %	Value of test statistic
		Estimate, MMT	CV, %			Estimate, MMT	CV, %			Estimate, MMT	CV, %			Estimate, MMT	CV, %		
Winter wheat																	
April		39.5	6.6			50.2	7.0			51.6	7.0			51.6	7.0		
May		41.5	5.3			49.3	5.3			50.7	5.5			52.5	5.2		
June		52.0	5.6			53.6	5.6			54.5	5.8			56.4	5.7		
July		56.1	4.8			55.8	5.1			55.5	4.9			55.6	4.9		
August	60.0	60.7	4.4	1.2	0.26 N	57.3	4.9	-4.7	-0.96 N	57.8	4.4	-3.8	-0.86 N	56.3	4.3	-6.6	-1.53 N
September	60.0	61.7	4.3	2.8	0.64 N	58.3	4.8	-2.9	-0.61 N	58.3	4.3	-2.9	-0.67 N	55.2	4.2	-8.7	-2.07 S
October	60.0	61.8	4.2	2.9	0.69 N	60.0	4.5	0.0	0.0 N	58.0	4.2	-3.4	-0.81 N	55.2	4.2	-8.7	-2.07 S
Final	51.9	62.1	4.1	16.4	4.00 S	60.3	4.4	13.9	3.16 S	55.2	4.2	6.0	1.43 N	55.2	4.2	6.0	1.43 N
Spring wheat																	
April																	
May																	
June																	
July																	
August	45.0	32.4	9.2	-38.9	-4.23 S	33.1	9.1	-36.0	-3.95 S	32.5	-	-38.5		32.8	8.8	-37.2	-4.23 S
September	40.0	35.6	7.4	-12.4	-1.67 S	36.3	7.3	-10.2	-1.40 N	35.4	-	-13.0		37.1	7.3	-7.8	-1.07 N
October	40.0	35.8	7.2	-11.7	-1.63 N	36.6	7.1	-9.3	-1.31 N	35.7	-	-12.0		36.4	7.1	-9.9	-1.39 N
Final	40.1	36.3	7.1	-10.5	-1.47 N	36.6	7.1	-9.6	-1.35 N	36.3	7.2	-10.2	-1.42 N	36.3	7.2	-10.2	-1.42 N
Total wheat																	
April																	
May																	
June																	
July																	
August	105.0	93.1	4.2	-12.8	-3.04 S	90.2	4.4	-16.4	-3.73 S	90.3	4.3	-16.4	-3.82 S	89.1	4.3	-17.8	-4.14 S
September	100.0	97.4	3.9	-2.7	-0.68 N	94.2	4.0	-6.2	-1.54 N	93.7	3.9	-6.7	-1.72 S	92.3	3.9	-8.3	-2.13 S
October	95.0	97.7	3.8	2.8	0.73 N	96.2	3.8	1.3	0.33 N	93.7	3.9	-1.4	-0.36 N	91.6	3.8	-3.7	-0.97 N
Final	92.0	98.4	3.7	6.5	1.76 S	96.9	3.8	5.1	1.33 N	91.4	3.8	-0.7	-0.18 N	91.4	3.8	-0.7	-0.18 N

[a]Symbol definitions:

N = LACIE estimate is not significantly different from the reference standard at the 10-percent level.

S = LACIE estimate is significantly different from the reference standard at the 10-percent level.

USDA/FAS U.S.S.R. estimates. Table 7-2 presents statistics and comparative data with respect to the final U.S.S.R. estimates.

7.1.1 TOTAL WHEAT

There was no significant difference at the 10-percent level between the rev30 LACIE production estimate and the final estimate released by the U.S.S.R. Government. In fact, the rev30 LACIE production estimate during Phase III was consistently between 89.1 and 92.3 MMT and was never significantly different from the official U.S.S.R. Government figure of 92.0 MMT. The final RD between the rev30 LACIE and U.S.S.R. Government estimates was -0.7 percent, having decreased in magnitude from -17.8 percent in August. The large negative RD's in August and September were due primarily to overestimates by the USDA/FAS task force. The CV's for the rev30 LACIE estimates dropped steadily from 4.3 percent in August to 3.8 percent for the final estimate.

7.1.2 WINTER WHEAT

The rev30 LACIE estimates were significantly different at the 10-percent level from the corresponding USDA/FAS U.S.S.R. estimates in the September and October reports but not significantly different in the August and final reports. A comparison of the monthly LACIE production figures with the official U.S.S.R. Government figures showed that only in August was the difference significant at the 10-percent level. All rev30 LACIE estimates were closer to the official U.S.S.R. Government estimate than were the USDA/FAS estimates released in August, September, and October.

The revised LACIE estimates actually compared better month by month with the corresponding USDA/FAS U.S.S.R. estimates than did the rev30 LACIE estimates. No significant differences existed at the 10-percent level between the USDA/FAS and the LACIE revised estimates in the August, September, October, or final reports. In general, the revised LACIE estimates did not compare as well with the official U.S.S.R. Government figures as did the rev30 LACIE estimates of Phase III.

TABLE 7-2. — COMPARISON OF LACIE AND U.S.S.R. FINAL PRODUCTION ESTIMATE

Type of estimate	U.S.S.R. final estimate	April		May		June		July		August		September		October		Final	
		RD	CV	RD	CV	RD	CV	RD	CV	RD	CV	RD	CV	RD	CV	RD	CV
Winter wheat																	
LACIE baseline	51.9	-31.4	6.6	-25.6	5.3	0.2	5.6	7.5	4.8	14.5	4.4	15.9	4.3	16.0	4.2	16.4	4.1
LACIE modified	51.9	-3.4	7.0	-5.3	5.3	3.2	5.6	7.0	5.1	9.4	4.9	11.0	4.8	13.5	4.5	13.9	4.4
LACIE revised	51.9	-0.6	7.0	-2.4	5.5	4.8	5.8	6.5	4.9	10.2	4.4	11.0	4.3	10.5	4.2	6.0	4.2
LACIE rev30	51.9	-0.6	7.0	1.1	5.2	8.0	5.7	6.7	4.9	7.8	4.3	6.0	4.2	6.0	4.2	6.0	4.2
Spring wheat																	
LACIE baseline	40.1									-23.8	9.2	-12.6	7.4	-12.0	7.2	-10.5	7.1
LACIE modified	40.1									-21.2	9.1	-10.5	7.3	-9.6	7.1	-9.6	7.1
LACIE revised	40.1									-23.4	—	-13.3	—	-12.3	—	-10.5	7.2
LACIE rev30	40.4									-22.3	8.8	-8.1	7.3	-10.2	7.1	-10.5	7.2
Total wheat																	
LACIE baseline	92.0									1.2	4.2	5.5	3.9	5.8	3.8	6.5	3.7
LACIE modifier	92.0									-2.0	4.4	2.3	4.0	4.4	3.8	5.1	3.8
LACIE revised	92.0									-1.9	4.3	1.8	3.9	1.8	3.9	-0.7	3.8
LACIE rev30	92.0									-3.3	4.3	-0.3	3.9	-0.4	3.8	-0.7	3.8

7.1.3 SPRING WHEAT

The LACIE estimates of the September, October, and final reports were not significantly different at the 10-percent level from the corresponding USDA/FAS U.S.S.R. estimates, but the difference was highly significant in August due to overestimation (as compared to the official U.S.S.R. Government estimate released in January 1978) by USDA/FAS and underestimation by LACIE. As in the case of the total and winter wheat estimates, the rev30 spring wheat estimates compared more favorably overall with the official U.S.S.R. Government figures than with the corresponding monthly USDA/FAS estimates. This trend indicated that LACIE did a better job of estimating the official U.S.S.R. production than did the USDA/FAS.

7.1.4 THE 90/90 CRITERION

Comparison of the LACIE monthly total wheat production estimates with the official U.S.S.R. Government's final estimates indicates that the LACIE estimates supported the 90/90 accuracy goal each month from August through the final report. The following table gives the statistics used to evaluate the 90/90 criterion. It contains the estimated relative biases (i.e., the RD's) and the CV's for each monthly estimate, the tolerable relative biases for the observed CV's, and the significance levels.

Month	RD, %	CV, %	Tolerance limits, %	Significance level, %
August	-3.3	4.3	(-4.5, 4.0)	50
September	0.3	3.9	(-5.6, 4.6)	50
October	-0.4	3.8	(-5.6, 4.6)	50
Final	-0.7	3.8	(-5.6, 4.6)	50

For example, the RD and the CV for the final LACIE estimates were -0.7 and 3.8 percent, respectively. With a CV of that magnitude, the LACIE total wheat production estimate that would support the 90/90 criterion of the bias was between the limits of -5.6 to +4.6 percent. Since the RD is within this interval, the estimate supports the 90/90 criterion. The last column gives

the significance level; in this case, it is 50 percent because the RD falls within the tolerance limits. The significance level must be greater than 10 percent for the estimates to support the 90/90 accuracy goal.

7.2 AREA ESTIMATES

The LACIE wheat area estimates for the U.S.S.R. are presented in table 7-3 with the associated statistics and comparison data with respect to the in-season USDA/FAS U.S.S.R. estimates. Table 7-4 presents statistics and comparison data with respect to the USDA/FAS U.S.S.R. final estimates.

7.2.1 TOTAL WHEAT

The test statistics showed that the differences between the LACIE rev30 estimates and the corresponding reference standards were not significant at the 10-percent level except in August. The underestimate in August was due to the underestimation of spring wheat area by LACIE in the first spring wheat area aggregation for the U.S.S.R. in Phase III.

Although a complete set of test statistics was not available for the conventional, modified, and revised estimates, it was apparent that the revised and rev30 estimates were closer to the USDA/FAS U.S.S.R. and official U.S.S.R. Government figures than were the baseline or modified ones.

7.2.2 WINTER WHEAT

There was no significant difference at the 10-percent level between the rev30 LACIE winter wheat area estimate and the corresponding reference standard for any month in Phase III. The rev30 LACIE estimates were closer to the official figures released by the U.S.S.R. Government than the other three types of LACIE estimates.

7.2.3 SPRING WHEAT

The statistics and associated comparison data in table 7-3 indicate that the baseline and rev30 estimates compared well with the corresponding reference standards after August. However, there is a large RD of -14.8 percent

TABLE 7-3.— COMPARISON OF LACIE AND USDA/FAS U.S.S.R. IN-SEASON AREA ESTIMATES

Month of estimate	USDA/FAS U.S.S.R. estimate, Mha[a]	LACIE baseline		RD, %	Value of test statistic	LACIE modified		RD, %	Value of test statistic	LACIE revised		RD, %	Value of test statistic	LACIE revised 30-day delay		RD, %	Value of test statistic
		Estimate, Mha	CV, %			Estimate, Mha	CV, %			Estimate, Mha	CV, %			Estimate, Mha	CV, %		
Winter wheat																	
April		15.0	5.1			20.7	6.2			21.3	6.3			21.3	6.3		
May		15.8	4.4			20.4	5.1			20.9	5.3			21.8	4.9		
June		19.7	3.8			21.0	4.3			21.3	4.5			22.1	4.5		
July		21.4	4.2			21.2	3.9			21.3	3.8			21.5	3.6		
August	22.0	23.4	3.0	6.0	1.99 S	21.5	3.4	-2.3	-0.68 N	22.5	2.9	2.2	0.76 N	22.1	2.7	0.5	0.19 N
September	20.8	23.7	2.7	12.2	4.53 S	21.8	3.3	4.6	1.39 N	22.8	2.7	8.8	3.26 S	21.6	2.5	3.7	1.48 N
October	20.8	23.8	2.6	12.6	4.85 S	22.6	3.0	8.0	2.65 S	22.7	2.6	8.4	3.23 S	21.6	2.5	3.7	1.48 N
Final	20.7	23.7	2.4	12.7	5.29 S	22.3	2.8	7.2	2.57 S	21.5	2.5	3.7	1.48 N	21.5	2.5	3.7	1.48 N
Spring wheat																	
April																	
May																	
June																	
July																	
August	42.0	36.9	4.2	-13.8	-3.29 S	37.5	4.2	-12.0	-2.86 S	36.8	-	-14.1		36.6	3.6	-14.8	-4.11 S
September	41.2	38.9	2.9	-5.9	-2.04 S	39.4	2.9	-4.6	-1.58 N	38.7	-	-6.5		41.1	2.4	-0.2	-0.03 N
October	41.2	40.4	2.6	-2.0	-0.76 N	40.9	2.6	-0.7	-0.28 N	40.3	-	-2.2		41.5	2.3	0.7	0.30 N
Final	41.3	41.4	2.4	0.2	0.08 N	41.9	2.4	1.4	0.60 N	41.4	2.3	0.2	0.09 N	41.4	2.3	0.2	0.09 N
Total wheat																	
April																	
May																	
June																	
July																	
August	64.0	60.3	2.7	-6.1	-2.27 S	59.2	2.8	-8.1	-2.90 S	59.3	2.8	-7.9	-2.82 S	58.6	2.6	-9.2	-3.54 S
September	62.0	62.7	2.1	1.1	0.53 N	61.3	2.1	-1.4	-0.54 N	61.5	2.1	-0.8	-0.38 N	62.7	1.9	1.1	0.58 N
October	62.0	64.1	2.0	-1.1	-0.57 N	63.6	1.9	2.5	1.32 N	63.0	2.1	1.6	0.76 N	63.0	1.8	1.6	0.89 N
Final	62.0	65.0	1.8	4.6	2.56 S	64.2	1.9	3.4	1.80 S	62.9	1.8	1.4	0.78 N	62.9	1.8	1.4	0.78 N

[a]Million hectares.

TABLE 7-4.— COMPARISON OF LACIE AND U.S.S.R. FINAL AREA ESTIMATES

Type of estimate	U.S.S.R. final estimate	April		May		June		July		August		September		October		Final	
		RD	CV	RD	CV	RD	CV	RD	CV	RD	CV	RD	CV	RD	CV	RD	CV
Winter wheat																	
LACIE baseline	20.7	-38.0	5.1	-31.0	4.4	-5.1	3.8	3.3	4.2	11.5	3.0	12.7	2.7	13.0	2.6	12.7	2.4
LACIE modified	20.7	0.0	6.2	-1.5	5.1	1.4	4.3	2.4	3.9	3.7	3.4	5.1	3.3	8.4	3.0	7.2	2.8
LACIE revised	20.7	2.8	6.3	1.0	5.3	2.8	4.5	2.8	3.8	8.0	2.9	9.2	2.7	8.8	2.6	3.7	2.5
LACIE rev30	20.7	2.8	6.3	5.1	4.9	6.3	4.5	3.7	3.6	6.3	2.7	4.2	2.5	4.2	2.5	3.7	2.5
Spring wheat																	
LACIE baseline	41.3									-11.9	4.2	-6.2	2.9	-2.2	2.6	0.2	2.4
LACIE modified	41.3									-10.1	4.2	-4.8	2.9	-1.0	2.6	1.4	2.4
LACIE revised	41.3									-12.2	—	-6.7	—	-2.5	—	0.2	2.3
LACIE rev30	41.3									-12.8	3.6	-0.5	2.4	0.5	2.3	0.2	2.3
Total wheat																	
LACIE baseline	62.0									-2.8	2.7	1.1	2.1	3.3	2.0	4.6	1.8
LACIE modified	62.0									-4.7	2.8	-1.1	2.1	2.5	1.9	3.4	1.9
LACIE revised	62.0									-4.6	2.8	-0.8	2.1	1.6	2.1	1.4	1.8
LACIE rev30	62.0									-5.8	2.6	1.1	1.9	1.6	1.8	1.4	1.8

between the rev30 LACIE and the corresponding USDA/FAS production estimates for August. After August, the RD's and the CV's for the rev30 estimates were slightly smaller in magnitude than those for the baseline ones.

7.3 YIELD ESTIMATES

The LACIE wheat yield estimates for the U.S.S.R. are presented in table 7-5 with the associated statistics and comparison data with respect to the in-season USDA/FAS U.S.S.R. estimates. Table 7-6 presents statistics and comparison data with respect to the final USDA/FAS U.S.S.R. estimates.

The same yield model was used for all four types of LACIE estimates. The differences are due only to area weighting.

7.3.1 TOTAL WHEAT

The baseline and the modified estimates were closer to the USDA/FAS U.S.S.R. estimates than were the revised or the rev30 estimates; but the revised and rev30 LACIE estimates were closer to the corresponding official U.S.S.R. Government estimates than were the baseline or the modified LACIE estimates for every month. The difference between the rev30 LACIE estimates and the official U.S.S.R. Government figures was never more than 0.4 quintal per hectare.

7.3.2 WINTER WHEAT

The revised and the rev30 LACIE winter wheat yield estimates were closer to the U.S.S.R. Government estimate than were the baseline or the modified estimates. There was no significant difference at the 10-percent level between the LACIE rev30 or the revised estimate and the official U.S.S.R. Government estimate. The absolute difference between the monthly rev30 LACIE estimates and the official U.S.S.R. Government estimate never exceeded 1.1 quintals per hectare.

For September and October, the difference between each type of LACIE estimate and the corresponding USDA/FAS U.S.S.R. estimate was significant at the

TABLE 7-5.— COMPARISON OF LACIE AND USDA/FAS U.S.S.R. IN-SEASON YIELD ESTIMATES

Month of estimate	USDA/ FAS U.S.S.R. estimate, q/ha	LACIE baseline		RD, %	Value of test statistic	LACIE modified		RD, %	Value of test statistic	LACIE revised		RD, %	Value of test statistics	LACIE revised 30-day delay		RD, %	Value of test statistic
		Estimate, q/ha	CV, %			Estimate, q/ha	CV, %			Estimate, q/ha	CV, %			Estimate, q/ha	CV, %		
Winter wheat																	
April		26.3	4.2			24.2	4.5			24.3	4.4			24.3	4.4		
May		26.3	3.0			24.1	3.2			24.2	3.2			24.1	3.1		
June		26.4	4.2			25.5	4.4			25.6	4.3			25.6	4.2		
July		26.2	4.1			26.3	4.1			26.1	3.9			25.9	3.9		
August	27.0	26.0	3.7	-3.9	-1.04 N	26.6	3.9	-1.50	-0.39 N	25.6	3.6	-5.5	-1.53 N	25.5	3.6	-5.9	-1.64 N
September	28.8	26.0	3.6	-10.8	-3.00 S	26.7	3.8	-7.90	-2.07 S	25.6	3.5	-12.5	-3.57 S	25.6	3.6	-12.5	-3.47 S
October	28.8	26.0	3.6	-10.8	-3.00 S	26.6	3.7	-8.3	-2.24 S	25.6	3.5	-12.5	-3.57 S	25.6	3.6	-12.5	-3.47 S
Final	25.0	26.3	3.6	4.9	1.36 N	27.0	3.6	7.4	2.06 S	25.6	3.6	2.3	0.64 N	25.6	3.6	2.3	0.64 N
Spring wheat																	
April																	
May																	
June																	
July																	
August	11.0	8.8	9.1	-25.0	-2.75 S	8.8	8.9	-25.0	-2.81 S	8.8		-25.0		9.0	8.8	-22.2	-2.52 S
September	9.7	9.2	7.2	-5.4	-0.75 N	9.2	7.2	-5.4	-0.75 N	9.1		-6.6		9.0	7.2	-7.8	-1.08 N
October	9.7	8.9	6.9	-9.0	-1.30 N	8.9	7.0	-9.0	-1.28 N	8.9		-9.0		8.8	7.0	-10.2	-1.46 N
Final	9.7	8.8	7.0	-10.2	-1.46 N	8.7	7.0	-11.5	-1.64 N	8.8	7.0	-10.2	-1.46 N	8.8	7.0	-10.2	-1.46 N
Total wheat																	
April																	
May																	
June																	
July																	
August	16.0	15.4	-	-3.9		15.2	-	-5.3		15.2	-	-5.3		15.2	-	-5.3	
September	16.1	15.5	-	-3.9		15.4	-	-4.6		15.2	-	-5.9		14.7	-	-9.5	
October	16.1	15.2	-	-5.9		15.1	-	-6.6		14.9	-	-8.1		14.5	-	-11.0	
Final	14.8	15.1	-	2.0		15.1	-	2.0		14.5	-	-2.1		14.5	-	-2.1	

TABLE 7-6.— COMPARISON OF LACIE AND U.S.S.R. FINAL YIELD ESTIMATES

Type of estimate	U.S.S.R. final estimate	April		May		June		July		August		September		October		Final	
		RD	CV	RD	CV	RD	CV	RD	CV	RD	CV	RD	CV	RD	CV	RD	CV
Winter wheat																	
LACIE baseline	25.0	4.9	4.2	4.9	3.0	5.3	4.2	4.6	4.1	3.9	3.7	3.9	3.6	3.9	3.6	4.9	3.6
LACIE modified	25.0	-3.3	4.5	-3.7	3.2	2.0	4.4	4.9	4.1	6.0	3.9	6.4	3.8	6.0	3.7	7.4	3.6
LACIE revised	25.0	-2.9	4.4	-3.3	3.2	2.3	4.2	4.2	3.9	2.3	3.6	2.3	3.5	2.3	3.5	2.3	3.6
LACIE rev30	25.0	-2.9	4.4	-3.7	3.1	2.3	4.2	3.5	3.9	2.0	3.6	2.3	3.6	2.3	3.6	2.3	3.6
Spring wheat																	
LACIE baseline	9.7									-10.2	9.1	-5.4	7.2	-9.0	6.9	-10.2	7.0
LACIE modified	9.7									-10.2	8.9	-5.4	7.2	-9.0	7.0	-11.5	7.0
LACIE revised	9.7									-10.2	—	-6.6	—	-9.0	—	-10.2	7.0
LACIE rev30	9.7									-7.8	8.8	-7.8	7.2	-10.2	7.0	-10.2	7.0
Total wheat																	
LACIE baseline	14.8									3.9	—	4.5	—	2.6	—	2.0	—
LACIE modified	14.8									2.6	—	3.9	—	2.0	—	2.0	—
LACIE revised	14.8									2.6	—	2.6	—	0.7	—	-2.1	—
LACIE rev30	14.8									2.6	—	-0.7	—	-2.1	—	-2.1	—

10-percent level. However, the modified estimates were closer to the USDA/FAS U.S.S.R. figures than the other three types of LACIE estimates in September and October. In those 2 months, the RD's for the modified estimates were smaller in magnitude than those for the other types of LACIE estimates.

7.3.3 SPRING WHEAT

The differences between the monthly rev30 estimates and the corresponding reference standards were not significant at the 10-percent level except in August. Actually, the revised estimates were slightly closer to the corresponding reference standard than was the rev30 estimate, but a complete set of monthly CV's for the revised estimates was not available for a significance test.

An investigation of the Landsat data and the yield model response at subregional levels indicated that drought conditions were clearly observable in the Landsat data and that the yield models accurately responded by reducing yield estimates in the affected regions. Radiometric measurements by Landsat (green index number), which are known to be related to crop vigor, indicated that crop vigor in the southern portions of the spring wheat region was affected by severe drought conditions. However, in the northern regions, the LACIE forecast was for above-normal yields. In the southern regions, LACIE yield models reduced the yield prospects nearly 2 quintals per hectare in response to the high April temperatures before the growing season had commenced. The continuing drought reduced the yield by almost 2 quintals per hectare below the normal yield at 11.5 quintals per hectare.

8. REFERENCES

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5. Clinton, N.J.: LACIE Phase III Labeling Error Characterization: Final Report. LEC-13012 (JSC-14745), Mar. 1979.

APPENDIX A

LACIE PHASE III ACCURACY ASSESSMENT METHODOLOGY

APPENDIX A

LACIE PHASE III ACCURACY ASSESSMENT METHODOLOGY

A.1 INTRODUCTION

This appendix contains mathematical details of the techniques used in accuracy assessment. The methods used in comparing the Large Area Crop Inventory Experiment (LACIE) estimates for production, acreage, and yield with the reference standard are presented in section A.2. The techniques used to study errors in the LACIE estimates are discussed in section A.3.

A.2 COMPARISON OF LACIE ESTIMATES WITH REFERENCE STANDARDS

The reference standards to which the LACIE estimates are compared are the Statistical Reporting Service of the U.S. Department of Agriculture (USDA/SRS[1]) estimates for the United States and the Foreign Agricultural Service of the USDA (USDA/FAS) estimates for foreign countries. The statistic used for making these comparisons is the relative difference (RD) defined as follows:

$$RD = \left(\frac{\text{LACIE} - \text{STANDARD}}{\text{LACIE}}\right) \times 100\% \qquad \text{(A-1)}$$

where LACIE stands for the LACIE estimate of wheat production, acreage, or yield and STANDARD represents the corresponding reference standard estimate. This definition expresses the difference between the two estimates as a percentage of the LACIE estimate.

Significance tests of no difference are made only at the region or country level for the LACIE production, acreage, and yield estimates for spring wheat, winter wheat, and total wheat. For a significance test, the LACIE estimate (of wheat production, acreage, or yield) is assumed to be normally distributed with unknown mean μ and variance σ^2_{LACIE}. A test of the hypothesis

$$H_0 : \mu = \text{STANDARD}$$

[1]The USDA/SRS has been replaced by the formation of the Economics, Statistics, and Cooperative Service of the USDA (USDA/ESCS).

versus the alternative hypothesis

$$H_A : \mu \neq \text{STANDARD}$$

is then made using this assumption. The test statistic is given by

$$Z = \frac{\text{LACIE} - \text{STANDARD}}{\hat{\sigma}_{\text{LACIE}}} \qquad \text{(A-2)}$$

which, under the null hypothesis, is approximately normally distributed with mean 0 and variance 1. The null hypothesis is rejected in favor of the alternative at the α-level of significance if

$$|Z| > z_{\alpha/2} \qquad \text{(A-3)}$$

where $z_{\alpha/2}$ is the $(1 - \alpha/2)$ critical point of the standard normal distribution. For $\alpha = 0.10$, $z_{\alpha/2} = 1.645$; and, if $|Z| > 1.645$, it is concluded that the mean of the LACIE estimator is significantly different from the reference standard estimate.

A.3 ERROR SOURCES IN LACIE

The techniques used to study errors in the estimates of acreage, yield, and production are discussed respectively in sections A.3.1, A.3.2, and A.3.3.

A.3.1 ACREAGE

This section contains a description of the methods used to estimate the following:

a. Errors in segment wheat proportion estimates (section A.3.1.1)

b. Wheat acreage at the state and higher levels (section A.3.1.2)

c. Variance of the wheat acreage estimates (section A.3.1.3)

d. Bias in acreage estimates for large areas having ground truth available for a subset of their LACIE segments (section A.3.1.4)

e. Relative variances of the sampling and classification errors in stratum wheat acreage estimates (section A.3.1.5)

A.3.1.1 Error in Proportion Estimates at the Segment Level

This section describes the statistical calculations used to compare Classification and Mensuration Subsystem (CAMS) wheat proportion estimates for blind sites with the corresponding ground-truth values. Let N be the number of segments allocated to a region (state or higher level) and let n be the number of blind sites selected randomly from these N segments. For a region, let $\hat{X}_i$ represent the CAMS estimate of the proportion of wheat in the *ith* segment and let X_i represent the ground-truth proportion of wheat in the *ith* segment, where i = 1, •••, N. Then the average error μ_D is given by

$$\mu_D = \frac{1}{N} \sum_{i=1}^{N} (\hat{X}_i - X_i) \tag{A-4}$$

The estimate of μ_D is given by

$$\bar{D} = \frac{1}{n} \sum_{i=1}^{n} (\hat{X}_i - X_i) \tag{A-5}$$

where the summation is taken over the n blind sites. Letting $D_i = \hat{X}_i - X_i$, we may estimate the variance of $\bar{D}$ by

$$(S_{\bar{D}})^2 = \left(\frac{1}{n} - \frac{1}{N}\right) \frac{\sum_{i=1}^{n} (D_i - \bar{D})^2}{n - 1} \tag{A-6}$$

Lower and upper confidence limits for the population average difference μ_D are given by

$$\left.\begin{aligned} \mu_{D_L} &= \bar{D} - t_{1-\alpha/2} S_{\bar{D}} \\ \mu_{D_U} &= \bar{D} + t_{1-\alpha/2} S_{\bar{D}} \end{aligned}\right\} \tag{A-7}$$

where $t_{1-\alpha/2}$ is the value of the $(1 - \alpha/2)$ percentage point, from the Student's t-distribution with (n - 1) degrees of freedom, corresponding to the desired confidence level of $1 - \alpha$.

The hypothesis $\mu_D = 0$ (i.e., no bias) is rejected at the α-level of significance if $\left|\bar{D}/S_{\bar{D}}\right| > t_{1-\alpha/2}$ or, equivalently, if the confidence interval given by equation (A-7) does not contain zero.

A.3.1.2 Acreage Estimation

This section gives a brief summary of the methods used to estimate wheat acreage. These methods are described in detail in the Crop Assessment Subsystem (CAS) Requirements Document (ref. 1, appendix B, pages B-5 through B-20).

A.3.1.2.1 Background of Sample Allocation

The LACIE sample allocation in the U.S. Great Plains (USGP) region is based upon a two-stage stratified sampling scheme in which counties represent the primary sampling units (substrata) and 9- by 11-kilometer (5- by 6-nautical-mile) segments are secondary sampling units. The criterion for determining the total sample size was the ability to achieve a sampling error of 2 percent or less for the country wheat acreage estimates.

Sample segments were allocated to the counties based on relative weights derived from agriculture and wheat acreage reported in 1969 agriculture census statistics. Depending upon the relative weights, counties were designated as group I (at least one sample segment in the county), group II (at most one sample segment in a county), or group III (no sample segments in the county). All group II counties in a crop reporting district [CRD (stratum)] were combined to determine the number of segments allocated to group II of the stratum. A probability proportional to size (PPS) procedure was applied to select the group II counties in a CRD which were to receive these segments.

Once the number of segments to be allocated to each county was determined, the sample segments were selected at random within the agricultural area of the county. For further details of the LACIE sampling scheme, refer to the CAS Requirements Document (ref. 1, appendix B, pages B-1 through B-5).

A.3.1.2.2 Aggregation of Acreage Estimates

Wheat acreage estimates are made for each CRD, state, and region (group of states) in the USGP. However, no estimate is made for a state if it does not contain three or more segments satisfactorily processed by CAMS. Segment data may be lost because of the following cases of nonresponse:

a. The sample segment being obscured by cloud cover

b. Landsat data quality being insufficient to permit processing

c. Landsat data acquisition failing to register with the reference Landsat image

d. Failure of acquisition and/or processing procedures to provide an acceptable estimate

No replacement is allowed if a sample segment is not workable by CAMS.

A CRD acreage estimate consists of three components:

a. An acreage estimate for the group I counties in the CRD for which segment data exist (A group I county is treated as a group III county if it does not have at least one segment with an acceptable proportion estimate.)

b. An acreage estimate for the entire set of group II counties in the CRD if there is at least one segment with an acceptable proportion estimate in this set of counties (Otherwise, the group II counties are all treated as group III counties.)

c. An acreage estimate for the group III counties, including the group I and group II counties being treated as group III counties

The wheat acreage estimates for these three components are computed using a stratified random sampling estimator for the group I counties, a PPS estimator for the group II counties, and a ratio estimator for the group III counties (ref. 2, page 263).

There are three categories of group III acreage estimates, depending on the number of segments in a CRD for which data are available. Categories 1, 2, and 3 correspond respectively to three or more segments, one or two segments, and no segments having data available. The ratio used for the group III estimator is the ratio of historical wheat acreages for group III counties to group I and group II counties. For category 1 estimates, the ratio is based on historical acreages in the CRD. For category 2 and category 3 estimates, the ratio is based on acreages in the state containing the CRD for which the estimate is being made.

The CRD wheat acreage estimate is obtained from the sum of the wheat acreage estimates for group I, II, and III counties. Next, aggregation of the CRD acreage estimates gives a state wheat acreage estimate, and summation of the state acreage estimates gives the regional wheat acreage estimate. For specific aggregation formulas, see reference 1, appendix B, pages B-5 through B-9 and B-17.

In a mixed wheat area, separate aggregations are performed for spring and winter wheat, and the total wheat acreage estimate is obtained by summing the results. This is done at the CRD and higher levels.

A.3.1.3 Acreage Variance Estimation

The acreage variance estimation for a CRD requires an estimate of within-county variance for each of the group I and group II counties in the CRD. Often there is only one sample segment in a county and hence no direct estimate of the within-county variance is possible. Therefore, an indirect method is employed. This method uses a regression approach and is based on the assumption that the historical county proportions are well correlated with the CAMS proportions. The method consists of (1) forming homogeneous groups of counties in a state with respect to the within-county variability, (2) performing regression for the CAMS segment wheat proportion estimate onto the county historical wheat proportion, and (3) calculating the residual mean square error (MSE) for an estimate of the within-county variance for each county in the group.

For an estimation of CRD acreage variance, the acreage variance components for group I and group II counties are estimated independently. For group I counties, it is computed according to the variance formula for a stratified random sampling scheme (ref. 2, page 263). The appropriate inputs of county sizes, number of sample segments, and within-county variance estimates are obtained using the above-mentioned procedure. Similarly, the variance formula for a PPS estimator is used to compute the group II acreage variance estimate (ref. 2, page 263). The formula requires all the inputs mentioned in the group I case plus the probabilities of selecting group II counties for sample allocation. These probabilities are utilized in determining which of the group II counties in a CRD receive sample segments.

The acreage variance component for the group III counties depends directly on group I and II variances and contributes to the CRD acreage variance indirectly through the ratio utilized to obtain the group III acreage estimate. The formulas used to calculate the acreage variance for the group III counties are described in reference 1, appendix B, pages B-9 through B-16. As mentioned above, there are three categories of group III acreage estimates, and each category has a different formula for the variance estimate. For category 1, the variance estimate depends on the acreage estimates for all the group I and II counties in the CRD; for categories 2 and 3, it depends on the acreage estimates for all the group I and II counties in the state.

If data are available for at least three segments in each CRD in the state, the acreage variance estimate is computed by summing the variance estimates for the CRD's in the state. Otherwise, the state variance estimate is obtained using an aggregation procedure which accounts for the dependence between various CRD acreage estimates in a state.

Since the state acreage estimates are obtained independently, the acreage variance estimates at both the regional and country levels are computed by summing the state acreage variance estimates.

In a mixed wheat area, separate aggregations are performed for estimating the variance of the spring and winter wheat acreage estimates at the CRD and higher levels. In each case, the estimation procedure is the same as that described above for each aggregation level. The acreage variance estimates at the CRD and state levels for the total wheat case are obtained from the previously described variance formulas using total wheat acreage estimates for sample segments and the historical total wheat for counties in the area. For higher levels, the total wheat acreage variance estimates are computed by calculating the sum of the variance estimates for the states involved. The CRD- and state-level variance estimates for the total wheat case are not unbiased; therefore, the method of determining variance of a total wheat acreage estimate in a mixed wheat area is considered approximate.

A.3.1.4 Acreage Bias Estimation

The method for estimating bias described in this section concerns regional-level investigations and is valid for any area having a sufficient number of blind sites to represent the bias. In the accuracy assessment of LACIE acreage estimates, it is applied at the state and higher levels.

The LACIE estimate of wheat acreage $\hat{A}$ for a given area can be written

$$\hat{A} = \sum_{i=1}^{n} W_i \hat{X}_i \qquad \text{(A-8)}$$

where $\hat{X}_i$ is the wheat proportion estimate in the i*th* LACIE segment; n is the number of processed LACIE segments; and values for $\{W_i\}_{i=1}^{n}$ are known weights based on the size of the substratum in which the segment is located, the number of segments in that substratum, and the historical data of substrata which are estimated by the group III ratio using this substratum.

Corresponding to the estimate $\hat{A}$ is the true acreage A, which may be expressed as

$$A = \sum_{i=1}^{n} W_i^* C_i \qquad \text{(A-9)}$$

where C_i is the true wheat acreage for the substratum containing the i*th* segment and W_i^* is the value of the weight which would give perfect group III estimates of wheat acreage for unsampled areas using these n segments.

The wheat proportion estimate for the i*th* segment can be expressed by the identity

$$\hat{X}_i = C_i + (X_i - C_i) + (\hat{X}_i - X_i)$$

$$= C_i + \varepsilon_i + \delta_i \qquad \text{(A-10)}$$

where X_i is the true wheat proportion of the i*th* segment, ε_i is the sampling error, and δ_i is the classification error. Since segments are located randomly in the substrata, the sampling is unbiased and $E(\varepsilon_i) = 0$. However, unbiased classification is not assumed and

$$E(\delta_i) = \theta_i \quad ; \quad \theta_i = \text{unknown} \qquad \text{(A-11)}$$

The bias in $\hat{A}$, defined by $E(\hat{A} - A)$, is given by

$$B = E\left(\sum_{i=1}^{n} W_i \hat{X}_i - \sum_{i=1}^{n} W_i^* C_i\right)$$

$$= \sum_{i=1}^{n} W_i E(C_i + \varepsilon_i + \delta_i) - \sum_{i=1}^{n} W_i^* C_i$$

$$= \sum_{i=1}^{n} (W_i - W_i^*) C_i + \sum_{i=1}^{n} W_i \theta_i$$

$$= B_1 + B_2 \qquad \text{(A-12)}$$

Note that the B_1 represents a bias caused by the failure of the group III ratios to be exact (i.e., $W_i \neq W_i^*$), whereas B_2 is the bias resulting from classification.

The classification bias component B_2 is estimated by

$$\hat{B}_2 = \frac{n}{m} \sum_{j=1}^{m} W_j \hat{\theta}_j \qquad \text{(A-13)}$$

where m is the number of blind sites in the area containing n processed segments and $\hat{\theta}_j = \hat{X}_j - X_j$ for the j*th* blind site, where X_j is the ground-observed proportion of wheat for that segment. Since the blind sites are a random subsample, $\hat{B}_2$ is an unbiased estimator of B_2; i.e.,

$$E(\hat{B}_2) = B_2 \qquad \text{(A-14)}$$

The variance of $\hat{B}_2$ is

$$\text{Var}(\hat{B}_2) = \frac{n^2}{m} \left(1 - \frac{m}{n}\right) S^2 \qquad \text{(A-15)}$$

where

$$S^2 = \frac{1}{n-1} \sum_{i=1}^{n} \left(W_i \theta_i - \frac{1}{n} \sum_{j=1}^{n} W_j \theta_j\right)^2$$

This variance is estimated by replacing S^2 with its estimate

$$\hat{S}^2 = \frac{1}{m-1} \sum_{j=1}^{m} \left(W_i \hat{\theta}_j - \frac{1}{m} \sum_{j=1}^{m} W_i \hat{\theta}_j\right)^2 \qquad \text{(A-16)}$$

An approximate 90-percent confidence interval for B_2 is constructed by $(\hat{B}_2 - 1.645\hat{\sigma}, \hat{B}_2 + 1.645\hat{\sigma})$, where $\hat{\sigma}^2$ is the estimate of $\text{Var}(B_2)$.

Reliable county-level data are not often available for estimating B_1, the bias resulting from group III ratio estimation. Agricultural census data at the county level are available only every 4 or 5 years, the last of which were compiled in 1974. However, the most recent census data are used to obtain the group III ratio estimates in the LACIE aggregation scheme. Therefore, county-level USDA/SRS estimates are the only independent data available for estimating B_1. It is known that the USDA/SRS estimates are not very reliable at the

county level; therefore, the following estimate of B_1 is obtained only at the USGP level and is used with caution.

Current USDA/SRS county-level estimates are not available during the crop year; so previous-year county-level USDA/SRS estimates are utilized to obtain C_i in the equation

$$B_1 = \sum_{i=1}^{n} C_i (W_i - W_i^*) \tag{A-17}$$

for each of the processed LACIE segments in the USGP. Then, B_1 is estimated by

$$\hat{B}_1 = \sum_{i=1}^{n} W_i C_i^{SRS} - A_{SRS} \tag{A-18}$$

where C_i^{SRS} is the USDA/SRS wheat proportion for the county containing the i*th* segment and A_{SRS} is the USDA/SRS wheat acreage estimate for the USGP. A reliable estimate of the variance of B_1 is not available; so, for practical purposes, the bias due to group III ratio estimation is considered negligible if B_1 is less than 2 percent of A_{SRS}.

A.3.1.5 Contribution of Sampling and Classification to Acreage Estimation Error

This section describes the calculation of the contribution of sampling and classification errors to the variance of the LACIE acreage estimate.

A.3.1.5.1 Approach

The variance of the LACIE acreage estimate for a large area (e.g., zone) can be written

$$V^2 = \sum_i V_i \sigma_i^2 \tag{A-19}$$

where σ_i^2 is the variance of the acreage estimate for the i*th* county and V_i is a weight which depends on the size of the county, the number of segments in the county, etc. (ref. 1, appendix B, page B-17).

The variance σ_i^2 represents a mean-squared deviation between the LACIE estimate for the county wheat proportion and the true county wheat proportion. This variance is caused mainly by two factors: sampling error and classification error.

In accuracy assessment, it is desirable to quantify the contribution of each of these error sources to the large area production estimate. The LACIE production estimate depends on acreage and yield estimation errors in a complicated way; hence, it is unrealistic to assume the error in the production estimate can be written as a sum of uncorrelated random variables representing acreage and yield errors. Instead, the effect of a particular error source is measured by the reduction in the LACIE production variance which would be achieved if that source were eliminated.

It will be assumed (section A.3.1.5.2) that the *ith* county acreage error variance σ_i^2 can be written $\sigma_i^2 = \sigma_c^2 + \lambda^2\sigma_s^2$, where σ_c^2 is the contribution from classification and $\lambda^2\sigma_s^2$ is the contribution from sampling. To determine the effect of no classification error, the variance of the LACIE production estimate will be calculated using $\rho\sigma_i^2$ instead of σ_i^2, where ρ is an estimate of the ratio $\dfrac{\lambda^2\sigma_s^2}{\sigma_c^2 + \lambda^2\sigma_s^2}$. Similarly, the effect of no sampling error is estimated by replacing σ_i^2 by $(1 - \rho)\sigma_i^2$. This procedure is described in detail in section A.3.3.3. The following two sections describe the methods employed for estimating sampling and classification variances and the function ρ.

A.3.1.5.2 Acreage Regression Models

For counties with one sample segment, the LACIE estimate of the *ith* county wheat proportion can be written

$$\hat{X}_i = C_i + (X_i - C_i) + (\hat{X}_i - X_i)$$

$$= C_i + \varepsilon_i + \delta_i \qquad \text{(A-20)}$$

where

$\hat{X}_i$ = LACIE estimate of the wheat proportion in the sampled segment

C_i = true (current year) proportion of wheat in the county

X_i = true proportion of wheat in the sampled segment

ε_i = sampling error = $X_i - C_i$

δ_i = classification error = $\hat{X}_i - X_i$

It will be assumed that for a reasonably large area (e.g., a zone) the errors ε_i and δ_i are uncorrelated and have the following properties:

$$\left.\begin{aligned} E(\varepsilon_i) &= 0 \\ E(\delta_i|X_i) &= \lambda^* X_i + \theta \\ V(\varepsilon_i) &= \sigma_s^2 \\ V(\delta_i|X_i) &= \sigma_c^2 \end{aligned}\right\} \qquad \text{(A-21)}$$

It is also assumed that there is a linear model relating the current-year county proportions, C_i, to the historical proportions which will be denoted by Z_i; i.e.,

$$C_i = \alpha + \beta Z_i + \zeta_i \qquad \text{(A-22)}$$

where ζ_i is the random error, $E(\zeta_i) = 0$, $V(\zeta_i) = \sigma_H^2$, $Cov(\zeta_i,\varepsilon_i) = Cov(\zeta_i,\delta_i) = 0$, and α and β are regression coefficients.

From the above assumptions and definitions, three basic regression models are obtained:

a. True segment proportion versus historical county proportion. From the definition of ε_i,

$$\begin{aligned} X_i &= C_i + \varepsilon_i \\ &= \alpha + \beta Z_i + \zeta_i + \varepsilon_i \end{aligned} \qquad \text{(A-23)}$$

it follows that

$$\left.\begin{aligned} E(X_i) &= \alpha + \beta Z_i \\ V(X_i) &= \sigma_H^2 + \sigma_s^2 \end{aligned}\right\} \qquad \text{(A-24)}$$

b. LACIE segment proportion versus ground-truth segment proportion. From the definition of δ_i,

$$\hat{X}_i = X_i + \delta_i \qquad \text{(A-25)}$$

it follows that

$$\left.\begin{aligned} E(\hat{X}_i | X_i) &= X_i + \lambda^* X_i + \theta \\ V(\hat{X}_i | X_i) &= \sigma_c^2 \end{aligned}\right\} \qquad \text{(A-26)}$$

Writing $\lambda = 1 + \lambda^*$, one obtains

$$\left.\begin{aligned} E(\hat{X}_i | X_i) &= \lambda X_i + \theta \\ V(\hat{X}_i | X_i) &= \sigma_c^2 \end{aligned}\right\} \qquad \text{(A-27)}$$

c. LACIE segment proportion versus historical county proportion. From equations (A-24) through (A-27),

$$\left.\begin{aligned} E(\hat{X}_i) &= E_{X_i}[E(\hat{X}_i | X_i)] = E_{X_i}(\lambda X_i + \theta) = \lambda(\alpha + \beta Z_i) + \theta \\ V(\hat{X}_i) &= E_{X_i}[V(\hat{X}_i | X_i)] + V_{X_i}[E(\hat{X}_i | X_i)] \\ &= \sigma_c^2 + \lambda^2\left(\sigma_H^2 + \sigma_s^2\right) \end{aligned}\right\} \qquad \text{(A-28)}$$

As stated previously, one would like to estimate $\rho = \dfrac{\lambda^2\sigma_s^2}{\sigma_c^2 + \lambda^2\sigma_s^2}$. None of the three regression models permits an estimate of σ_s^2 separately from σ_H^2; i.e., one can only estimate $\sigma_s^2 + \sigma_H^2$, not σ_s^2 alone. If current-year county proportions C_i were available, σ_H^2 could be estimated; but, since this is not the

case, $\rho^* = \dfrac{\lambda^2\left(\sigma_s^2 + \sigma_H^2\right)}{\sigma_c^2 + \lambda^2\left(\sigma_s^2 + \sigma_H^2\right)}$ will be estimated instead of ρ. If $\sigma_H^2 << \sigma_s^2$ (a reasonable assumption), then $\rho^* \approx \rho$.

A.3.1.5.3 Normality Assumptions – Maximum Likelihood Estimation of ρ^*

Suppose a given zone has m blind site segments and n ordinary (i.e., not blind site) segments, and let the blind site segments be numbered 1 to m. It is assumed that ground-truth wheat proportions $\{X_i\}_{i=1}^{m}$ are available for the blind sites and LACIE estimates $\{\hat{X}_i\}_{i=1}^{m+n}$ are available for all the segments. It is also assumed that historical wheat proportions $\{Z_i\}_{i=1}^{m+n}$ are available for the counties containing the segments. If $\sigma_H^2 << \sigma_s^2$ so that $\rho \approx \rho^*$, equations of the regression models (A-23 through A-28) can be used to obtain

$$\left.\begin{aligned} E(X_i) &= \alpha + \beta Z_i \quad ; \quad V(X_i) = \sigma_s^2 \quad ; \quad i = 1,\cdots,m \\ E(\hat{X}_i|X_i) &= \lambda X_i + \theta \quad ; \quad V(\hat{X}_i|X_i) = \sigma_c^2 \quad ; \quad i = 1,\cdots,m \\ E(\hat{X}_i) &= \theta + \lambda\alpha + \lambda\beta Z_i \quad ; \quad V(\hat{X}_i) = \lambda^2\sigma_s^2 + \sigma_c^2 \quad ; \quad i = m+1,\cdots,m+n \end{aligned}\right\} \text{(A-29)}$$

If there is one segment per county, then the errors ε_i and δ_i are independent for different values of i, and hence the likelihood function of the sample can be written

$$L = \prod_{i=1}^{m} f(X_i,\hat{X}_i) \prod_{i=m+1}^{m+n} h(\hat{X}_i) \qquad \text{(A-30)}$$

where $f(X_i,\hat{X}_i)$ is the joint density of X_i and $\hat{X}_i$ for i = 1, ···, m, and $h(\hat{X}_i)$ is the density of $\hat{X}_i$ for i = m+1, ···, m+n.

The function $\prod_{i=1}^{m} f(X_i,\hat{X}_i)$ can be written

$$\prod_{i=1}^{m} f(X_i,\hat{X}_i) = \prod_{i=1}^{m} f(\hat{X}_i|X_i)g(X_i) \qquad \text{(A-31)}$$

where $f(\hat{X}_i|X_i)$ is the conditional density of $\hat{X}_i$ (given X_i) and $g(X_i)$ is the density function of X_i.

If normality is assumed,

$$\prod_{i=1}^{m} f(X_i,\hat{X}_i) = \prod_{i=1}^{m} \frac{1}{\sigma_c\sqrt{2\pi}} \exp\left[-\frac{1}{2\sigma_c^2}\sum_{i=1}^{m}(\hat{X}_i - \lambda X_i - \theta)^2\right] \times \frac{1}{\sigma_s\sqrt{2\pi}} \exp\left[-\frac{1}{2\sigma_s^2}\sum_{i=1}^{m}(X_i - \alpha - \beta Z_i)^2\right] \quad \text{(A-32)}$$

and

$$\prod_{i=m+1}^{m+n} h(\hat{X}_i) = \frac{1}{\left(\lambda^2\sigma_s^2 + \sigma_c^2\right)^{1/2}\sqrt{2\pi}} \times \exp\left[-\frac{1}{2\left(\lambda^2\sigma_s^2 + \sigma_c^2\right)}\sum_{i=m+1}^{m+n}(\hat{X}_i - \lambda\alpha - \theta - \lambda\beta Z_i)^2\right] \quad \text{(A-33)}$$

Letting $Q = -2 \log L - \log 2\pi$,

$$Q = m \log \sigma_c^2 + m \log \sigma_s^2 + n \log\left(\sigma_c^2 + \lambda^2\sigma_s^2\right) + \frac{D_m}{\sigma_c^2} + \frac{T_m}{\sigma_s^2} + \frac{T_n}{\sigma_c^2 + \lambda^2\sigma_s^2} \quad \text{(A-34)}$$

where

$$D_m = \sum_{1}^{m}(\hat{X}_i - \lambda X_i - \theta)^2$$

$$T_m = \sum_{1}^{m}(X_i - \alpha - \beta Z_i)^2$$

$$T_n = \sum_{i=m+1}^{m+n}(\hat{X}_i - \lambda\alpha - \theta - \lambda\beta Z_i)^2$$

One attempts to maximize L by finding a stationary point of Q:

$$-\frac{1}{2}\frac{\partial Q}{\partial \alpha} = \frac{\sum_{1}^{m}(X_i - \alpha - \beta Z_i)}{\sigma_s^2} + \frac{\sum_{m+1}^{m+n}\lambda(\hat{X}_i - \lambda\alpha - \theta - \lambda\beta Z_i)}{\sigma_c^2 + \lambda^2\sigma_s^2} = 0 \qquad \text{(A-35)}$$

$$-\frac{1}{2}\frac{\partial Q}{\partial \beta} = \frac{\sum_{1}^{m}Z_i(X_i - \alpha - \beta Z_i)}{\sigma_s^2} + \frac{\sum_{m+1}^{m+n}\lambda Z_i(\hat{X}_i - \lambda\alpha - \theta - \lambda\beta Z_i)}{\sigma_c^2 + \lambda^2\sigma_s^2} = 0 \qquad \text{(A-36)}$$

$$-\frac{1}{2}\frac{\partial Q}{\partial \theta} = \frac{\sum_{1}^{m}(\hat{X}_i - \lambda X_i - \theta)}{\sigma_c^2} + \frac{\sum_{m+1}^{m+n}(\hat{X}_i - \lambda\alpha - \theta - \lambda\beta Z_i)}{\sigma_c^2 + \lambda^2\sigma_s^2} = 0 \qquad \text{(A-37)}$$

$$-\frac{1}{2}\frac{\partial Q}{\partial \lambda} = \frac{\sum_{1}^{m}X_i(\hat{X}_i - \lambda X_i - \theta)}{\sigma_c^2} + \frac{-n\lambda\sigma_s^2 + \sum_{i=m+1}^{m+n}(\beta Z_i + \alpha)(\hat{X}_i - \lambda\alpha - \theta - \lambda\beta Z_i)}{\sigma_c^2 + \lambda^2\sigma_s^2}$$

$$+ \frac{\lambda\sigma_s^2 T_n}{\left(\sigma_c^2 + \lambda^2\sigma_s^2\right)^2} = 0 \qquad \text{(A-38)}$$

$$\frac{\partial Q}{\partial \sigma_c^2} = \frac{m}{\sigma_c^2} + \frac{n}{\lambda^2\sigma_s^2 + \sigma_c^2} - \frac{D_m}{\sigma_c^4} - \frac{T_n}{\left(\lambda^2\sigma_s^2 + \sigma_c^2\right)^2} = 0 \qquad \text{(A-39)}$$

$$\frac{\partial Q}{\partial \sigma_s^2} = \frac{m}{\sigma_s^2} + \frac{n\lambda^2}{\lambda^2\sigma_s^2 + \sigma_c^2} - \frac{T_m}{\sigma_s^4} - \frac{T_n\lambda^2}{\left(\sigma_c^2 + \lambda^2\sigma_s^2\right)^2} = 0 \qquad \text{(A-40)}$$

Equations (A-35) through (A-40) must be solved for the parameters α, β, θ, λ, σ_c^2, and σ_s^2. If $\hat{\alpha}$, $\hat{\beta}$, $\hat{\theta}$, $\hat{\lambda}$, $\hat{\sigma}_c^2$, and $\hat{\sigma}_s^2$ represent the solution to equations (A-35) through (A-40), then the invariance theorem for maximum likelihood estimation can be used to obtain

$$\hat{\rho} = \frac{\hat{\lambda}^2\hat{\sigma}_s^2}{\hat{\sigma}_c^2 + \hat{\lambda}^2\hat{\sigma}_s^2} \tag{A-41}$$

as the maximum likelihood estimate of ρ.

The equations (A-35) through (A-40) are nonlinear but can be solved using numerical techniques. Newton's method was used to solve the equations for this report; i.e., if $u^{(k)}$ is an estimate of the solution vector $u = \left(\hat{\alpha},\hat{\beta},\hat{\theta},\hat{\lambda},\hat{\sigma}_c^2,\hat{\sigma}_s^2\right)$ at the k*th* step, then

$$u^{(k+1)} = u^{(k)} - F^{-1}f[u^{(k)}] \tag{A-42}$$

where $f[u^{(k)}] = (f_1,\cdots,f_6)^T$ is the vector of the left sides of equations (A-35) through (A-41) evaluated at $u^{(k)}$ and $F = (F_{ij}) = \frac{\partial f_i}{\partial u_j}$.

In practice, it was simpler to use the parameter transformations

$$\left.\begin{aligned} r &= \frac{\sigma_s^2}{\lambda^2\sigma_s^2 + \sigma_c^2} \\ s &= \lambda^2\sigma_s^2 + \sigma_c^2 \end{aligned}\right\} \tag{A-43}$$

and

and solve for α, β, θ, λ, r, and s. Again, the invariance theorem can be used to give

$$\hat{\rho} = \hat{\lambda}^2\hat{r} \tag{A-44}$$

A.3.1.5.4 Accuracy of $\hat{\rho}$

Since $\hat{\rho}$ is an extremely complicated function of the data, it is impossible to write down the variance of $\hat{\rho}$ for finite sample sizes m and n. However, the

asymptotic variance of $\hat{\rho}$ can be estimated using the information matrix; i.e., if

$$V = V_{ij} = E\left(\frac{-\partial^2 \log L}{\partial u_i \partial u_j}\right) \tag{A-45}$$

and $g(u) = g\left(\hat{\alpha},\hat{\beta},\hat{\theta},\hat{\lambda},\hat{\sigma}_c^2,\hat{\sigma}_s^2\right)$ is a differentiable function of the parameter vector u, then the variance of g(u) is asymptotic to $[g'(u)]^T V^{-1} g'(u)$ where

$$g'(u) = \left(\frac{\partial g}{\partial u_1},\cdots,\frac{\partial g}{\partial u_6}\right)^T \tag{A-46}$$

Thus, in our case,

$$g(u) = \frac{\lambda^2\sigma_s^2}{\lambda^2\sigma_s^2 + \sigma_c^2} \tag{A-47}$$

and

$$g'(u) = \left[0,0,0,2\lambda\sigma_s^2\sigma_c^2\left(\lambda^2\sigma_s^2 + \sigma_c^2\right)^{-2},-\lambda^2\sigma_s^2\left(\lambda^2\sigma_s^2 + \sigma_c^2\right)^{-2},\frac{\lambda^2\sigma_c^2}{\left(\sigma_c^2 + \lambda^2\sigma_s^2\right)^2}\right] \tag{A-48}$$

To estimate V, the observations $\{X_i\}$, $\{Y_i\}$, and $\{Z_i\}$ and the estimated parameters $\left(\hat{\alpha},\ \hat{\beta},\ \hat{\theta},\ \hat{\lambda},\ \hat{\sigma}_c^2,\text{ and }\hat{\sigma}_s^2\right)$ were substituted into the matrix $H = (h_{ij}) = \frac{\partial^2 \log L}{\partial u_i \partial u_j}$. Then equation (A-46) was used to obtain an approximate variance for $\hat{\rho}$.

A.3.1.5.5 Coefficients of Variation of a Large Area Estimate Resulting From Classification and Sampling Errors

Let $\hat{\rho}$ be the ratio of the within-county sampling variance estimate to the total within-county area variance estimate as defined in equation (A-41). Assuming

that this ratio also applies to a large area, the variances of the large area estimate resulting from classification and sampling errors are given by

$$\left.\begin{aligned} \hat{\eta}^2 &= (1 - \hat{\rho})\hat{V}^2 \\ \hat{\nu}^2 &= \rho\hat{V}^2 \end{aligned}\right\} \quad \text{and} \qquad \text{(A-49)}$$

where $\hat{\eta}^2$, $\hat{\nu}^2$, and $\hat{V}^2$ denote the classification variance, the sampling variance, and the acreage variance for the large area estimate, respectively. Consequently, the estimated coefficient of variation (CV) of a large area estimate $\hat{A}$ resulting from classification is given by

$$\hat{CV}(\hat{A}|C) = \frac{\hat{\eta}}{\hat{A}} \qquad \text{(A-50)}$$

and the estimated CV of a large area estimate resulting from sampling is given by

$$\hat{CV}(\hat{A}|S) = \frac{\hat{\nu}}{\hat{A}} \qquad \text{(A-51)}$$

where $\hat{CV}(\hat{A}|C)$ and $\hat{CV}(\hat{A}|S)$ are often casually referred to in LACIE as the classification CV and sampling CV, respectively.

A.3.2 YIELD

This section contains a description of the methods used to predict yields (section A.3.2.1) and to estimate yield prediction error (section A.3.2.2).

A.3.2.1 Yield Prediction

Most of the yield predictions made in LACIE are provided by the Center for Climatic and Environmental Assessment (CCEA) of the National Oceanic and Atmospheric Administration (NOAA).[2]

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[2]The CCEA has been replaced by the NOAA Center for Environmental Assessment Services (CEAS).

These yield predictions are produced from multiple linear regression yield models (ref. 3) developed from historical weather and yield data. Usually the models cover a state; but, in some cases, they cover part of a state or parts of two states; and, in some cases, they overlap.

In a given state, there is either one yield stratum or two. In the first case, the state yield prediction is given by the CCEA model. In the second case, the state yield prediction is given by:

$$Y = P/A \tag{A-52}$$

where P is the production estimate (section A.3.3.1) and A is the acreage estimate (section A.3.1.2) for the state. The yield prediction at the region or country level is also obtained from equation (A-52), with P and A in that case being the production and acreage estimates at the corresponding level.

A.3.2.2 Estimation of the Yield Prediction Error

The CCEA provides estimates of the mean-squared yield prediction error at the stratum level. In the CAS Requirements Document (ref. 1, page B-27), it is shown that at the state, region, or country level the estimate of the mean-squared yield prediction error for a given area (state, region, or country) is

$$U^2 = \bar{Y}^2\left(\frac{S^2}{P^2} + \frac{V^2}{A^2} - 2\,\frac{\Sigma Y_i V_i^2}{PA}\right) \tag{A-53}$$

where

S^2 = estimated mean-squared prediction error of the production estimate P for the area

V^2 = estimated variance of the acreage estimate A for the area

Y_i = yield estimate for the i*th* pseudozone in the area

V_i^2 = estimated variance of the acreage estimate for the i*th* pseudozone in the area

In the case where there is only one yield stratum for a state, the yield prediction error for the state is given directly by the CCEA model.

A.3.3 PRODUCTION

This section contains descriptions of the methods used to do the following:

a. Estimate wheat production (section A.3.3.1)

b. Estimate the variance in the wheat production estimate (section A.3.3.2)

c. Estimate the bias in the wheat production estimate (section A.3.3.3)

d. Evaluate whether LACIE is satisfying the 90/90 criterion (section A.3.3.4)

e. Determine the effect of acreage, yield, sampling, and classification errors on the production variance (section A.3.3.5)

A.3.3.1 Production Estimation

At the CRD level, the production estimate is obtained by multiplying the acreage estimate and the yield prediction for the CRD. The acreage estimate is made for the CRD itself, but the yield prediction is made for a group of CRD's in a state (section A.3.2.1).

The production estimates for the state and higher levels are obtained simply by adding the estimates for all the CRD's in the area.

A.3.3.1.1 Production Variance Estimation

Since the production estimate is the product of an acreage estimate and a yield prediction, the measure of variability in the estimate should properly be called the production mean-squared prediction error. However, in this report, for simplicity, this quantity will be called the production variance.

Since the yield predictions are made for a group of CRD's, it is not possible to obtain independent production variance estimates at the CRD level; hence, the estimates of production variance are made only at the state and higher levels. The estimation procedures are described in detail in the CAS Requirements Document (ref. 1, appendix B, page B-22).

A.3.3.1.2 Production Bias Estimation

The production bias at the state level is given by

$$B_{P_i} = E(\hat{P}_i - P_i)$$

$$= E(\hat{P}_i) - P_i$$

$$= E(\hat{A}_i\hat{Y}_i) - A_iY_i \qquad \text{(A-54)}$$

where A_i, Y_i, and P_i are respectively the true values of the acreage, yield, and production for the *ith* state in question and $\hat{A}_i$, $\hat{Y}_i$, and $\hat{P}_i$ are the corresponding estimates for these quantities. Assuming $\hat{A}_i$ and $\hat{Y}_i$ are independent, one obtains

$$B_{P_i} = E(\hat{A}_i)E(\hat{Y}_i) - A_iY_i \qquad \text{(A-55)}$$

If one further assumes that Y_i is unbiased, then $E(\hat{Y}_i) = Y_i$, and

$$B_{P_i} = Y_i[E(\hat{A}_i) - A_i]$$

$$= Y_iB_{A_i} \qquad \text{(A-56)}$$

where B_{A_i} is the acreage bias for the *ith* state. The quantities Y_i and B_{A_i} are unknown, but an estimate $\hat{B}_{P_i}$ for B_{P_i} can be obtained by using the estimates for Y_i and B_{A_i} described in sections A.3.2.1 and A.3.1.4, respectively. Thus,

$$\hat{B}_{P_i} = \hat{Y}_i\hat{B}_{A_i} \qquad \text{(A-57)}$$

The variance of $\hat{B}_{P_i}$ is given by

$$\text{Var}\left(\hat{B}_{P_i}\right) = Y_i^2\text{Var}\left(\hat{B}_{A_i}\right) + E^2\left(\hat{B}_{A_i}\right)\text{Var}(\hat{Y}_i) + \text{Var}\left(\hat{B}_{A_i}\right)\text{Var}(\hat{Y}_i) \qquad \text{(A-58)}$$

and estimated by

$$\hat{\text{Var}}\left(\hat{B}_{P_i}\right) = \hat{Y}_i^2\hat{\text{Var}}\left(\hat{B}_{A_i}\right) + \hat{B}_{A_i}^2\hat{\text{Var}}(\hat{Y}_i) - \hat{\text{Var}}\left(\hat{B}_{A_i}\right)\hat{\text{Var}}(\hat{Y}_i) \qquad \text{(A-59)}$$

For the USGP nine-state level, the production bias estimate $\hat{B}_P$ is

$$\hat{B}_P = \sum \hat{B}_{P_i} = \sum \hat{Y}_i \hat{B}_{A_i} \tag{A-60}$$

and the estimate of its variance is $\sum \hat{Var}\left(\hat{B}_{P_i}\right)$. The relative bias of the production estimate, $R(\hat{B}_P)$, is estimated by expressing the production bias as a percentage of the LACIE production estimate; that is, by

$$\hat{R}(\hat{B}_P) = \frac{\sum \hat{Y}_i \hat{B}_{A_i}}{\sum \hat{A}_i \hat{Y}_i} \times 100\% \tag{A-61}$$

A.3.3.2 Evaluating the 90/90 Criterion

Let $\hat{P}$ be the LACIE estimate of wheat production for the region or country, and let P be the true wheat production for the same region or country. The accuracy goal of the LACIE is a 90/90 at-harvest criterion for wheat production, which is given by the following probability statement.

$$Pr(|\hat{P} - P| \leq 0.1P) \geq 0.90 \tag{A-62}$$

This states that the accuracy goal is for the LACIE estimate of wheat production to be within 10 percent of the true wheat production with a probability of at least 0.90.

It is assumed that the LACIE estimate $\hat{P}$ is normally distributed with mean P + B and variance $\sigma^2_{\hat{P}}$, where B is the bias given by

$$B = E(\hat{P}) - P \tag{A-63}$$

Under this assumption, equation (A-62) may be written as

$$Pr\left[\frac{-0.1 - 0.9\,\frac{B}{P+B}}{CV(\hat{P})} \leq Z \leq \frac{0.1 - 1.1\,\frac{B}{P+B}}{CV(\hat{P})}\right] \geq 0.90 \tag{A-64}$$

where $Z = \frac{P - (P + B)}{\sigma_{\hat{P}}}$ follows the standard normal distribution, N(0,1), and $CV(\hat{P})$ is the CV of $\hat{P}$ defined by

$$CV(\hat{P}) = \frac{\sigma_{\hat{P}}}{E(\hat{P})} = \frac{\sigma_{\hat{P}}}{P + B} \tag{A-65}$$

The term $\frac{B}{P + B}$ is called the relative bias of $\hat{P}$ and is given by

$$\frac{B}{P + B} = \frac{E(\hat{P}) - P}{E(\hat{P})} \tag{A-66}$$

It follows that the accuracy goal of LACIE is attained if

$$\Phi\left[\frac{0.1 - 1.1 \frac{B}{P + B}}{CV(\hat{P})}\right] - \Phi\left[\frac{-0.1 - 0.9 \frac{B}{P + B}}{CV(\hat{P})}\right] \geq 0.90 \tag{A-67}$$

where Φ represents the cumulative standard normal distribution. The enclosed region of figure A-1 indicates combinations of $CV(\hat{P})$ and relative bias for which equation (A-67) is satisfied.

A.3.3.2.1 At-Harvest 90/90 Criterion Evaluation

The estimator of $CV(\hat{P})$ is

$$\hat{CV}(\hat{P}) = \frac{\sigma^2_{\hat{P}}}{P} \tag{A-68}$$

and the estimate is provided by CAS. An estimator of $R(\hat{B}_p)$ is

$$\hat{R}(\hat{B}_p) = \frac{\hat{B}}{\hat{P}} \tag{A-69}$$

where $\hat{B}$ is the difference between the LACIE production estimate and the corresponding USDA/SRS estimate. This quantity is also referred to as the RD; i.e., $\hat{R}(\hat{B}_p) = RD$.

The observed value of the left side of equation (A-67) with $CV(\hat{P})$ and $R(\hat{B}_p)$ replaced by their estimates, $\hat{CV}(\hat{P})$ and $\hat{R}(\hat{B}_p)$, respectively, is subject to

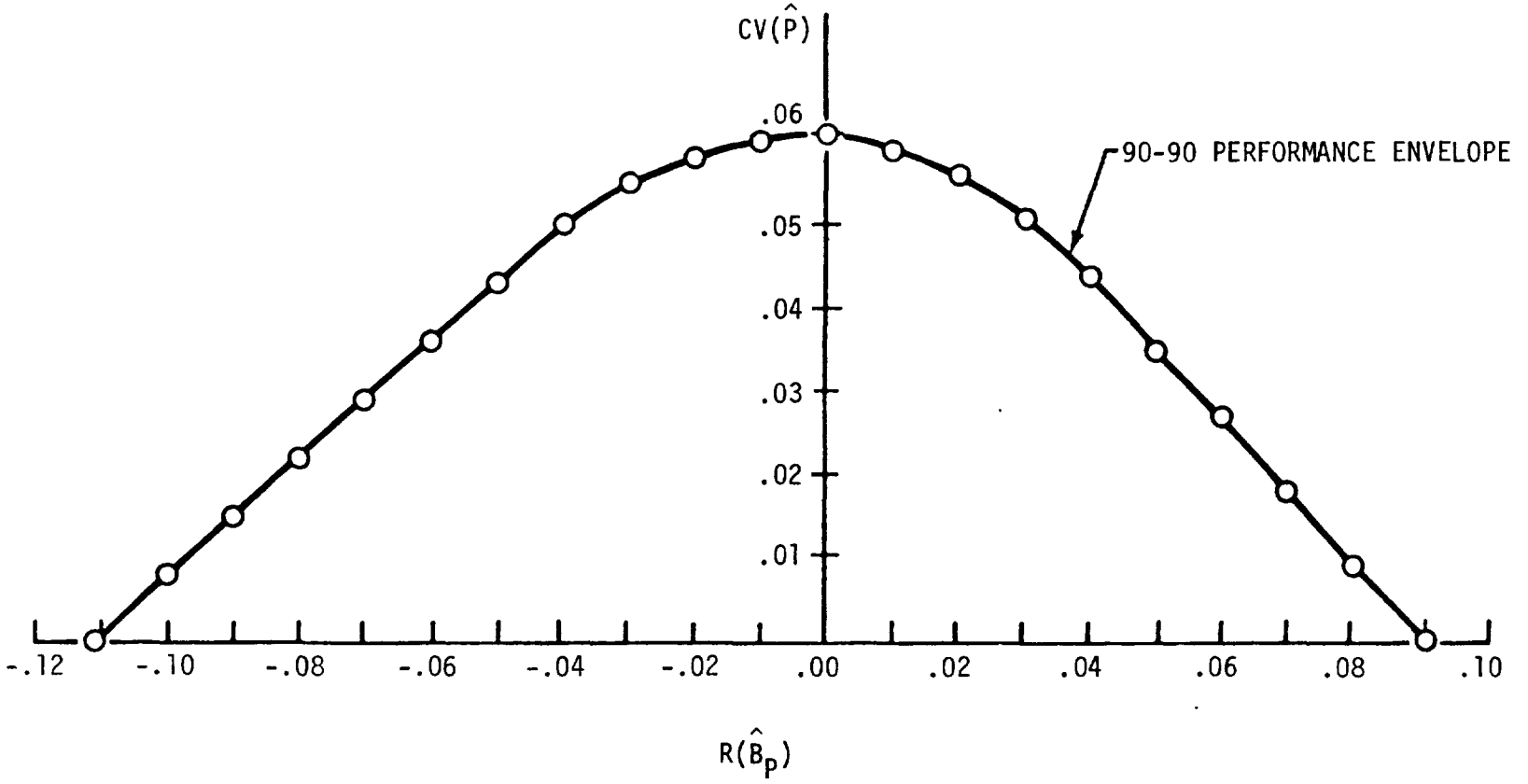

Figure A-1.— Relative bias versus CV of production.

certain variability, which is intractable because of problems in obtaining a joint distribution of $\hat{CV}(\hat{P})$ and $\hat{R}(\hat{B}_p)$. However, if $\hat{CV}(\hat{P})$ is greater than 0.061, there is an indication that the LACIE Phase III estimator does not satisfy the 90/90 criterion even though $\hat{P}$ is unbiased. Since $\hat{CV}(\hat{P})$ has been found to be very stable at the country level (USGP level in the case of the United States) and less than 0.061, $\hat{CV}(\hat{P})$ is treated as the parameter $CV(\hat{P})$, and equation (A-67) can be solved to determine the tolerable values of $R(\hat{B}_p)$ that would meet the 90/90 accuracy goal. That is, given $CV(\hat{P})$, there exist real numbers $R_0(R_0 > 0)$ and $R_1(R_1 > 0)$ so that equation (A-67) is satisfied for

$$\left.\begin{aligned} R_0 \le R(\hat{B}_p) \le R_1 \\ \text{or, equivalently,} \\ B_0 \le B \le B_1 \end{aligned}\right\} \qquad \text{(A-70)}$$

where $B_0 = R_0P/(1 - R_0)$ and $B_1 = R_1P/(1 - R_1)$, P being the true production.

Assume next a null hypothesis, H_0, that the LACIE production estimate is a 90/90 estimator; i.e., suppose $CV(\hat{P}) \equiv CV(\hat{P}) < 0.061$ and $R(\hat{B}_p) \in [R_0,R_1]$ and hence $B \in [B_0,B_1]$. To test the hypothesis that H_0 is true, first fix a value for B; e.g., $B^* \in [B_0,B_1]$, then test the subhypothesis $B = B^*$ against the alternative $B \neq B^*$, using the statistic $\hat{B} = \hat{P} - P_{SRS}$ and assuming $\hat{B} \sim N(B,\hat{\sigma}^2_{\hat{P}})$. A P-value for this test is given by

$$\Pi(B^*) = Pr(|\hat{B} - B^*| > |b - B^*|) \qquad \text{(A-71)}$$

given $\hat{B} \sim N(B^*,\hat{\sigma}^2_{\hat{P}})$, where b is the observed difference, $\hat{P} - P_{SRS}$. The overall hypothesis, H_0:$\hat{P}$ is "90/90," is rejected if

$$\max_{B^* \in [B_0,B_1]} \Pi(B^*) < \alpha \qquad \text{(A-72)}$$

where α is a predetermined significance level. If the test fails to reject H_0, it is *not* immediately inferred that the LACIE production estimator is a 90/90 estimator. [The test has low power since only one observation is available to estimate $R(\hat{B}_p)$.] In this situation, the statement is made that

"support of the 90/90 accuracy goal" is indicated; however, results obtained from blind site analyses and other accuracy assessment tasks are then considered for further assessment of whether or not the 90/90 criterion is achievable.

The enclosed region on figure A-2 indicates a combination of $CV(\hat{P})$ and $\hat{R}(\hat{B}_p)$ for which equation (A-72) is supported. Use of this diagram determines if an estimate supports the 90/90 criterion. The combinations of $CV(\hat{P})$ and $\hat{R}(\hat{B}_p)$ which are in the enclosed region have significance levels larger than 0.10. These combinations which are outside the enclosed region have significance levels smaller than 0.10. If an exact significance level is desired, it must be computed directly.

A.3.3.2.2 Early-Season 90/90 Criterion Evaluation

Although the official evaluation of the 90/90 criterion is based on at-harvest estimates, it is of interest to evaluate how well LACIE is performing throughout the season. When data are available for both spring and winter wheat (generally after July), the evaluation is performed in the same way as for the at-harvest estimate. In order to gage how well LACIE is performing early in the season when only winter wheat data are available, a method was developed to project the winter wheat results for the five- or seven-state level to the nine-state total harvestable wheat level.

The five- or seven-state RD between the LACIE and USDA/SRS estimates is taken as an estimate of the relative bias. However, the CV is "projected" to the nine-state level by

$$CV' = CV_R \sqrt{\frac{N_R}{N_{US}}} \qquad \text{(A-73)}$$

where CV_R is the current month $\hat{CV}(\hat{P})$ for the five- or seven-state winter wheat production estimate and N_R and N_{US} are the corresponding numbers of allocated segments for the five- or seven-state region and the USGP region, respectively. After the relative bias and CV have been estimated, inference is made as to

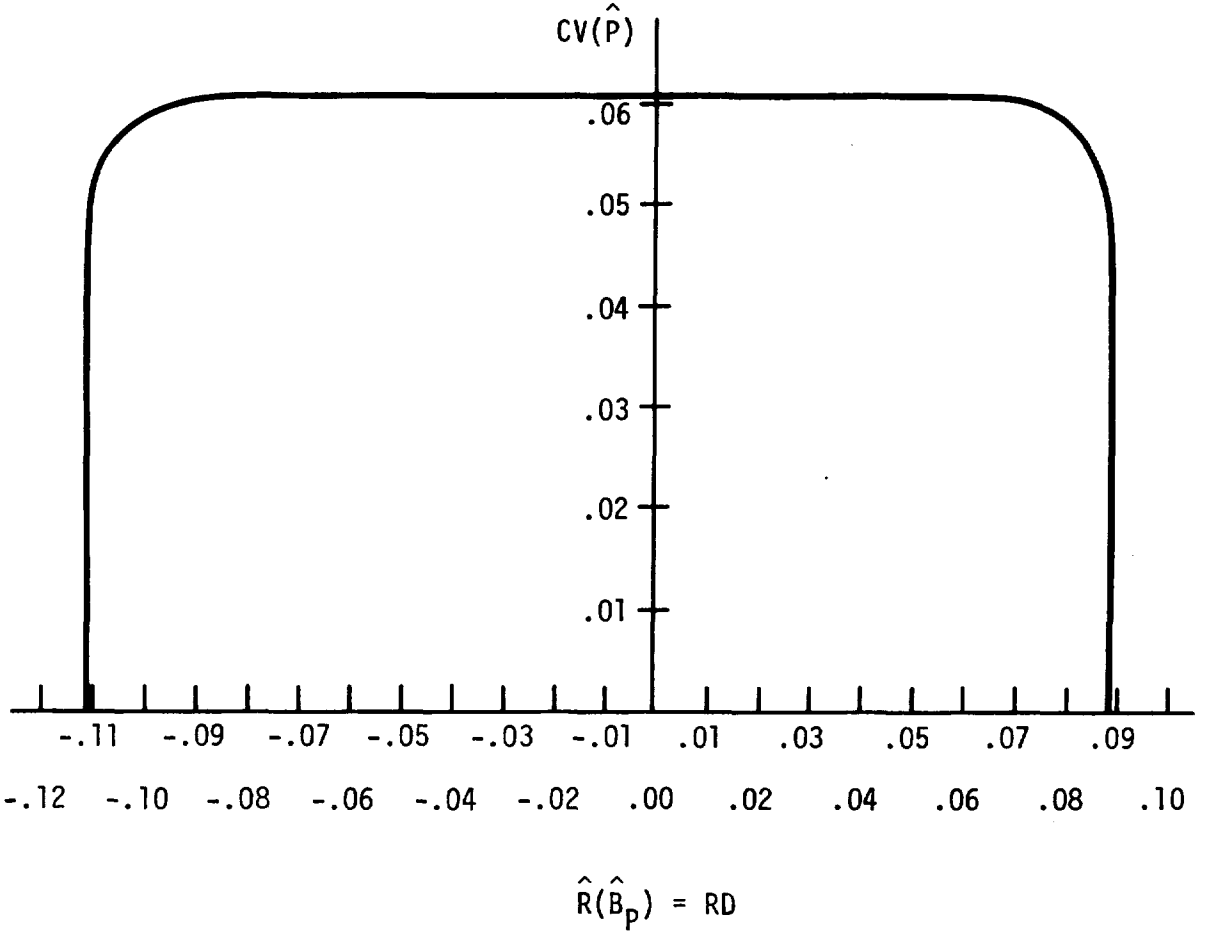

Figure A-2.— Diagram showing values of the estimate of relative bias $\hat{R}(\hat{B}_p)$ = RD and $CV(\hat{P})$ for which the 90/90 criterion is satisfied.

whether the 90/90 criterion has been supported, using the evaluation procedure discussed in the previous section.

A.3.3.3 Effect of Acreage, Yield, Sampling, and Classification Errors on the Production Variance

The production variance consists of two major error components: acreage and yield. The acreage error may be further subdivided into sampling and classification errors. The effect of a particular error is determined by the reduction in the production variance estimate when the error is omitted from the calculation of that estimate. If there is only one yield stratum in a zone (state), the production variance is calculated at the zone level and aggregated to higher levels. If a zone contains more than one yield stratum, it is subdivided into pseudozones, which are the intersections of the zone with the various yield strata. The production variance estimate is then calculated at the pseudozone level and aggregated to the zone and higher levels.

Suppose the zone consists of H pseudozones, G_1, G_2, $\cdots$, G_H, with acreage estimates A_{Z1}, A_{Z2}, $\cdots$, A_{ZH} and yield predictions Y_{Z1}, Y_{Z2}, $\cdots$, Y_{ZH}. Then the estimate of the production variance at the zone level is given by the following equation, which also appears in the CAS Requirements Document (ref. 1, appendix B).

$$S_Z^2 = \sum_{i=1}^{H} \left(V_{Zi}^2 Y_{Zi}^2 + U_{Zi}^2 A_{Zi}^2 - V_{Zi}^2 U_{Zi}^2 \right) + 2 \sum_{i=2}^{H} \sum_{\ell=1}^{i-1} Y_{Zi} Y_{Z\ell} \left(\sum_{j \in G_i} \sum_{k \in G_\ell} \Psi_{jk} \right) \qquad \text{(A-74)}$$

where

U_{Zi}^2 = the estimate of the yield variance for the i*th* pseudozone

V_{Zi}^2 = the area variance estimate for the i*th* pseudozone

Ψ_{jk} = the estimated covariance between A_j in G_i and A_k in G_ℓ

In order to determine the production variance without a given error term, equation (A-74) must be rederived with that term omitted. Let S^2_{ZA}, S^2_{ZY}, S^2_{ZS}, and S^2_{ZC} be the state production variances without acreage, yield, sampling, and classification errors, respectively. One obtains the following expressions for these quantities.

$$\left.\begin{aligned}
S^2_{ZA} &= \sum_{i=1}^{H} \left(U^2_{Zi}A^2_{Zi} - V^2_{Zi}U^2_{Zi}\right) \\
S^2_{ZY} &= \sum_{i=1}^{H} \left(V^2_{Zi}Y^2_{Zi} - V^2_{Zi}U^2_{Zi}\right) + 2 \sum_{i=2}^{H} \sum_{\ell=1}^{i-1} Y_{Zi}Y_{Z\ell}\left(\sum_{j\epsilon G_i} \sum_{k\epsilon G_\ell} \Psi_{jk}\right) \\
S^2_{ZS} &= \sum_{i=1}^{H} \left[(1 - \hat{P})V^2_{Zi}Y^2_{Zi} + U^2_{Zi}A^2_{Zi} - (1 - \hat{P})V^2_{Zi}U^2_{Zi}\right] \\
&\quad + 2 \sum_{i=2}^{H} \sum_{\ell=1}^{i-1} Y_{Zi}Y_{Z\ell}\left(\sum_{j\epsilon G_i} \sum_{k\epsilon G_\ell} \Psi_{jk}\right) \\
S^2_{ZC} &= \sum_{i=1}^{H} \left(\hat{P}V^2_{Zi}Y^2_{Zi} + U^2_{Zi}A^2_{Zi} - \hat{P}V^2_{Zi}U^2_{Zi}\right) \\
&\quad + 2 \sum_{i=2}^{H} \sum_{\ell=1}^{i-1} Y_{Zi}Y_{Z\ell}\left(\sum_{j\epsilon G_i} \sum_{k\epsilon G_\ell} \Psi_{jk}\right)
\end{aligned}\right\} \quad \text{(A-75)}$$

Let S^2_{rA}, S^2_{rY}, S^2_{rS}, and S^2_{rC} be the regional-level production variance estimates without acreage, yield, sampling, and classification errors, respectively. These estimates can be obtained from the following expressions.

$$\left.\begin{aligned} S^2_{rA} &= \sum_{Z=1}^{R} S^2_{ZA} + \sum_{Z=1}^{R}\sum_{Z'=1}^{R} S_{rZZ'} \\ S^2_{rY} &= \sum_{Z=1}^{R} S^2_{ZY} \\ S^2_{rS} &= \sum_{Z=1}^{R} S^2_{ZS} + \sum_{Z=1}^{R}\sum_{Z'=1}^{R} S_{rZZ'} \\ S^2_{rC} &= \sum_{Z=1}^{R} S^2_{ZC} + \sum_{Z=1}^{R}\sum_{Z'=1}^{R} S_{rZZ'} \end{aligned}\right\} \qquad \text{(A-76)}$$

Here R is the total number of zones in the region, and $S_{rZZ'} = 0$ if zones Z and Z' have no yield strata in common. Otherwise,

$$S_{rZZ'} = \sum_{K=1}^{C} A_{rZK} A_{rZ'K} U^2_{rK} \qquad \text{(A-77)}$$

where

A_{rZK} = the area estimate for the pseudozone corresponding to yield stratum K in zone Z of region r

U^2_{rK} = the squared prediction variance for the K*th* yield stratum common to zones Z and Z'

C = the number of yield strata common to zones Z and Z'

The estimates of the corresponding variances for a country are obtained by adding the corresponding estimates for all the regions in the country. These computations assume that the regional production estimates are uncorrelated.

A.4 REFERENCES

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2. Cochran, W. G.: Sampling Techniques. John Wiley & Sons, Inc. (N.Y.), 1963.

3. Wheat Yield Models for the United States. Rev. A, LACIE-00431, JSC-11656, NASA/JSC (Houston), June 1977.

APPENDIX B

LACIE PHASE III BLIND SITE DATA

Segment	Acquisition date	Date passed to CAS	CEC*	Multispectral acquisition			Robertson stage		CAMS crop percentage estimates				
				1	2	3	Winter wheat	Spring wheat	Winter wheat	Winter small grains	Spring wheat	Spring small grains	Total small grains
1000	6255	5 2 77	7	0	0	0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
1000	6273	3 28 77	7	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1000	6274	3 28 77	7	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1000	6310	5 2 77	38	6255	0	0	2.0	0.0	35.5	35.5	0.0	0.0	0.0
1000	6328	3 28 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1000	6363	3 28 77	20	0	0	0	2.0	0.0	34.0	34.0	0.0	0.0	0.0
1000	7033	5 2 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1000	7034	5 2 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1000	7052	5 2 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1000	7088	5 2 77	9	0	0	0	2.6	0.0	0.0	0.0	0.0	0.0	0.0
1000	7142	6 17 77	38	6273	0	0	3.6	0.0	37.5	37.5	0.0	0.0	0.0
1000	7159	7 29 77	3	0	0	0	4.7	0.0	0.0	0.0	0.0	0.0	0.0
1000	7160	7 29 77	9	0	0	0	4.7	0.0	0.0	0.0	0.0	0.0	0.0
1000	7177	8 17 77	9	0	0	0	6.2	0.0	0.0	0.0	0.0	0.0	0.0
1000	7178	7 29 77	38	7142	6255	0	6.2	0.0	46.0	46.0	0.0	0.0	0.0
1000	7196	8 17 77	1	0	0	0	6.2	0.0	0.0	0.0	0.0	0.0	0.0
1000	7213	9 28 77	9	0	0	0	7.0	0.0	0.0	0.0	0.0	0.0	0.0
1000	7214	9 28 77	60	0	0	0	7.0	0.0	0.0	0.0	0.0	0.0	0.0
1000LACIE FINAL RATIOED ESTIMATE =									46.0		-1.0†		
1000400 DOT GROUND TRUTH =									41.5		0.0		41.9
1000INVENTORY GROUND TRUTH =									43.0		0.0		43.4
1005	6254	1 6 77	7	0	0	0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
1005	6255	1 6 77	9	0	0	0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
1005	6273	1 6 77	9	0	0	0	2.1	0.0	0.0	0.0	0.0	0.0	0.0
1005	6290	1 6 77	9	0	0	0	2.4	0.0	0.0	0.0	0.0	0.0	0.0
1005	6326	1 6 77	38	0	0	0	2.5	0.0	18.3	18.3	0.0	0.0	0.0
1005	6326	4 14 77	34	6254	0	0	2.0	0.0	18.8	18.8	0.0	0.0	0.0
1005	6363	4 14 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1005	7050	4 14 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1005	7051	4 14 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1005	7068	4 29 77	5	0	0	0	2.6	0.0	0.0	0.0	0.0	0.0	0.0
1005	7069	4 29 77	5	0	0	0	2.6	0.0	0.0	0.0	0.0	0.0	0.0
1005	7086	4 29 77	1	0	0	0	2.8	0.0	0.0	0.0	0.0	0.0	0.0
1005	7104	4 29 77	1	0	0	0	2.8	0.0	0.0	0.0	0.0	0.0	0.0
1005	7123	8 4 77	9	0	0	0	3.5	0.0	0.0	0.0	0.0	0.0	0.0
1005	7159	8 4 77	38	7123	6326	0	5.2	0.0	20.8	20.8	0.0	0.0	0.0
1005	7177	8 31 77	38	7159	6326	6254	6.0	0.0	19.9	19.9	0.0	0.0	0.0
1005	7194	8 31 77	3	0	0	0	6.0	0.0	0.0	0.0	0.0	0.0	0.0
1005LACIE FINAL RATIOED ESTIMATE =									19.9		-1.0		
1005400 DOT GROUND TRUTH =									37.2		0.0		37.2
1005INVENTORY GROUND TRUTH =									34.7		0.0		34.7
1007	6255	5 2 77	7	0	0	0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
1007	6273	3 25 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1007	6363	3 25 77	30	0	0	0	2.0	0.0	29.2	29.2	0.0	0.0	0.0
1007	6363	5 2 77	34	6255	0	0	2.0	0.0	35.1	35.1	0.0	0.0	0.0
1007	7051	5 2 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1007	7069	5 2 77	5	0	0	0	2.6	0.0	0.0	0.0	0.0	0.0	0.0
1007	7159	7 20 77	38	6363	6273	0	5.2	0.0	34.0	34.0	0.0	0.0	0.0
1007	7195	8 30 77	38	7159	6363	6255	6.0	0.0	22.0	22.0	0.0	0.0	0.0
1007LACIE FINAL RATIOED ESTIMATE =									22.0		-1.0		
1007400 DOT GROUND TRUTH =									30.2		0.0		30.2
1007INVENTORY GROUND TRUTH =									30.6		0.0		30.6
1008	6255	1 2 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1008	6273	1 2 77	36	0	0	0	2.2	0.0	0.9	0.9	0.0	0.0	0.0
1008	7069	5 3 77	38	6255	0	0	2.5	0.0	7.2	7.2	0.0	0.0	0.0
1008	7159	7 22 77	38	6255	0	0	4.8	0.0	3.0	3.0	0.0	0.0	0.0
1008	7177	10 3 77	38	7159	7069	6273	6.0	0.0	5.0	5.0	0.0	0.0	0.0
1008LACIE FINAL RATIOED ESTIMATE =									-1.0		-1.0		
1008400 DOT GROUND TRUTH =									11.5		0.0		12.3
1008INVENTORY GROUND TRUTH =									10.3		0.0		12.2
1011	6255	1 2 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1011	6273	1 2 77	9	0	0	0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
1011	6274	1 2 77	9	0	0	0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
1011	6310	1 2 77	9	0	0	0	2.4	0.0	0.0	0.0	0.0	0.0	0.0
1011	6328	1 2 77	36	0	0	0	2.6	0.0	4.0	4.0	0.0	0.0	0.0
1011	7016	4 29 77	1	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1011	7034	4 29 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1011	7051	4 29 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1011	7052	4 29 77	34	6274	0	0	2.0	0.0	6.6	6.6	0.0	0.0	0.0
1011	7088	6 2 77	38	6328	0	0	2.8	0.0	13.5	13.5	0.0	0.0	0.0

*CAMS evaluation code.

†A −1.0 indicates no estimate made.

Segment	Acquisition date	Date passed to CAS	CEC	Multispectral acquisition			Robertson stage		CAMS crop percentage estimates				
				1	2	3	Winter wheat	Spring wheat	Winter wheat	Winter small grains	Spring wheat	Spring small grains	Total small grains
1011LACIE FINAL RATIOED ESTIMATE =									13.5		-1.0		
1011400 DOT GROUND TRUTH =									14.1		0.0		14.1
1011INVENTORY GROUND TRUTH =									14.1		0.0		14.1
1021 6272	1 6 77	9	0	0	0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1021 6273	1 6 77	7	0	0	0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1021 6290	1 6 77	7	0	0	0	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1021 6326	1 6 77	20	0	0	0	2.4	0.0	25.3	25.4	0.0	0.0	0.0	0.0
1021 6326	4 29 77	34	6255	0	0	2.0	0.0	19.9	20.0	0.0	0.0	0.0	0.0
1021 6363	4 29 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1021 7014	4 29 77	1	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1021 7050	4 29 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1021 7051	4 29 77	5	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1021 7068	5 26 77	38	6326	0	0	2.6	0.0	24.6	24.7	0.0	0.0	0.0	0.0
1021 7069	5 26 77	9	0	0	0	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1021 7086	5 26 77	1	0	0	0	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1021 7104	5 26 77	1	0	0	0	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1021LACIE FINAL RATIOED ESTIMATE =									24.6		-1.0		
1021400 DOT GROUND TRUTH =									29.9		0.0		29.9
1021INVENTORY GROUND TRUTH =									34.4		0.0		34.8
1032 6254	1 12 77	9	0	0	0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1032 6272	1 12 77	9	0	0	0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1032 6290	1 12 77	9	0	0	0	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1032 6326	1 12 77	38	0	0	0	2.5	0.0	16.4	16.5	0.0	0.0	0.0	0.0
1032 6326	5 2 77	34	6254	0	0	2.0	0.0	16.1	16.2	0.0	0.0	0.0	0.0
1032 6362	5 2 77	1	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1032 7032	5 2 77	5	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1032 7068	6 3 77	9	0	0	0	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1032 7086	6 3 77	38	6326	0	0	2.7	0.0	23.5	23.6	0.0	0.0	0.0	0.0
1032 7158	7 25 77	38	7086	6326	6254	4.9	0.0	47.5	47.7	0.0	0.0	0.0	0.0
1032 7194	8 31 77	38	7086	6326	6254	6.0	0.0	40.4	40.5	0.0	0.0	0.0	0.0
1032LACIE FINAL RATIOED ESTIMATE =									40.4		-1.0		
1032400 DOT GROUND TRUTH =									38.7		0.0		38.7
1032INVENTORY GROUND TRUTH =									37.1		0.0		37.1
1033 6288	12 23 76	9	0	0	0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1033 6289	12 23 76	7	0	0	0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1033 6306	12 23 76	9	0	0	0	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1033 6307	12 23 76	7	0	0	0	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1033 6324	12 23 76	9	0	0	0	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1033 6325	12 23 76	36	0	0	0	2.3	0.0	5.1	5.2	0.0	0.0	0.0	0.0
1033 7048	5 5 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1033 7066	5 5 77	18	6288	0	0	2.0	0.0	11.9	12.1	0.0	0.0	0.0	0.0
1033 7084	6 1 77	3	0	0	0	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1033 7156	7 19 77	38	6288	0	0	5.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0
1033LACIE FINAL RATIOED ESTIMATE =									-1.0		-1.0		
1033400 DOT GROUND TRUTH =									8.5		0.0		8.9
1033INVENTORY GROUND TRUTH =									9.5		0.0		9.5
1048 6290	12 27 76	36	0	0	0	2.4	0.0	1.8	1.8	0.0	0.0	0.0	0.0
1048 7014	4 21 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1048 7050	4 21 77	38	6290	0	0	2.0	0.0	37.0	37.0	0.0	0.0	0.0	0.0
1048 7068	5 23 77	38	7014	0	0	2.9	0.0	32.0	32.0	0.0	0.0	0.0	0.0
1048 7122	6 9 77	1	0	0	0	3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1048 7158	8 11 77	38	7068	7014	0	5.8	0.0	46.0	46.0	0.0	0.0	0.0	0.0
1048LACIE FINAL RATIOED ESTIMATE =									46.0		-1.0		
1048400 DOT GROUND TRUTH =									39.2		0.0		39.2
1048INVENTORY GROUND TRUTH =									39.1		0.0		39.1
1049 6289	12 29 76	1	0	0	0	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1049 6290	12 29 76	9	0	0	0	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1049 6307	12 29 76	9	0	0	0	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1049 6325	12 29 76	9	0	0	0	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1049 6361	5 2 77	30	0	0	0	2.0	0.0	6.6	6.6	0.0	0.0	0.0	0.0
1049 7031	5 2 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1049 7050	5 2 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1049 7068	5 25 77	38	6361	0	0	2.8	0.0	7.8	7.8	0.0	0.0	0.0	0.0
1049 7122	7 21 77	38	7050	6361	0	3.8	0.0	10.8	10.8	0.0	0.0	0.0	0.0
1049 7158	9 1 77	38	7122	6343	0	5.1	0.0	10.9	10.9	0.0	0.0	0.0	0.0
1049LACIE FINAL RATIOED ESTIMATE =									10.9		-1.0		
1049400 DOT GROUND TRUTH =									15.3		0.0		16.7
1049INVENTORY GROUND TRUTH =									10.3		0.0		11.4

Segment	Acquisition date	Date passed to CAS	CEC	Multispectral acquisition			Robertson stage		CAMS crop percentage estimates				
				1	2	3	Winter wheat	Spring wheat	Winter wheat	Winter small grains	Spring wheat	Spring small grains	Total small grains
1056	6290	1 5 77	9	0	0	0	2.4	0.0	0.0	0.0	0.0	0.0	0.0
1056	6307	1 5 77	9	0	0	0	2.5	0.0	0.0	0.0	0.0	0.0	0.0
1056	6325	1 5 77	9	0	0	0	2.6	0.0	0.0	0.0	0.0	0.0	0.0
1056	6343	1 5 77	20	0	0	0	2.7	0.0	25.9	26.1	0.0	0.0	0.0
1056	6361	5 2 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1056	6362	5 2 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1056	7031	5 2 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1056	7049	5 2 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1056	7050	5 2 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1056	7068	5 2 77	18	6290	0	0	2.0	0.0	19.0	19.1	0.0	0.0	0.0
1056	7157	7 29 77	9	0	0	0	5.2	0.0	0.0	0.0	0.0	0.0	0.0
1056	7158	7 29 77	38	7049	6290	0	5.2	0.0	21.3	21.5	0.0	0.0	0.0
1056	7175	7 29 77	3	0	0	0	6.0	0.0	0.0	0.0	0.0	0.0	0.0
1056LACIE FINAL RATIOED ESTIMATE =									21.3		-1.0		
1056400 DOT GROUND TRUTH =									22.7		0.0		23.1
1056INVENTORY GROUND TRUTH =									20.8		0.0		22.6
1059	6307	1 11 77	9	0	0	0	2.4	0.0	0.0	0.0	0.0	0.0	0.0
1059	6325	1 11 77	9	0	0	0	2.5	0.0	0.0	0.0	0.0	0.0	0.0
1059	6343	1 11 77	20	0	0	0	2.6	0.0	24.9	25.0	0.0	0.0	0.0
1059	6343	4 22 77	34	6307	0	0	2.0	0.0	18.9	19.0	0.0	0.0	0.0
1059	6361	4 22 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1059	7031	4 22 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1059	7049	4 22 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1059	7121	6 10 77	38	6343	0	0	3.9	0.0	29.3	29.5	0.0	0.0	0.0
1059	7157	7 25 77	38	7121	6325	6307	5.4	0.0	37.8	38.0	0.0	0.0	0.0
1059LACIE FINAL RATIOED ESTIMATE =									37.8		-1.0		
1059400 DOT GROUND TRUTH =									44.0		0.0		44.0
1059INVENTORY GROUND TRUTH =									44.5		0.0		44.5
1060	6272	12 23 76	9	0	0	0	2.1	0.0	0.0	0.0	0.0	0.0	0.0
1060	6289	12 23 76	36	0	0	0	2.4	0.0	1.4	1.4	0.0	0.0	0.0
1060	6362	4 15 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1060	7031	4 15 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1060	7050	4 15 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1060	7068	4 15 77	38	7050	0	0	2.0	0.0	33.9	34.0	0.0	0.0	0.0
1060	7122	6 13 77	1	0	0	0	3.8	0.0	0.0	0.0	0.0	0.0	0.0
1060	7158	7 29 77	38	7068	0	0	5.5	0.0	16.9	17.0	0.0	0.0	0.0
1060LACIE FINAL RATIOED ESTIMATE =									16.9		-1.0		
1060400 DOT GROUND TRUTH =									30.7		0.0		30.7
1060INVENTORY GROUND TRUTH =									23.1		0.0		23.1
1079	6307	12 28 76	9	0	0	0	2.4	0.0	0.0	0.0	0.0	0.0	0.0
1079	6343	12 28 76	36	0	0	0	2.5	0.0	4.2	4.3	0.0	0.0	0.0
1079	6361	5 9 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1079	7013	5 9 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1079	7031	5 9 77	38	6307	0	0	2.0	0.0	20.5	20.9	0.0	0.0	0.0
1079	7049	5 9 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1079	7157	7 26 77	38	7031	0	0	5.4	0.0	33.6	34.3	0.0	0.0	0.0
1079LACIE FINAL RATIOED ESTIMATE =									33.6		-1.0		
1079400 DOT GROUND TRUTH =									14.1		0.0		14.1
1079INVENTORY GROUND TRUTH =									11.8		0.0		11.8
1086	6344	1 2 77	36	0	0	0	2.6	0.0	4.9	5.1	0.0	0.0	0.0
1086	6344	5 2 77	34	0	0	0	2.0	0.0	4.6	4.8	0.0	0.0	0.0
1086	7014	5 2 77	1	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1086LACIE FINAL RATIOED ESTIMATE =									-1.0		-1.0		
1086400 DOT GROUND TRUTH =									6.9		0.0		9.8
1086INVENTORY GROUND TRUTH =									6.1		0.0		9.0
1091	6255	1 4 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1091	6273	1 4 77	9	0	0	0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
1091	6274	1 4 77	9	0	0	0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
1091	6292	1 4 77	9	0	0	0	2.4	0.0	0.0	0.0	0.0	0.0	0.0
1091	6310	1 4 77	36	0	0	0	2.5	0.0	5.4	5.4	0.0	0.0	0.0
1091	6328	1 4 77	1	0	0	0	2.6	0.0	0.0	0.0	0.0	0.0	0.0
1091	6363	4 18 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1091	6364	4 18 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1091	7034	4 18 77	38	6274	0	0	2.0	0.0	12.9	12.9	0.0	0.0	0.0
1091	7052	4 18 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1091	7088	6 2 77	38	6273	0	0	2.6	0.0	14.4	14.4	0.0	0.0	0.0
1091	7142	7 7 77	38	6255	0	0	3.7	0.0	13.0	13.0	0.0	0.0	0.0
1091	7160	7 27 77	9	0	0	0	4.7	0.0	0.0	0.0	0.0	0.0	0.0
1091	7178	7 27 77	38	7142	6255	0	6.3	0.0	15.0	15.0	0.0	0.0	0.0

Segment	Acquisition date	Date passed to CAS	CEC	Multispectral acquisition			Robertson stage		CAMS crop percentage estimates				
				1	2	3	Winter wheat	Spring wheat	Winter wheat	Winter small grains	Spring wheat	Spring small grains	Total small grains
1091LACIE FINAL RATIOED ESTIMATE =									15.0		-1.0		
1091400 DOT GROUND TRUTH =									10.2		0.0		10.5
1091INVENTORY GROUND TRUTH =									10.5		0.0		10.9
1094 6259	1 10 77	1	0	0	0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1094 6313	1 10 77	36	0	0	0	2.4	0.0	0.1	0.1	0.0	0.0	0.0	0.0
1094 7127	6 17 77	1	0	0	0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1094 7163	7 25 77	38	6313	0	0	5.0	0.0	10.0	10.0	0.0	0.0	0.0	0.0
1094 7181	8 31 77	38	7163	6313	0	6.0	0.0	8.0	8.0	0.0	0.0	0.0	0.0
1094LACIE FINAL RATIOED ESTIMATE =									8.0		-1.0		
1094400 DOT GROUND TRUTH =									6.6		0.0		6.6
1094INVENTORY GROUND TRUTH =									6.5		0.0		6.5
1099 6254	3 25 77	7	0	0	0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1099 6290	3 25 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1099 6363	3 25 77	20	0	0	0	2.0	0.0	27.5	27.5	0.0	0.0	0.0	0.0
1099 7014	5 2 77	30	0	0	0	2.0	0.0	27.3	27.3	0.0	0.0	0.0	0.0
1099 7050	5 2 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1099 7068	5 2 77	9	0	0	0	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1099 7122	6 8 77	38	6290	0	0	3.7	0.0	30.0	30.0	0.0	0.0	0.0	0.0
1099 7159	8 3 77	38	6290	0	0	5.3	0.0	19.4	19.4	0.0	0.0	0.0	0.0
1099 7194	10 17 77	38	7159	7122	6254	7.0	0.0	15.0	15.0	0.0	0.0	0.0	0.0
1099 7195	10 17 77	60	0	0	0	7.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1099LACIE FINAL RATIOED ESTIMATE =									19.4		-1.0		
1099400 DOT GROUND TRUTH =									25.9		0.0		25.9
1099INVENTORY GROUND TRUTH =									25.7		0.0		25.7
1102 6260	3 9 77	7	0	0	0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1102 6261	3 9 77	1	0	0	0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1102 6278	3 9 77	7	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1102 6314	3 9 77	7	0	0	0	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1102 6350	4 28 77	7	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1102 7038	4 28 77	7	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1102 7039	4 28 77	7	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1102 7056	4 28 77	7	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1102 7074	4 28 77	7	0	0	0	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1102 7075	4 28 77	7	0	0	0	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1102 7111	7 14 77	9	0	0	0	2.5	1.0	0.0	0.0	0.0	0.0	0.0	0.0
1102 7129	7 14 77	9	0	0	0	3.0	2.7	0.0	0.0	0.0	0.0	0.0	0.0
1102 7146	7 14 77	9	0	0	0	3.5	3.2	0.0	0.0	0.0	0.0	0.0	0.0
1102 7147	7 14 77	38	7111	6314	6260	3.5	3.2	4.0	4.0	0.1	1.0	0.0	0.0
1102 7165	8 2 77	9	0	0	0	4.0	3.2	0.0	0.0	0.0	0.0	0.0	0.0
1102 7182	8 2 77	38	7147	7111	6260	4.6	4.2	3.0	3.0	0.1	1.0	0.0	0.0
1102 7200	9 6 77	38	7147	7111	6260	6.0	0.0	3.0	3.0	0.0	0.0	0.0	0.0
1102LACIE FINAL RATIOED ESTIMATE =									3.0		-1.0		
1102400 DOT GROUND TRUTH =									4.8		0.8		9.7
1102INVENTORY GROUND TRUTH =									4.7		0.6		10.9
1104 6259	3 9 77	9	0	0	0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1104 6260	3 9 77	7	0	0	0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1104 6314	3 9 77	7	0	0	0	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1104 6349	5 25 77	7	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1104 6350	5 25 77	7	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1104 7074	5 25 77	1	0	0	0	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1104 7109	5 25 77	7	0	0	0	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1104 7127	6 17 77	9	0	0	0	3.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0
1104 7128	6 17 77	38	6260	0	0	3.0	2.5	7.1	7.1	0.0	0.0	0.0	0.0
1104 7146	7 19 77	38	7109	6260	0	3.9	3.4	0.0	0.0	4.8	11.0	0.0	0.0
1104 7164	8 4 77	9	0	0	0	4.7	3.9	0.0	0.0	0.0	0.0	0.0	0.0
1104 7181	8 4 77	38	7128	6260	0	5.8	4.9	7.0	7.0	2.6	6.0	0.0	0.0
1104 7182	8 4 77	9	0	0	0	5.8	4.9	0.0	0.0	0.0	0.0	0.0	0.0
1104 7199	9 20 77	9	0	0	0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1104 7200	9 20 77	38	7182	7109	0	6.0	0.0	7.0	7.0	0.0	0.0	0.0	0.0
1104 7236	9 28 77	60	0	0	0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1104 7253	10 19 77	60	0	0	0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1104LACIE FINAL RATIOED ESTIMATE =									7.0		-1.0		
1104400 DOT GROUND TRUTH =									7.0		0.0		11.0
1104INVENTORY GROUND TRUTH =									7.9		0.0		12.5
1153 6288	1 10 77	7	0	0	0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1153 6306	1 10 77	7	0	0	0	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1153 6324	1 10 77	36	0	0	0	2.3	0.0	4.2	4.2	0.0	0.0	0.0	0.0
1153 6324	4 19 77	14	6288	0	0	2.0	0.0	24.5	24.6	0.0	0.0	0.0	0.0
1153 7030	4 19 77	1	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Segment	Acquisition date	Date passed to CAS	CEC	Multispectral acquisition			Robertson stage		CAMS crop percentage estimates				
				1	2	3	Winter wheat	Spring wheat	Winter wheat	Winter small grains	Spring wheat	Spring small grains	Total small grains
1153	7048	4 19 77	1	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1153	7066	5 19 77	5	0	0	0	2.4	0.0	0.0	0.0	0.0	0.0	0.0
1153	7156	7 22 77	38	6306	0	0	5.1	0.0	21.0	21.1	0.0	0.0	0.0
1153LACIE FINAL RATIOED ESTIMATE =									21.0		-1.0		
1153400 DOT GROUND TRUTH =									22.7		0.0		23.5
1155	6289	12 29 76	36	0	0	0	2.2	0.0	3.7	3.8	0.0	0.0	0.0
1155	6361	4 25 77	18	6289	0	0	2.0	0.0	17.9	18.1	0.0	0.0	0.0
1155	7031	4 25 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1155	7067	5 17 77	5	0	0	0	2.4	0.0	0.0	0.0	0.0	0.0	0.0
1155	7157	7 11 77	1	0	0	0	4.9	0.0	0.0	0.0	0.0	0.0	0.0
1155	7193	10 11 77	38	6361	6289	0	6.0	0.0	4.9	5.0	0.0	0.0	0.0
1155LACIE FINAL RATIOED ESTIMATE =									4.9		-1.0		
1155400 DOT GROUND TRUTH =									12.2		0.0		12.7
1158	6287	12 30 76	7	0	0	0	2.1	0.0	0.0	0.0	0.0	0.0	0.0
1158	6305	12 30 76	9	0	0	0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
1158	6323	12 30 76	36	0	0	0	2.3	0.0	2.6	2.6	0.0	0.0	0.0
1158	6323	5 4 77	14	6287	0	0	2.0	0.0	20.8	20.9	0.0	0.0	0.0
1158	7083	5 4 77	1	0	0	0	2.6	0.0	0.0	0.0	0.0	0.0	0.0
1158	7101	6 22 77	38	6287	0	0	3.2	0.0	16.1	16.2	0.0	0.0	0.0
1158	7119	6 22 77	1	0	0	0	3.4	0.0	0.0	0.0	0.0	0.0	0.0
1158	7155	7 22 77	38	7101	6287	0	4.9	0.0	17.9	18.0	0.0	0.0	0.0
1158LACIE FINAL RATIOED ESTIMATE =									17.9		-1.0		
1158400 DOT GROUND TRUTH =									19.3		0.0		20.1
1158INVENTORY GROUND TRUTH =									22.0		0.0		23.6
1166	6286	1 2 77	9	0	0	0	1.8	0.0	0.0	0.0	0.0	0.0	0.0
1166	6322	1 2 77	36	0	0	0	2.2	0.0	1.8	1.8	0.0	0.0	0.0
1166	6322	4 29 77	34	6286	0	0	2.0	0.0	7.1	7.1	0.0	0.0	0.0
1166	6358	4 29 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1166	7046	4 29 77	5	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1166	7064	6 8 77	5	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1166	7082	6 8 77	38	6286	0	0	2.6	0.0	10.5	10.6	0.0	0.0	0.0
1166	7154	7 29 77	38	7082	6286	0	4.8	0.0	6.2	6.2	0.0	0.0	0.0
1166	7190	9 23 77	38	7154	7082	6286	7.0	0.0	7.0	7.0	0.0	0.0	0.0
1166LACIE FINAL RATIOED ESTIMATE =									-1.0		-1.0		
1166400 DOT GROUND TRUTH =									4.7		0.0		22.1
1166INVENTORY GROUND TRUTH =									5.8		0.0		6.6
1170	6287	12 29 76	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1170	6305	12 29 76	9	0	0	0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
1170	6323	12 29 76	36	0	0	0	2.3	0.0	5.1	5.1	0.0	0.0	0.0
1170	6359	4 19 77	1	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1170	7029	4 19 77	30	0	0	0	2.0	0.0	54.9	55.0	0.0	0.0	0.0
1170	7101	5 25 77	38	6287	0	0	3.0	0.0	70.2	70.3	0.0	0.0	0.0
1170	7155	7 11 77	38	7101	6287	0	5.1	0.0	63.9	64.0	0.0	0.0	0.0
1170	7191	9 21 77	38	7155	7101	6287	7.0	0.0	62.9	63.0	0.0	0.0	0.0
1170LACIE FINAL RATIOED ESTIMATE =									62.9		-1.0		
1170400 DOT GROUND TRUTH =									61.4		0.0		63.0
1175	6287	1 19 77	9	0	0	0	2.1	0.0	0.0	0.0	0.0	0.0	0.0
1175	6305	1 19 77	20	0	0	0	2.2	0.0	47.3	47.4	0.0	0.0	0.0
1175	6323	1 19 77	9	0	0	0	2.3	0.0	0.0	0.0	0.0	0.0	0.0
1175	6359	1 19 77	9	0	0	0	2.3	0.0	0.0	0.0	0.0	0.0	0.0
1175	7029	4 13 77	38	6287	0	0	2.0	0.0	32.0	32.1	0.0	0.0	0.0
1175	7101	6 13 77	38	6287	0	0	3.5	0.0	40.4	40.5	0.0	0.0	0.0
1175	7155	9 26 77	9	0	0	0	5.6	0.0	0.0	0.0	0.0	0.0	0.0
1175	7191	9 26 77	38	7155	7101	6287	7.0	0.0	22.9	23.0	0.0	0.0	0.0
1175LACIE FINAL RATIOED ESTIMATE =									40.4		-1.0		
1175400 DOT GROUND TRUTH =									43.9		0.0		43.9
1175INVENTORY GROUND TRUTH =									47.0		0.0		47.9
1180	6285	1 18 77	7	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1180	6357	4 28 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1180	7027	4 28 77	1	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1180	7063	4 28 77	38	6285	0	0	2.0	0.0	42.3	42.3	0.0	0.0	0.0
1180	7081	6 17 77	9	0	0	0	2.8	0.0	0.0	0.0	0.0	0.0	0.0
1180	7099	6 17 77	38	6285	0	0	3.1	0.0	28.6	28.6	0.0	0.0	0.0
1180	7117	7 22 77	9	0	0	0	3.9	0.0	0.0	0.0	0.0	0.0	0.0
1180	7153	7 22 77	38	7099	6285	0	5.0	0.0	26.3	26.3	0.0	0.0	0.0
1180LACIE FINAL RATIOED ESTIMATE =									26.3		-1.0		

Segment	Acquisition date	Date passed to CAS	CEC	Multispectral acquisition			Robertson stage		CAMS crop percentage estimates				
				1	2	3	Winter wheat	Spring wheat	Winter wheat	Winter small grains	Spring wheat	Spring small grains	Total small grains
1180400 DOT GROUND TRUTH =									24.1		0.0		26.0
1180INVENTORY GROUND TRUTH =									27.3		0.0		28.9
1183	6285	1 12 77	7	0	0	0	1.9	0.0	0.0	0.0	0.0	0.0	0.0
1183	6286	1 12 77	7	0	0	0	1.9	0.0	0.0	0.0	0.0	0.0	0.0
1183	6340	1 12 77	9	0	0	0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
1183	6357	5 3 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1183	6358	1 12 77	36	0	0	0	2.2	0.0	1.2	1.2	0.0	0.0	0.0
1183	7027	5 3 77	5	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1183	7028	5 3 77	5	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1183	7045	5 3 77	1	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1183	7046	5 3 77	5	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1183	7063	5 3 77	30	0	0	0	2.0	0.0	21.7	21.8	0.0	0.0	0.0
1183	7064	5 27 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1183	7081	5 27 77	9	0	0	0	2.8	0.0	0.0	0.0	0.0	0.0	0.0
1183	7082	5 27 77	9	0	0	0	2.8	0.0	0.0	0.0	0.0	0.0	0.0
1183	7099	5 27 77	38	6285	0	0	3.2	0.0	10.2	10.3	0.0	0.0	0.0
1183	7118	5 27 77	9	0	0	0	3.6	0.0	0.0	0.0	0.0	0.0	0.0
1183	7153	7 29 77	9	0	0	0	4.9	0.0	0.0	0.0	0.0	0.0	0.0
1183	7154	7 29 77	38	7118	6358	6285	4.9	0.0	6.0	6.0	0.0	0.0	0.0
1183LACIE FINAL RATIOED ESTIMATE =									6.0		-1.0		
1183400 DOT GROUND TRUTH =									11.9		0.0		15.1
1183INVENTORY GROUND TRUTH =									14.7		0.0		18.7
1219	6288	12 29 76	9	0	0	0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
1219	6306	12 29 76	9	0	0	0	2.3	0.0	0.0	0.0	0.0	0.0	0.0
1219	6324	12 29 76	36	0	0	0	2.4	0.0	2.7	2.8	0.0	0.0	0.0
1219	6342	12 29 76	9	0	0	0	2.4	0.0	0.0	0.0	0.0	0.0	0.0
1219	6360	4 8 77	18	6306	0	0	2.0	0.0	6.1	6.3	0.0	0.0	0.0
1219	7048	4 8 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1219	7066	6 2 77	9	0	0	0	2.7	0.0	0.0	0.0	0.0	0.0	0.0
1219	7084	6 2 77	30	0	0	0	2.9	0.0	3.7	3.8	0.0	0.0	0.0
1219	7156	7 19 77	38	7084	6288	0	5.2	0.0	1.9	2.0	0.0	0.0	0.0
1219LACIE FINAL RATIOED ESTIMATE =									-1.0		-1.0		
1219400 DOT GROUND TRUTH =									4.2		0.0		4.2
1219INVENTORY GROUND TRUTH =									6.4		0.0		6.5
1220	6324	1 7 77	9	0	0	0	2.3	0.0	0.0	0.0	0.0	0.0	0.0
1220	6325	1 7 77	9	0	0	0	2.3	0.0	0.0	0.0	0.0	0.0	0.0
1220	6343	1 7 77	36	0	0	0	2.3	0.0	1.3	1.3	0.0	0.0	0.0
1220	6361	4 29 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1220	7030	4 29 77	1	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1220	7031	4 29 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1220	7066	6 15 77	9	0	0	0	2.7	0.0	0.0	0.0	0.0	0.0	0.0
1220	7067	6 15 77	9	0	0	0	2.7	0.0	0.0	0.0	0.0	0.0	0.0
1220	7121	6 15 77	38	6360	0	0	3.8	0.0	11.2	11.3	0.0	0.0	0.0
1220	7156	7 21 77	38	7121	7066	0	5.0	0.0	23.8	24.0	0.0	0.0	0.0
1220LACIE FINAL RATIOED ESTIMATE =									23.8		-1.0		
1220400 DOT GROUND TRUTH =									18.6		0.0		18.6
1220INVENTORY GROUND TRUTH =									21.3		0.0		21.3
1222	6287	1 6 77	9	0	0	0	2.1	0.0	0.0	0.0	0.0	0.0	0.0
1222	6305	1 6 77	20	0	0	0	2.3	0.0	20.9	21.4	0.0	0.0	0.0
1222	7029	4 21 77	3	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1222	7083	4 21 77	38	6287	0	0	3.1	0.0	23.9	24.4	0.0	0.0	0.0
1222	7101	5 11 77	1	0	0	0	3.3	0.0	0.0	0.0	0.0	0.0	0.0
1222LACIE FINAL RATIOED ESTIMATE =									23.9		-1.0		
1222400 DOT GROUND TRUTH =									35.5		0.0		36.6
1222INVENTORY GROUND TRUTH =									30.6		0.0		31.8
1223	6287	3 18 77	7	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1223	6288	3 18 77	7	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1223	6324	3 18 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1223	6342	3 18 77	1	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1223	6360	3 18 77	30	0	0	0	2.0	0.0	38.1	38.3	0.0	0.0	0.0
1223	7029	6 2 77	3	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1223	7048	6 2 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1223	7066	6 2 77	38	6287	0	0	2.8	0.0	50.4	50.6	0.0	0.0	0.0
1223LACIE FINAL RATIOED ESTIMATE =									50.4		-1.0		
1223400 DOT GROUND TRUTH =									53.6		0.0		55.2
1223INVENTORY GROUND TRUTH =									56.3		0.0		56.9
1228	6287	12 21 76	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1228	6305	12 21 76	36	0	0	0	2.3	0.0	4.2	4.3	0.0	0.0	0.0

Segment	Acquisition date	Date passed to CAS	CEC	Multispectral acquisition			Robertson stage		CAMS crop percentage estimates				
				1	2	3	Winter wheat	Spring wheat	Winter wheat	Winter small grains	Spring wheat	Spring small grains	Total small grains
1228	6323	12 21 76	1	0	0	0	2.5	0.0	0.0	0.0	0.0	0.0	0.0
1228	6359	4 18 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1228	7029	4 18 77	38	6305	0	0	2.0	0.0	12.8	13.0	0.0	0.0	0.0
1228	7155	7 15 77	38	7029	6287	0	5.6	0.0	11.8	12.0	0.0	0.0	0.0
1228LACIE FINAL RATIOED ESTIMATE =									11.8		-1.0		
1228400 DOT GROUND TRUTH =									15.8		0.0		16.6
1228INVENTORY GROUND TRUTH =									16.7		0.0		16.9
1231	6288	1 27 77	9	0	0	0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
1231	6306	1 27 77	9	0	0	0	2.3	0.0	0.0	0.0	0.0	0.0	0.0
1231	6360	1 27 77	20	0	0	0	2.6	0.0	37.9	38.2	0.0	0.0	0.0
1231	7066	4 29 77	38	6288	0	0	2.0	0.0	67.8	68.3	0.0	0.0	0.0
1231	7156	7 25 77	38	7066	6288	0	5.9	0.0	71.5	72.0	0.0	0.0	0.0
1231LACIE FINAL RATIOED ESTIMATE =									71.5		-1.0		
1231400 DOT GROUND TRUTH =									67.7		0.0		67.7
1231INVENTORY GROUND TRUTH =									74.0		0.0		74.1
1233	6287	12 21 76	9	0	0	0	2.1	0.0	0.0	0.0	0.0	0.0	0.0
1233	6305	12 21 76	9	0	0	0	2.3	0.0	0.0	0.0	0.0	0.0	0.0
1233	6306	12 21 76	7	0	0	0	2.3	0.0	0.0	0.0	0.0	0.0	0.0
1233	6359	4 28 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1233	6360	4 28 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1233	7029	4 28 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1233	7047	4 28 77	1	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1233	7066	4 28 77	38	6287	0	0	2.8	0.0	34.0	34.3	0.0	0.0	0.0
1233	7155	8 12 77	38	7066	6359	6287	5.9	0.0	24.7	24.9	0.0	0.0	0.0
1233	7156	9 28 77	9	0	0	0	5.9	0.0	0.0	0.0	0.0	0.0	0.0
1233LACIE FINAL RATIOED ESTIMATE =									34.0		-1.0		
1233400 DOT GROUND TRUTH =									33.6		0.0		33.9
1233INVENTORY GROUND TRUTH =									36.3		0.0		36.9
1236	6287	12 22 76	7	0	0	0	1.3	0.0	0.0	0.0	0.0	0.0	0.0
1236	6305	12 22 76	9	0	0	0	2.3	0.0	0.0	0.0	0.0	0.0	0.0
1236	6323	12 22 76	36	0	0	0	2.4	0.0	4.2	4.2	0.0	0.0	0.0
1236	7029	3 30 77	3	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1236	7101	6 7 77	38	6287	0	0	3.2	0.0	53.9	53.9	0.0	0.0	0.0
1236LACIE FINAL RATIOED ESTIMATE =									53.9		-1.0		
1236400 DOT GROUND TRUTH =									60.9		0.0		61.5
1236INVENTORY GROUND TRUTH =									61.2		0.0		62.2
1239	6286	1 17 77	9	0	0	0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
1239	6287	1 17 77	9	0	0	0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
1239	6305	1 17 77	9	0	0	0	2.3	0.0	0.0	0.0	0.0	0.0	0.0
1239	6323	1 17 77	9	0	0	0	2.4	0.0	0.0	0.0	0.0	0.0	0.0
1239	6340	1 17 77	28	0	0	0	2.4	0.0	29.3	29.3	0.0	0.0	0.0
1239	6358	5 23 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1239	6359	5 23 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1239	7028	5 23 77	38	6358	0	0	2.0	0.0	23.7	23.7	0.0	0.0	0.0
1239	7029	5 23 77	3	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1239	7082	6 15 77	38	6268	0	0	3.0	0.0	21.8	21.8	0.0	0.0	0.0
1239	7101	6 15 77	9	0	0	0	3.2	0.0	0.0	0.0	0.0	0.0	0.0
1239	7118	6 15 77	9	0	0	0	3.8	0.0	0.0	0.0	0.0	0.0	0.0
1239	7137	7 18 77	1	0	0	0	4.3	0.0	0.0	0.0	0.0	0.0	0.0
1239	7154	7 18 77	1	0	0	0	5.2	0.0	0.0	0.0	0.0	0.0	0.0
1239	7155	7 18 77	38	7082	6268	0	5.2	0.0	13.0	13.0	0.0	0.0	0.0
1239LACIE FINAL RATIOED ESTIMATE =									-1.0		-1.0		
1239400 DOT GROUND TRUTH =									23.1		0.0		24.2
1239INVENTORY GROUND TRUTH =									15.6		0.0		17.2
1242	6287	1 26 77	7	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1242	6305	1 26 77	9	0	0	0	2.3	0.0	0.0	0.0	0.0	0.0	0.0
1242	6323	1 26 77	20	0	0	0	2.4	0.0	40.6	41.3	0.0	0.0	0.0
1242	6359	4 29 77	38	6287	0	0	2.0	0.0	29.2	29.7	0.0	0.0	0.0
1242	7029	4 29 77	1	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1242	7101	5 11 77	1	0	0	0	3.4	0.0	0.0	0.0	0.0	0.0	0.0
1242	7155	7 18 77	38	7101	6287	0	5.4	0.0	46.2	47.0	0.0	0.0	0.0
1242	7173	8 2 77	38	7155	7101	6287	5.4	0.0	50.1	51.0	0.0	0.0	0.0
1242LACIE FINAL RATIOED ESTIMATE =									50.1		-1.0		
1242400 DOT GROUND TRUTH =									45.4		0.0		45.8
1242INVENTORY GROUND TRUTH =									47.0		0.0		47.2
1244	6287	1 6 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1244	6323	1 6 77	20	0	0	0	2.3	0.0	28.7	30.2	0.0	0.0	0.0

Segment	Acquisition date	Date passed to CAS	CEC	Multispectral acquisition			Robertson stage		CAMS crop percentage estimates				
				1	2	3	Winter wheat	Spring wheat	Winter wheat	Winter small grains	Spring wheat	Spring small grains	Total small grains
1244	6323	4 25 77	34	6287	0	0	2.0	0.0	27.9	29.3	0.0	0.0	0.0
1244	6359	4 25 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1244	7029	4 25 77	3	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1244	7101	5 11 77	1	0	0	0	3.4	0.0	0.0	0.0	0.0	0.0	0.0
1244	7155	8 24 77	18	6359	6287	0	5.4	0.0	38.0	40.0	0.0	0.0	0.0
1244	7173	10 19 77	60	0	0	0	6.0	0.0	0.0	0.0	0.0	0.0	0.0
1244LACIE FINAL RATIOED ESTIMATE =									27.9		-1.0		
1244400 DOT GROUND TRUTH =									58.8		0.0		58.8
1244INVENTORY GROUND TRUTH =									63.6		0.0		63.6
1263	6287	1 5 77	9	0	0	0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
1263	6288	1 5 77	9	0	0	0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
1263	6305	1 5 77	9	0	0	0	2.3	0.0	0.0	0.0	0.0	0.0	0.0
1263	6306	1 5 77	9	0	0	0	2.3	0.0	0.0	0.0	0.0	0.0	0.0
1263	6342	1 5 77	30	0	0	0	2.5	0.0	23.4	25.4	0.0	0.0	0.0
1263	6360	4 25 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1263	7048	4 25 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1263	7066	4 25 77	38	6287	0	0	3.0	0.0	31.2	33.9	0.0	0.0	0.0
1263	7083	6 3 77	38	6287	0	0	3.2	0.0	30.7	33.3	0.0	0.0	0.0
1263	7156	9 1 77	38	7083	6360	6287	5.3	0.0	29.8	32.3	0.0	0.0	0.0
1263LACIE FINAL RATIOED ESTIMATE =									29.8		-1.0		
1263400 DOT GROUND TRUTH =									42.4		0.0		43.1
1263INVENTORY GROUND TRUTH =									41.0		0.0		41.0
1266	6287	12 29 76	9	0	0	0	2.1	0.0	0.0	0.0	0.0	0.0	0.0
1266	6288	12 29 76	9	0	0	0	2.1	0.0	0.0	0.0	0.0	0.0	0.0
1266	6305	12 29 76	9	0	0	0	2.4	0.0	0.0	0.0	0.0	0.0	0.0
1266	6306	12 29 76	9	0	0	0	2.4	0.0	0.0	0.0	0.0	0.0	0.0
1266	6323	12 29 76	36	0	0	0	2.5	0.0	4.4	4.7	0.0	0.0	0.0
1266	6324	12 29 76	1	0	0	0	2.5	0.0	0.0	0.0	0.0	0.0	0.0
1266	6359	4 28 77	1	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1266	6360	4 28 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1266	7029	4 28 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1266	7048	4 28 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1266	7066	4 28 77	38	6287	0	0	2.0	0.0	20.8	22.3	0.0	0.0	0.0
1266	7155	8 22 77	9	0	0	0	5.7	0.0	0.0	0.0	0.0	0.0	0.0
1266	7156	8 22 77	38	7066	6288	0	5.7	0.0	23.7	25.4	0.0	0.0	0.0
1266LACIE FINAL RATIOED ESTIMATE =									23.7		-1.0		
1266400 DOT GROUND TRUTH =									21.9		0.0		21.9
1266INVENTORY GROUND TRUTH =									25.5		0.3		25.8
1272	6285	1 27 77	9	0	0	0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
1272	6339	1 27 77	20	0	0	0	2.5	0.0	26.2	34.1	0.0	0.0	0.0
1272	6357	4 18 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1272	6358	4 18 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1272	7028	4 18 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1272	7045	4 18 77	30	0	0	0	2.0	0.0	21.7	28.3	0.0	0.0	0.0
1272	7046	4 18 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1272	7063	4 18 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1272	7081	6 2 77	9	0	0	0	3.2	0.0	0.0	0.0	0.0	0.0	0.0
1272	7082	6 2 77	9	0	0	0	3.2	0.0	0.0	0.0	0.0	0.0	0.0
1272	7099	6 2 77	9	0	0	0	3.4	0.0	0.0	0.0	0.0	0.0	0.0
1272	7100	6 2 77	38	6285	0	0	3.4	0.0	12.2	15.9	0.0	0.0	0.0
1272	7117	7 5 77	9	0	0	0	4.3	0.0	0.0	0.0	0.0	0.0	0.0
1272	7118	7 5 77	38	6285	0	0	4.3	0.0	9.2	12.0	0.0	0.0	0.0
1272	7153	7 27 77	9	0	0	0	5.1	0.0	0.0	0.0	0.0	0.0	0.0
1272	7154	7 27 77	38	7118	6285	0	5.1	0.0	10.8	14.0	0.0	0.0	0.0
1272	7172	7 27 77	1	0	0	0	5.3	0.0	0.0	0.0	0.0	0.0	0.0
1272LACIE FINAL RATIOED ESTIMATE =									10.8		-1.0		
1272400 DOT GROUND TRUTH =									20.2		0.0		21.0
1272INVENTORY GROUND TRUTH =									20.1		0.0		21.6
1275	6285	3 17 77	7	0	0	0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
1275	6286	3 17 77	7	0	0	0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
1275	6357	3 17 77	30	0	0	0	2.0	0.0	22.6	28.7	0.0	0.0	0.0
1275	7028	5 10 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1275	7045	5 10 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1275	7046	5 10 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1275	7063	5 10 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1275	7081	5 10 77	9	0	0	0	3.2	0.0	0.0	0.0	0.0	0.0	0.0
1275	7082	5 10 77	30	0	0	0	3.2	0.0	28.4	36.0	0.0	0.0	0.0
1275	7117	6 15 77	9	0	0	0	4.3	0.0	0.0	0.0	0.0	0.0	0.0
1275	7118	6 15 77	38	6285	0	0	4.3	0.0	21.1	26.8	0.0	0.0	0.0
1275	7153	7 25 77	9	0	0	0	5.9	0.0	0.0	0.0	0.0	0.0	0.0
1275	7154	7 25 77	38	7081	6285	0	5.9	0.0	23.7	30.0	0.0	0.0	0.0

Segment	Acquisition date	Date passed to CAS	CEC	Multispectral acquisition			Robertson stage		CAMS crop percentage estimates				
				1	2	3	Winter wheat	Spring wheat	Winter wheat	Winter small grains	Spring wheat	Spring small grains	Total small grains
1275	7171	9 26 77	38	7154	7081	6285	7.0	0.0	24.5	31.0	0.0	0.0	0.0
1275LACIE FINAL RATIOED ESTIMATE =									24.5		-1.0		
1275400 DOT GROUND TRUTH =									27.6		0.0		28.4
1275INVENTORY GROUND TRUTH =									31.0		0.0		32.7
1279	6272	3 25 77	1	0	0	0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
1279	6290	3 25 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1279	6326	3 25 77	30	0	0	0	2.0	0.0	12.0	12.2	0.0	0.0	0.0
1279	7050	5 10 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1279	7068	5 10 77	38	6326	0	0	2.5	0.0	21.4	21.8	0.0	0.0	0.0
1279	7104	6 7 77	1	0	0	0	3.2	0.0	0.0	0.0	0.0	0.0	0.0
1279	7158	9 12 77	38	7068	6326	6290	4.7	0.0	22.5	23.0	0.0	0.0	0.0
1279	7194	10 18 77	38	7158	6290	0	6.0	0.0	28.4	29.0	0.0	0.0	0.0
1279LACIE FINAL RATIOED ESTIMATE =									28.4		-1.0		
1279400 DOT GROUND TRUTH =									30.4		0.0		30.4
1279INVENTORY GROUND TRUTH =									33.0		0.0		33.0
1285	6254	3 22 77	7	0	0	0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
1285	6272	3 22 77	7	0	0	0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
1285	6326	5 10 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1285	6362	5 10 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1285	7032	5 10 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1285	7050	5 10 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1285	7068	5 10 77	9	0	0	0	2.7	0.0	0.0	0.0	0.0	0.0	0.0
1285	7086	5 10 77	38	6272	0	0	2.9	0.0	22.9	23.0	0.0	0.0	0.0
1285	7086	10 7 77	34	0	0	0	2.7	0.0	5.0	5.0	0.0	0.0	0.0
1285	7158	8 30 77	18	7086	6272	0	4.9	0.0	9.9	9.9	0.0	0.0	0.0
1285	7176	10 7 77	9	0	0	0	6.0	0.0	0.0	0.0	0.0	0.0	0.0
1285	7194	10 7 77	9	0	0	0	7.0	0.0	0.0	0.0	0.0	0.0	0.0
1285LACIE FINAL RATIOED ESTIMATE =									-1.0		-1.0		
1285400 DOT GROUND TRUTH =									18.1		0.0		18.1
1290	6289	3 18 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1290	6307	3 18 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1290	6325	3 18 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1290	6343	3 18 77	20	0	0	0	2.0	0.0	25.0	25.0	0.0	0.0	0.0
1290	6361	5 3 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1290	7031	5 3 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1290	7067	5 3 77	38	6289	0	0	2.6	0.0	30.2	30.2	0.0	0.0	0.0
1290	7121	5 27 77	30	0	0	0	3.6	0.0	42.4	42.4	0.0	0.0	0.0
1290LACIE FINAL RATIOED ESTIMATE =									42.4		-1.0		
1290400 DOT GROUND TRUTH =									41.5		0.0		41.5
1290INVENTORY GROUND TRUTH =									43.0		0.0		43.1
1293	6253	3 25 77	7	0	0	0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
1293	6289	3 25 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1293	6307	3 25 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1293	6325	3 25 77	30	0	0	0	2.0	0.0	13.2	13.2	0.0	0.0	0.0
1293	6343	3 25 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1293	6361	5 2 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1293	7031	5 2 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1293	7067	5 2 77	38	6253	0	0	2.6	0.0	10.5	10.5	0.0	0.0	0.0
1293	7121	6 2 77	30	0	0	0	3.7	0.0	10.8	10.8	0.0	0.0	0.0
1293LACIE FINAL RATIOED ESTIMATE =									10.8		-1.0		
1293400 DOT GROUND TRUTH =									12.5		0.0		12.5
1293INVENTORY GROUND TRUTH =									14.8		0.0		14.8
1295	6288	3 17 77	7	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1295	6306	5 5 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1295	6360	3 17 77	36	0	0	0	2.0	0.0	2.8	2.8	0.0	0.0	0.0
1295	6360	5 5 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1295	7030	5 5 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1295	7048	5 5 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1295	7066	5 5 77	38	6288	0	0	2.5	0.0	4.0	4.0	0.0	0.0	0.0
1295	7156	7 27 77	38	7066	6288	0	4.9	0.0	29.2	29.5	0.0	0.0	0.0
1295LACIE FINAL RATIOED ESTIMATE =									29.2		-1.0		
1295400 DOT GROUND TRUTH =									42.5		0.0		42.5
1297	6287	3 17 77	7	0	0	0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
1297	6305	5 2 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1297	6323	3 17 77	7	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1297	6359	3 17 77	1	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1297	7029	5 2 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0

Segment	Acquisition date	Data passed to CAS	CEC	Multispectral acquisition			Robertson stage		CAMS crop percentage estimates				
				1	2	3	Winter wheat	Spring wheat	Winter wheat	Winter small grains	Spring wheat	Spring small grains	Total small grains
1297	7047	5 2 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1297	7083	5 2 77	18	6287	0	0	2.6	0.0	5.5	5.5	0.0	0.0	0.0
1297	7101	6 15 77	38	6287	0	0	3.5	0.0	11.4	11.4	0.0	0.0	0.0
1297	7191	9 22 77	38	7101	6305	0	7.0	0.0	15.0	15.0	0.0	0.0	0.0
1297LACIE FINAL RATIOED ESTIMATE =									15.0		-1.0		
1297400 DOT GROUND TRUTH =									2.1		0.0		2.1
1325	6269	12 29 76	7	0	0	0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
1325	6305	12 29 76	36	0	0	0	2.3	0.0	0.9	1.5	0.0	0.0	0.0
1325	7047	5 2 77	38	6269	0	0	2.0	0.0	10.4	17.2	0.0	0.0	0.0
1325	7155	7 18 77	38	6269	0	0	6.2	0.0	6.7	11.0	0.0	0.0	0.0
1325LACIE FINAL RATIOED ESTIMATE =									-1.0		-1.0		
1325400 DOT GROUND TRUTH =									7.3		0.0		18.1
1325INVENTORY GROUND TRUTH =									5.5		0.0		18.9
1340	6287	3 16 77	7	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1340	6305	5 2 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1340	6323	3 16 77	36	0	0	0	2.0	0.0	2.9	2.9	0.0	0.0	0.0
1340	6323	5 2 77	34	6287	0	0	2.0	0.0	23.9	23.9	0.0	0.0	0.0
1340	7029	5 2 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1340	7101	6 27 77	38	6287	0	0	3.2	0.0	55.4	55.5	0.0	0.0	0.0
1340	7155	8 2 77	38	7101	6305	0	5.1	0.0	45.7	45.8	0.0	0.0	0.0
1340	7191	9 21 77	60	0	0	0	6.0	0.0	0.0	0.0	0.0	0.0	0.0
1340LACIE FINAL RATIOED ESTIMATE =									45.7		-1.0		
1340400 DOT GROUND TRUTH =									55.4		0.0		56.8
1340INVENTORY GROUND TRUTH =									57.9		0.0		59.4
1343	6287	3 22 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1343	6305	4 29 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1343	6323	3 22 77	36	0	0	0	2.0	0.0	5.2	5.2	0.0	0.0	0.0
1343	6359	3 22 77	1	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1343	7083	4 29 77	38	6305	0	0	2.6	0.0	14.2	14.3	0.0	0.0	0.0
1343	7155	7 27 77	38	7083	6305	0	5.0	0.0	10.9	11.0	0.0	0.0	0.0
1343LACIE FINAL RATIOED ESTIMATE =									10.9		-1.0		
1343400 DOT GROUND TRUTH =									8.1		0.0		8.7
1346	6287	3 17 77	7	0	0	0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
1346	6305	5 2 77	7	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1346	6323	3 17 77	7	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1346	6359	3 17 77	1	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1346	7029	5 2 77	5	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1346	7083	5 2 77	1	0	0	0	2.6	0.0	0.0	0.0	0.0	0.0	0.0
1346	7101	5 27 77	38	6287	0	0	3.2	0.0	2.4	2.4	0.0	0.0	0.0
1346	7155	7 18 77	3	0	0	0	4.7	0.0	0.0	0.0	0.0	0.0	0.0
1346LACIE FINAL RATIOED ESTIMATE =									2.4		-1.0		
1346400 DOT GROUND TRUTH =									4.4		0.0		11.5
1355	6288	3 25 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1355	6289	3 25 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1355	6306	5 10 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1355	6307	3 25 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1355	6325	3 25 77	20	0	0	0	2.0	0.0	23.1	23.1	0.0	0.0	0.0
1355	6342	3 25 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1355	6343	3 25 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1355	6360	3 25 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1355	6361	5 10 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1355	7031	5 10 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1355	7048	5 10 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1355	7049	5 10 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1355	7066	5 10 77	9	0	0	0	2.7	0.0	0.0	0.0	0.0	0.0	0.0
1355	7067	5 10 77	9	0	0	0	2.7	0.0	0.0	0.0	0.0	0.0	0.0
1355	7084	5 10 77	30	0	0	0	3.1	0.0	23.1	23.1	0.0	0.0	0.0
1355	7156	7 27 77	38	7066	6288	0	5.4	0.0	25.0	25.0	0.0	0.0	0.0
1355	7157	7 27 77	9	0	0	0	5.4	0.0	0.0	0.0	0.0	0.0	0.0
1355LACIE FINAL RATIOED ESTIMATE =									25.0		-1.0		
1355400 DOT GROUND TRUTH =									12.5		0.0		12.5
1355INVENTORY GROUND TRUTH =									12.8		0.0		13.6
1362	6287	3 17 77	36	0	0	0	2.0	0.0	0.3	0.3	0.0	0.0	0.0
1362	6305	4 28 77	1	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1362	7029	4 28 77	38	6287	0	0	2.0	0.0	31.0	33.6	0.0	0.0	0.0
1362	7155	7 15 77	38	7029	6287	0	5.4	0.0	0.0	0.0	0.0	0.0	0.0

Segment	Acquisition date	Date passed to CAS	CEC	Multispectral acquisition			Robertson stage		CAMS crop percentage estimates				
				1	2	3	Winter wheat	Spring wheat	Winter wheat	Winter small grains	Spring wheat	Spring small grains	Total small grains
1362LACIE FINAL RATIOED ESTIMATE =									24.9		-1.0		
1362400 DOT GROUND TRUTH =									26.1		0.0		26.6
1362INVENTORY GROUND TRUTH =									28.2		0.0		28.2
1365 6287	3 22	77	7	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1365 6323	3 22	77	28	6287	0	0	2.0	0.0	13.0	13.1	0.0	0.0	0.0
1365 6323	5 2	77	34	6287	0	0	2.0	0.0	5.5	5.5	0.0	0.0	0.0
1365 7029	5 2	77	3	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1365 7155	7 26	77	38	6323	6287	0	5.6	0.0	14.9	15.0	0.0	0.0	0.0
1365LACIE FINAL RATIOED ESTIMATE =									14.9		-1.0		
1365400 DOT GROUND TRUTH =									55.4		0.0		55.6
1365INVENTORY GROUND TRUTH =									57.1		0.0		57.4
1367 6287	3 18	77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1367 6288	3 18	77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1367 6323	3 18	77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1367 6324	3 18	77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1367 6360	3 18	77	30	0	0	0	2.0	0.0	28.7	30.2	0.0	0.0	0.0
1367 7029	5 2	77	3	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1367 7048	5 2	77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1367 7066	5 2	77	38	6287	0	0	2.8	0.0	29.4	30.9	0.0	0.0	0.0
1367 7101	6 2	77	38	6287	0	0	3.4	0.0	37.8	39.8	0.0	0.0	0.0
1367 7155	7 20	77	38	7101	6287	0	5.4	0.0	46.3	48.7	0.0	0.0	0.0
1367 7156	9 28	77	9	0	0	0	5.4	0.0	0.0	0.0	0.0	0.0	0.0
1367LACIE FINAL RATIOED ESTIMATE =									46.3		-1.0		
1367400 DOT GROUND TRUTH =									55.1		0.0		57.6
1367INVENTORY GROUND TRUTH =									52.4		0.0		54.0
1370 6307	3 30	77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1370 6325	3 30	77	30	0	0	0	2.0	0.0	10.3	10.4	0.0	0.0	0.0
1370 6325	5 3	77	34	0	0	0	2.0	0.0	12.7	12.9	0.0	0.0	0.0
1370 6343	3 30	77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1370 6361	5 3	77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1370 7031	5 3	77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1370 7049	5 3	77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1370 7157	8 11	77	38	7049	6307	0	5.2	0.0	6.9	7.0	0.0	0.0	0.0
1370LACIE FINAL RATIOED ESTIMATE =									-1.0		-1.0		
1370400 DOT GROUND TRUTH =									6.6		0.0		6.6
1370INVENTORY GROUND TRUTH =									8.0		0.0		8.0
1371 6272	3 22	77	7	0	0	0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
1371 6290	3 22	77	7	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1371 7014	4 25	77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1371 7032	4 25	77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1371 7050	4 25	77	38	6290	0	0	2.0	0.0	6.0	6.2	0.0	0.0	0.0
1371LACIE FINAL RATIOED ESTIMATE =									6.0		-1.0		
1371400 DOT GROUND TRUTH =									3.6		0.0		3.6
1371INVENTORY GROUND TRUTH =									6.4		0.0		6.5
1378 6274	3 16	77	7	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1378 6310	5 24	77	30	0	0	0	2.0	0.0	3.5	3.6	0.0	0.0	0.0
1378 6328	3 16	77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1378 6364	3 16	77	36	0	0	0	2.0	0.0	1.8	1.9	0.0	0.0	0.0
1378 7034	5 24	77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1378 7052	5 24	77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1378 7124	7 5	77	1	0	0	0	3.2	0.0	0.0	0.0	0.0	0.0	0.0
1378 7142	7 5	77	38	6310	0	0	3.6	0.0	3.9	4.0	0.0	0.0	0.0
1378 7160	7 26	77	9	0	0	0	4.8	0.0	0.0	0.0	0.0	0.0	0.0
1378 7178	7 26	77	38	7142	6310	0	6.2	0.0	4.9	5.0	0.0	0.0	0.0
1378 7196	9 23	77	9	0	0	0	7.0	0.0	0.0	0.0	0.0	0.0	0.0
1378 7214	10 11	77	60	0	0	0	7.0	0.0	0.0	0.0	0.0	0.0	0.0
1378LACIE FINAL RATIOED ESTIMATE =									-1.0		-1.0		
1378400 DOT GROUND TRUTH =									5.6		0.0		6.7
1378INVENTORY GROUND TRUTH =									4.8		0.0		6.4
1398 6251	3 21	77	7	0	0	0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
1398 6287	3 21	77	7	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1398 6305	5 13	77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1398 6323	3 21	77	36	0	0	0	2.0	0.0	3.1	3.1	0.0	0.0	0.0
1398 7046	5 13	77	7	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1398 7064	5 13	77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1398 7082	5 13	77	38	6251	0	0	2.0	0.0	12.3	12.4	0.0	0.0	0.0
1398 7101	5 13	77	3	0	0	0	2.8	0.0	0.0	0.0	0.0	0.0	0.0
1398 7119	6 7	77	1	0	0	0	3.4	0.0	0.0	0.0	0.0	0.0	0.0

Segment	Acquisition date	Data passed to CAS	CEC	Multispectral acquisition			Robertson stage		CAMS crop percentage estimates				
				1	2	3	Winter wheat	Spring wheat	Winter wheat	Winter small grains	Spring wheat	Spring small grains	Total small grains
1398	7155	7 18 77	38	7082	6323	6251	4.9	0.0	11.9	12.0	0.0	0.0	0.0
1398	7209	9 23 77	38	7155	6305	6251	6.0	0.0	6.8	6.9	0.0	0.0	0.0
1398LACIE FINAL RATIOED ESTIMATE =									-1.0		-1.0		
1398400 DOT GROUND TRUTH =									7.5		0.0		12.7
1398INVENTORY GROUND TRUTH =									8.0		0.0		12.1
1450	6305	4 25 77	7	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1450	6306	4 25 77	7	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1450	6323	3 18 77	7	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1450	6341	3 18 77	7	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1450	6360	3 18 77	7	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1450	7029	4 25 77	7	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1450	7030	4 25 77	7	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1450	7048	4 25 77	7	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1450	7066	4 25 77	7	0	0	0	2.5	0.0	0.0	0.0	0.0	0.0	0.0
1450	7083	4 25 77	7	0	0	0	2.6	0.0	0.0	0.0	0.0	0.0	0.0
1450	7119	6 17 77	30	0	0	0	3.4	0.0	13.0	13.2	0.0	0.0	0.0
1450	7155	9 22 77	9	0	0	0	4.8	0.0	0.0	0.0	0.0	0.0	0.0
1450	7156	9 22 77	9	0	0	0	4.8	0.0	0.0	0.0	0.0	0.0	0.0
1450	7191	9 22 77	38	7155	0	0	6.0	0.0	20.9	21.2	0.0	0.0	0.0
1450LACIE FINAL RATIOED ESTIMATE =									20.9		-1.0		
1450400 DOT GROUND TRUTH =									9.1		0.0		9.9
1450INVENTORY GROUND TRUTH =									7.5		0.0		8.6
1479	6253	3 31 77	7	0	0	0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
1479	6289	3 31 77	38	6253	0	0	2.0	0.0	52.3	52.7	0.0	0.0	0.0
1479	6361	5 2 77	38	6289	0	0	2.0	0.0	18.3	18.4	0.0	0.0	0.0
1479	7031	5 2 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1479	7067	5 2 77	9	0	0	0	2.6	0.0	0.0	0.0	0.0	0.0	0.0
1479	7157	9 6 77	38	7067	6253	0	4.8	0.0	6.7	6.7	0.0	0.0	0.0
1479LACIE FINAL RATIOED ESTIMATE =									6.7		-1.0		
1479400 DOT GROUND TRUTH =									14.3		0.0		14.3
1479INVENTORY GROUND TRUTH =									17.7		0.0		17.9
1482	6287	3 23 77	1	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1482	6305	4 25 77	7	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1482	6323	3 23 77	7	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1482	7119	5 19 77	2	0	0	0	3.4	0.0	0.0	0.0	0.0	0.0	0.0
1482LACIE FINAL RATIOED ESTIMATE =									-1.0		-1.0		
1482400 DOT GROUND TRUTH =									11.6		0.0		14.0
1489	6254	3 18 77	7	0	0	0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
1489	6255	4 28 77	1	0	0	0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
1489	6272	3 18 77	7	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1489	6273	3 18 77	7	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1489	6290	3 18 77	7	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1489	6291	3 18 77	7	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1489	7051	4 28 77	1	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1489	7086	4 28 77	7	0	0	0	2.5	0.0	0.0	0.0	0.0	0.0	0.0
1489	7122	6 27 77	38	6254	0	0	3.0	2.0	4.5	7.4	0.0	0.0	0.0
1489	7123	7 29 77	9	0	0	0	3.2	2.2	0.0	0.0	0.0	0.0	0.0
1489	7158	7 29 77	38	7123	6254	0	4.3	3.4	4.4	7.2	14.0	22.2	0.0
1489	7159	7 29 77	3	0	0	0	4.3	3.4	0.0	0.0	0.0	0.0	0.0
1489	7176	8 26 77	38	7158	7123	6254	0.0	4.6	0.0	0.0	11.5	18.2	0.0
1489	7194	8 26 77	1	0	0	0	6.0	5.5	0.0	0.0	0.0	0.0	0.0
1489	7230	9 27 77	60	0	0	0	0.0	6.0	0.0	0.0	0.0	0.0	0.0
1489LACIE FINAL RATIOED ESTIMATE =									-1.0		11.5		
1489400 DOT GROUND TRUTH =									0.0		12.7		22.5
1489INVENTORY GROUND TRUTH =									0.2		12.5		22.7
1498	6253	3 18 77	7	0	0	0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
1498	6288	3 18 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1498	6306	6 17 77	9	0	0	0	2.0	1.0	0.0	0.0	0.0	0.0	0.0
1498	6307	3 18 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1498	6324	3 18 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1498	6325	3 18 77	36	0	0	0	2.0	0.0	1.1	1.4	0.0	0.0	0.0
1498	7120	6 17 77	38	6253	0	0	2.2	2.0	12.9	16.2	0.0	0.0	0.0
1498	7138	7 22 77	1	0	0	0	3.5	2.8	0.0	0.0	0.0	0.0	0.0
1498	7156	7 22 77	9	0	0	0	4.1	3.6	0.0	0.0	0.0	0.0	0.0
1498	7157	7 22 77	38	7120	6253	0	4.1	3.6	3.2	4.0	13.2	32.0	0.0
1498	7174	8 19 77	38	7120	6325	6253	0.0	4.7	0.0	0.0	9.5	23.0	0.0
1498	7192	10 11 77	1	0	0	0	0.0	5.4	0.0	0.0	0.0	0.0	0.0
1498	7193	10 11 77	9	0	0	0	0.0	5.4	0.0	0.0	0.0	0.0	0.0
1498	7210	10 11 77	38	7174	7120	6253	0.0	6.0	0.0	0.0	12.4	30.0	0.0

Segment	Acquisition date	Date passed to CAS	CEC	Multispectral acquisition			Robertson stage		CAMS crop percentage estimates				
				1	2	3	Winter wheat	Spring wheat	Winter wheat	Winter small grains	Spring wheat	Spring small grains	Total small grains
1498LACIE FINAL RATIOED ESTIMATE =									-1.0		12.4		
1498400 DOT GROUND TRUTH =									0.2		8.7		31.0
1498INVENTORY GROUND TRUTH =									0.6		10.6		42.0
1501	6294	12 30 76	9	0	0	0	2.3	0.0	0.0	0.0	0.0	0.0	0.0
1501	6295	12 30 76	9	0	0	0	2.3	0.0	0.0	0.0	0.0	0.0	0.0
1501	6312	12 30 76	7	0	0	0	2.4	0.0	0.0	0.0	0.0	0.0	0.0
1501	7126	6 7 77	1	0	0	0	3.4	0.0	0.0	0.0	0.0	0.0	0.0
1501	7127	6 7 77	36	0	0	0	3.4	0.0	0.0	0.0	0.0	0.0	0.0
1501	7163	8 10 77	9	0	0	0	4.7	0.0	0.0	0.0	0.0	0.0	0.0
1501	7181	8 10 77	38	6294	0	0	6.1	0.0	8.3	8.3	0.0	0.0	0.0
1501	7198	9 27 77	38	7181	7163	6294	6.0	0.0	14.0	14.0	0.0	0.0	0.0
1501	7252	10 19 77	60	0	0	0	6.0	0.0	0.0	0.0	0.0	0.0	0.0
1501LACIE FINAL RATIOED ESTIMATE =									14.0		-1.0		
1501400 DOT GROUND TRUTH =									8.8		0.0		11.0
1501INVENTORY GROUND TRUTH =									10.6		0.0		10.6
1502	6275	12 30 76	9	0	0	0	2.1	0.0	0.0	0.0	0.0	0.0	0.0
1502	6293	12 30 76	9	0	0	0	2.4	0.0	0.0	0.0	0.0	0.0	0.0
1502	6293	5 12 77	34	6275	0	0	2.0	0.0	5.1	5.1	0.0	0.0	0.0
1502	6329	12 30 76	9	0	0	0	2.5	0.0	0.0	0.0	0.0	0.0	0.0
1502	6347	12 30 76	36	0	0	0	2.6	0.0	6.7	6.7	0.0	0.0	0.0
1502	7035	5 12 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1502	7071	5 12 77	9	0	0	0	2.6	0.0	0.0	0.0	0.0	0.0	0.0
1502	7089	5 12 77	9	0	0	0	2.8	0.0	0.0	0.0	0.0	0.0	0.0
1502	7107	7 12 77	9	0	0	0	3.0	0.0	0.0	0.0	0.0	0.0	0.0
1502	7125	7 12 77	38	6275	0	0	3.4	0.0	13.0	13.0	0.0	0.0	0.0
1502	7143	7 26 77	9	0	0	0	3.8	0.0	0.0	0.0	0.0	0.0	0.0
1502	7161	7 26 77	38	7125	6275	0	4.7	0.0	13.0	13.0	0.0	0.0	0.0
1502	7179	9 1 77	9	0	0	0	5.8	0.0	0.0	0.0	0.0	0.0	0.0
1502	7197	9 1 77	38	7125	6275	0	6.0	0.0	13.0	13.0	0.0	0.0	0.0
1502	7215	10 3 77	60	0	0	0	6.0	0.0	0.0	0.0	0.0	0.0	0.0
1502LACIE FINAL RATIOED ESTIMATE =									13.0		-1.0		
1502400 DOT GROUND TRUTH =									15.6		0.0		15.6
1502INVENTORY GROUND TRUTH =									15.7		0.1		20.2
1506	6255	1 27 77	7	0	0	0	1.8	0.0	0.0	0.0	0.0	0.0	0.0
1506	6273	1 27 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1506	6327	1 27 77	20	0	0	0	2.6	0.0	14.6	14.6	0.0	0.0	0.0
1506	6363	1 27 77	9	0	0	0	2.6	0.0	0.0	0.0	0.0	0.0	0.0
1506	7033	7 7 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1506	7069	7 7 77	1	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1506	7142	7 7 77	38	6327	0	0	3.5	0.0	24.0	24.0	0.0	0.0	0.0
1506	7178	8 10 77	38	7142	6255	0	5.3	0.0	22.0	22.0	0.0	0.0	0.0
1506	7196	11 2 77	38	7142	6255	0	6.0	0.0	27.0	27.0	0.0	0.0	0.0
1506	7213	11 2 77	9	0	0	0	6.0	0.0	0.0	0.0	0.0	0.0	0.0
1506	7214	11 2 77	60	0	0	0	6.0	0.0	0.0	0.0	0.0	0.0	0.0
1506LACIE FINAL RATIOED ESTIMATE =									22.0		-1.0		
1506400 DOT GROUND TRUTH =									21.8		0.0		22.2
1506INVENTORY GROUND TRUTH =									23.1		0.0		23.9
1507	6257	1 27 77	7	0	0	0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
1507	6274	1 27 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1507	6275	1 27 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1507	6292	1 27 77	9	0	0	0	2.4	0.0	0.0	0.0	0.0	0.0	0.0
1507	6293	1 27 77	9	0	0	0	2.4	0.0	0.0	0.0	0.0	0.0	0.0
1507	6293	5 2 77	34	0	0	0	2.0	0.0	13.4	13.4	0.0	0.0	0.0
1507	6310	1 27 77	30	0	0	0	2.5	0.0	3.7	3.7	0.0	0.0	0.0
1507	6328	1 27 77	9	0	0	0	2.5	0.0	0.0	0.0	0.0	0.0	0.0
1507	6329	1 27 77	9	0	0	0	2.5	0.0	0.0	0.0	0.0	0.0	0.0
1507	6346	1 27 77	9	0	0	0	2.5	0.0	0.0	0.0	0.0	0.0	0.0
1507	6347	1 27 77	9	0	0	0	2.5	0.0	0.0	0.0	0.0	0.0	0.0
1507	6364	1 27 77	9	0	0	0	2.5	0.0	0.0	0.0	0.0	0.0	0.0
1507	7034	5 2 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1507	7125	6 17 77	38	6257	0	0	3.4	0.0	3.5	3.5	0.0	0.0	0.0
1507	7142	6 17 77	9	0	0	0	4.1	0.0	0.0	0.0	0.0	0.0	0.0
1507	7143	6 17 77	9	0	0	0	4.1	0.0	0.0	0.0	0.0	0.0	0.0
1507	7160	8 22 77	9	0	0	0	4.8	0.0	0.0	0.0	0.0	0.0	0.0
1507	7161	8 22 77	38	7125	6257	0	4.8	0.0	3.0	3.0	0.0	0.0	0.0
1507	7196	9 26 77	38	7161	6293	6257	6.0	0.0	3.3	3.3	0.0	0.0	0.0
1507	7197	9 26 77	9	0	0	0	6.0	0.0	0.0	0.0	0.0	0.0	0.0
1507	7214	9 26 77	9	0	0	0	6.0	0.0	0.0	0.0	0.0	0.0	0.0
1507	7215	9 26 77	9	0	0	0	6.0	0.0	0.0	0.0	0.0	0.0	0.0
1507LACIE FINAL RATIOED ESTIMATE =									3.3		-1.0		

Segment	Acquisition date	Date passed to CAS	CEC	Multispectral acquisition			Robertson stage		CAMS crop percentage estimates				
				1	2	3	Winter wheat	Spring wheat	Winter wheat	Winter small grains	Spring wheat	Spring small grains	Total small grains
1507400 DOT GROUND TRUTH =									10.2		0.0		10.2
1507INVENTORY GROUND TRUTH =									8.1		0.0		8.3
1512 7120	8 12	77	9	0	0	0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
1512 7156	8 12	77	9	0	0	0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
1512 7157	8 12	77	9	0	0	0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
1512 7174	8 12	77	18	7157	7120	0	0.0	4.3	0.0	0.0	19.4	35.0	0.0
1512 7193	9 20	77	38	7156	7120	0	0.0	5.9	0.0	0.0	17.1	31.0	0.0
1512LACIE FINAL RATIOED ESTIMATE =									-1.0		17.1		
1512400 DOT GROUND TRUTH =									0.0		14.7		33.0
1512INVENTORY GROUND TRUTH =									0.0		12.5		33.7
1513 7140	7 29	77	7	0	0	0	0.0	2.6	0.0	0.0	0.0	0.0	0.0
1513 7157	7 29	77	9	0	0	0	0.0	3.5	0.0	0.0	0.0	0.0	0.0
1513 7175	7 29	77	38	7157	7140	0	0.0	4.3	0.0	0.0	35.9	65.0	0.0
1513 7193	9 1	77	38	7175	7157	7140	0.0	4.9	0.0	0.0	25.8	46.6	0.0
1513 7230	9 20	77	3	0	0	0	0.0	7.0	0.0	0.0	0.0	0.0	0.0
1513LACIE FINAL RATIOED ESTIMATE =									-1.0		35.9		
1513400 DOT GROUND TRUTH =									0.0		55.2		75.2
1513INVENTORY GROUND TRUTH =									0.0		52.3		72.1
1514 7175	8 11	77	2	0	0	0	0.0	4.3	0.0	0.0	0.0	0.0	0.0
1514LACIE FINAL RATIOED ESTIMATE =									-1.0		-1.0		
1514400 DOT GROUND TRUTH =									0.6		7.3		24.4
1515 7157	7 28	77	2	0	0	0	0.0	3.4	0.0	0.0	0.0	0.0	0.0
1515 7175	7 28	77	3	0	0	0	0.0	4.3	0.0	0.0	0.0	0.0	0.0
1515 7193	8 30	77	38	7157	0	0	0.0	4.8	0.0	0.0	33.3	60.2	0.0
1515LACIE FINAL RATIOED ESTIMATE =									-1.0		33.3		
1515400 DOT GROUND TRUTH =									0.2		34.9		59.3
1515INVENTORY GROUND TRUTH =									0.2		36.8		60.8
1520 7120	7 27	77	7	0	0	0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
1520 7156	7 27	77	38	7120	0	0	0.0	3.8	0.0	0.0	12.5	21.9	0.0
1520 7174	8 22	77	38	7156	7120	0	0.0	4.3	0.0	0.0	14.9	26.0	0.0
1520 7192	10 19	77	60	0	0	0	0.0	6.0	0.0	0.0	0.0	0.0	0.0
1520LACIE FINAL RATIOED ESTIMATE =									-1.0		14.9		
1520400 DOT GROUND TRUTH =									0.0		18.0		30.8
1520INVENTORY GROUND TRUTH =									0.0		16.0		30.0
1521 7120	7 25	77	7	0	0	0	0.0	1.9	0.0	0.0	0.0	0.0	0.0
1521 7138	7 25	77	1	0	0	0	0.0	3.3	0.0	0.0	0.0	0.0	0.0
1521 7156	7 25	77	38	7120	0	0	0.0	3.7	0.0	0.0	24.6	43.0	0.0
1521 7174	8 22	77	38	7156	7120	0	0.0	4.2	0.0	0.0	22.3	39.0	0.0
1521 7210	9 14	77	38	7174	7156	7120	0.0	6.0	0.0	0.0	23.2	40.5	0.0
1521LACIE FINAL RATIOED ESTIMATE =									-1.0		23.2		
1521400 DOT GROUND TRUTH =									0.0		40.8		56.3
1521INVENTORY GROUND TRUTH =									0.0		39.4		53.3
1522 7120	7 8	77	7	0	0	0	0.0	1.3	0.0	0.0	0.0	0.0	0.0
1522 7156	7 8	77	38	7120	0	0	0.0	3.3	0.0	0.0	4.6	8.0	0.0
1522 7174	8 23	77	38	7156	7120	0	0.0	4.2	0.0	0.0	4.0	7.0	0.0
1522 7210	9 20	77	38	7156	7120	0	0.0	6.0	0.0	0.0	4.6	8.0	0.0
1522LACIE FINAL RATIOED ESTIMATE =									-1.0		4.6		
1522400 DOT GROUND TRUTH =									0.0		0.0		14.9
1522INVENTORY GROUND TRUTH =									0.1		0.3		13.3
1523 7120	7 5	77	7	0	0	0	0.0	1.5	0.0	0.0	0.0	0.0	0.0
1523 7121	7 5	77	7	0	0	0	0.0	1.5	0.0	0.0	0.0	0.0	0.0
1523 7138	7 5	77	38	7120	0	0	0.0	2.5	0.0	0.0	11.0	19.3	0.0
1523 7156	8 8	77	9	0	0	0	0.0	3.5	0.0	0.0	0.0	0.0	0.0
1523 7174	8 31	77	9	0	0	0	0.0	4.3	0.0	0.0	0.0	0.0	0.0
1523 7175	8 8	77	38	7156	7120	0	0.0	4.3	0.0	0.0	22.4	39.2	0.0
1523 7175	8 31	77	34	7156	7121	0	0.0	4.3	0.0	0.0	24.0	42.0	0.0
1523 7210	10 7	77	38	7175	7120	0	0.0	6.0	0.0	0.0	24.3	42.5	0.0
1523 7229	10 7	77	1	0	0	0	0.0	6.0	0.0	0.0	0.0	0.0	0.0
1523LACIE FINAL RATIOED ESTIMATE =									-1.0		24.3		
1523400 DOT GROUND TRUTH =									0.0		22.2		37.6
1523INVENTORY GROUND TRUTH =									0.1		20.2		39.6
1524 7101	8 12	77	1	0	0	0	0.0	1.0	0.0	0.0	0.0	0.0	0.0

Segment	Acquisition date	Date passed to CAS	CEC	Multispectral acquisition			Robertson stage		CAMS crop percentage estimates				
				1	2	3	Winter wheat	Spring wheat	Winter wheat	Winter small grains	Spring wheat	Spring small grains	Total small grains
1524LACIE FINAL RATIOED ESTIMATE =									-1.0		-1.0		
1524400 DOT GROUND TRUTH =									0.0		0.9		15.8
1529	6316	1 13 77	7	0	0	0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
1529	7058	4 4 77	7	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1529	7075	4 28 77	7	0	0	0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
1529	7076	4 28 77	7	0	0	0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
1529	7112	5 25 77	7	0	0	0	2.5	0.0	0.0	0.0	0.0	0.0	0.0
1529	7129	6 17 77	2	0	0	0	3.1	2.3	0.0	0.0	0.0	0.0	0.0
1529	7147	8 8 77	38	7112	0	0	3.6	3.2	0.0	0.0	1.2	3.0	0.0
1529	7148	8 8 77	9	0	0	0	3.6	3.2	0.0	0.0	0.0	0.0	0.0
1529	7184	8 8 77	9	0	0	0	5.3	4.7	0.0	0.0	0.0	0.0	0.0
1529	7201	9 1 77	9	0	0	0	4.2	3.9	0.0	0.0	0.0	0.0	0.0
1529	7202	9 1 77	38	7147	0	0	4.2	3.9	0.0	0.0	2.0	5.0	0.0
1529	7220	10 3 77	38	7202	7147	0	7.0	7.0	0.0	0.0	2.0	5.0	0.0
1529LACIE FINAL RATIOED ESTIMATE =									-1.0		2.0		
1529400 DOT GROUND TRUTH =									4.2		0.0		8.6
1529INVENTORY GROUND TRUTH =									3.5		0.2		6.8
1531	6279	1 20 77	7	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1531	6315	1 20 77	9	0	0	0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
1531	6316	1 20 77	9	0	0	0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
1531	6351	1 20 77	3	0	0	0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
1531	6352	1 20 77	1	0	0	0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
1531	7058	7 11 77	5	0	0	0	2.0	1.0	0.0	0.0	0.0	0.0	0.0
1531	7075	7 11 77	5	0	0	0	2.2	1.0	0.0	0.0	0.0	0.0	0.0
1531	7076	7 11 77	5	0	0	0	2.2	1.0	0.0	0.0	0.0	0.0	0.0
1531	7112	7 11 77	9	0	0	0	2.7	1.0	0.0	0.0	0.0	0.0	0.0
1531	7129	7 11 77	9	0	0	0	3.1	2.4	0.0	0.0	0.0	0.0	0.0
1531	7147	7 11 77	38	7129	7112	6279	3.5	3.2	7.0	7.0	0.8	2.0	0.0
1531	7148	7 11 77	9	0	0	0	3.5	3.2	0.0	0.0	0.0	0.0	0.0
1531	7184	8 12 77	1	0	0	0	5.6	4.8	0.0	0.0	0.0	0.0	0.0
1531	7201	9 30 77	1	0	0	0	7.0	7.0	0.0	0.0	0.0	0.0	0.0
1531	7220	9 30 77	38	7147	7112	6279	7.0	7.0	8.0	8.0	3.9	10.0	0.0
1531LACIE FINAL RATIOED ESTIMATE =									8.0		4.0		
1531400 DOT GROUND TRUTH =									6.7		10.2		21.5
1531INVENTORY GROUND TRUTH =									6.7		10.4		21.3
1532	6314	1 13 77	7	0	0	0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
1532	7074	4 4 77	7	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1532	7146	6 27 77	36	0	0	0	3.5	2.9	0.0	0.0	0.0	0.0	0.0
1532	7182	8 8 77	38	6260	0	0	5.1	4.6	0.0	0.0	7.5	10.5	0.0
1532	7218	9 28 77	9	0	0	0	0.0	6.0	0.0	0.0	0.0	0.0	0.0
1532	7236	9 28 77	38	7218	7182	6260	0.0	6.0	0.0	0.0	11.7	16.4	0.0
1532LACIE FINAL RATIOED ESTIMATE =									-1.0		11.7		
1532400 DOT GROUND TRUTH =									0.0		12.4		16.3
1532INVENTORY GROUND TRUTH =									0.0		11.1		15.6
1537	6349	1 19 77	1	0	0	0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
1537	7091	5 17 77	2	0	0	0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
1537	7127	7 13 77	30	0	0	0	3.1	1.0	11.3	11.3	0.0	0.0	0.0
1537	7181	8 12 77	1	0	0	0	4.9	4.5	0.0	0.0	0.0	0.0	0.0
1537LACIE FINAL RATIOED ESTIMATE =									11.3		-1.0		
1537400 DOT GROUND TRUTH =									12.0		4.8		20.0
1537INVENTORY GROUND TRUTH =									12.7		7.2		22.6
1539	6258	1 12 77	9	0	0	0	1.9	0.0	0.0	0.0	0.0	0.0	0.0
1539	6276	1 12 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1539	6294	1 12 77	3	0	0	0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
1539	6295	1 12 77	9	0	0	0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
1539	6312	1 12 77	7	0	0	0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
1539	7091	4 28 77	7	0	0	0	2.3	0.0	0.0	0.0	0.0	0.0	0.0
1539	7126	6 17 77	7	0	0	0	2.9	1.9	0.0	0.0	0.0	0.0	0.0
1539	7144	7 18 77	1	0	0	0	3.4	2.9	0.0	0.0	0.0	0.0	0.0
1539	7180	8 10 77	9	0	0	0	4.9	4.4	0.0	0.0	0.0	0.0	0.0
1539	7198	8 10 77	36	0	0	0	6.0	5.2	0.0	0.0	0.0	0.0	0.0
1539	7216	10 19 77	60	0	0	0	6.0	6.0	0.0	0.0	0.0	0.0	0.0
1539	7217	10 19 77	1	0	0	0	6.0	6.0	0.0	0.0	0.0	0.0	0.0
1539LACIE FINAL RATIOED ESTIMATE =									-1.0		-1.0		
1539400 DOT GROUND TRUTH =									0.0		0.2		0.7
1544	6294	1 20 77	9	0	0	0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
1544	6295	1 20 77	9	0	0	0	2.2	0.0	0.0	0.0	0.0	0.0	0.0

Segment	Acquisition date	Date passed to CAS	CEC	Multispectral acquisition			Robertson stage		CAMS crop percentage estimates				
				1	2	3	Winter wheat	Spring wheat	Winter wheat	Winter small grains	Spring wheat	Spring small grains	Total small grains
1544	6313	1 20 77	7	0	0	0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
1544	7091	5 17 77	1	0	0	0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
1544	7198	8 31 77	38	6294	0	0	0.0	5.8	0.0	0.0	27.9	39.0	0.0
1544	7217	10 3 77	60	0	0	0	0.0	6.0	0.0	0.0	0.0	0.0	0.0
1544LACIE FINAL RATIOED ESTIMATE =									-1.0		27.9		
1544400 DOT GROUND TRUTH =									0.8		35.8		38.9
1544INVENTORY GROUND TRUTH =									0.3		34.8		38.3
1548	6307	3 21 77	7	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1548	7139	6 13 77	2	0	0	0	3.4	0.0	0.0	0.0	0.0	0.0	0.0
1548	7157	6 30 77	2	0	0	0	3.9	3.4	0.0	0.0	0.0	0.0	0.0
1548	7175	8 8 77	38	7157	6307	0	4.8	4.4	0.0	0.0	0.0	0.0	3.6
1548	7193	9 8 77	9	0	0	0	0.0	5.5	0.0	0.0	0.0	0.0	0.0
1548	7211	9 8 77	36	0	0	0	0.0	6.0	0.0	0.0	0.0	0.0	0.0
1548	7229	9 30 77	60	0	0	0	0.0	7.0	0.0	0.0	0.0	0.0	0.0
1548LACIE FINAL RATIOED ESTIMATE =									-1.0		-1.0		
1548400 DOT GROUND TRUTH =									0.2		0.8		5.0
1549	6260	1 12 77	7	0	0	0	1.9	0.0	0.0	0.0	0.0	0.0	0.0
1549	7146	7 5 77	1	0	0	0	3.5	3.2	0.0	0.0	0.0	0.0	0.0
1549	7182	8 12 77	36	0	0	0	5.6	4.6	0.0	0.0	0.0	0.0	0.0
1549	7200	8 30 77	36	0	0	0	6.9	0.0	0.0	0.0	0.0	0.0	0.0
1549LACIE FINAL RATIOED ESTIMATE =									-1.0		-1.0		
1549400 DOT GROUND TRUTH =									2.4		0.0		2.4
1560	6293	1 5 77	20	0	0	0	2.4	0.0	46.3	47.8	0.0	0.0	0.0
1560	7125	6 15 77	30	0	0	0	3.4	0.0	29.0	29.9	0.0	0.0	0.0
1560	7142	10 3 77	9	0	0	0	4.0	0.0	0.0	0.0	0.0	0.0	0.0
1560	7143	10 3 77	1	0	0	0	4.0	0.0	0.0	0.0	0.0	0.0	0.0
1560	7160	10 3 77	9	0	0	0	4.8	0.0	0.0	0.0	0.0	0.0	0.0
1560	7161	10 3 77	9	0	0	0	4.8	0.0	0.0	0.0	0.0	0.0	0.0
1560	7197	10 3 77	38	7142	6257	0	7.0	0.0	34.0	35.1	0.0	0.0	0.0
1560	7214	10 3 77	9	0	0	0	7.0	0.0	0.0	0.0	0.0	0.0	0.0
1560	7215	10 3 77	60	0	0	0	7.0	0.0	0.0	0.0	0.0	0.0	0.0
1560LACIE FINAL RATIOED ESTIMATE =									34.0		-1.0		
1560400 DOT GROUND TRUTH =									38.7		0.0		38.7
1560INVENTORY GROUND TRUTH =									40.3		0.0		41.3
1564	6255	1 12 77	9	0	0	0	1.8	0.0	0.0	0.0	0.0	0.0	0.0
1564	6273	1 12 77	9	0	0	0	2.4	0.0	0.0	0.0	0.0	0.0	0.0
1564	6327	1 12 77	20	0	0	0	2.5	0.0	25.5	25.6	0.0	0.0	0.0
1564	6345	1 12 77	9	0	0	0	2.5	0.0	0.0	0.0	0.0	0.0	0.0
1564	6363	5 5 77	38	6255	0	0	2.0	0.0	24.9	25.0	0.0	0.0	0.0
1564	7015	5 5 77	5	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1564	7033	5 5 77	5	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1564	7051	5 5 77	5	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1564	7069	5 5 77	1	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1564	7177	9 14 77	9	0	0	0	5.8	0.0	0.0	0.0	0.0	0.0	0.0
1564	7213	9 14 77	38	7177	6363	6255	6.0	0.0	25.2	25.3	0.0	0.0	0.0
1564LACIE FINAL RATIOED ESTIMATE =									25.2		-1.0		
1564400 DOT GROUND TRUTH =									27.7		0.0		27.7
1564INVENTORY GROUND TRUTH =									26.4		0.0		28.0
1566	6274	1 5 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1566	6310	1 5 77	20	0	0	0	2.4	0.0	38.0	39.2	0.0	0.0	0.0
1566	6310	5 2 77	34	6274	0	0	2.0	0.0	23.7	24.5	0.0	0.0	0.0
1566	6328	1 5 77	9	0	0	0	2.5	0.0	0.0	0.0	0.0	0.0	0.0
1566	6364	5 2 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1566	7034	5 2 77	1	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1566	7052	5 2 77	1	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1566	7142	6 22 77	30	0	0	0	3.8	0.0	19.0	19.6	0.0	0.0	0.0
1566	7160	9 22 77	9	0	0	0	4.7	0.0	0.0	0.0	0.0	0.0	0.0
1566	7196	9 22 77	9	0	0	0	6.0	0.0	0.0	0.0	0.0	0.0	0.0
1566	7214	9 22 77	38	7142	0	0	7.0	0.0	23.3	24.0	0.0	0.0	0.0
1566LACIE FINAL RATIOED ESTIMATE =									23.3		-1.0		
1566400 DOT GROUND TRUTH =									32.6		0.0		32.6
1566INVENTORY GROUND TRUTH =									33.0		0.6		33.6
1568	6274	1 12 77	7	0	0	0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
1568	6310	1 12 77	7	0	0	0	2.5	0.0	0.0	0.0	0.0	0.0	0.0
1568	6328	1 12 77	36	0	0	0	2.5	0.0	1.0	1.1	0.0	0.0	0.0
1568	6328	5 2 77	34	0	0	0	2.5	0.0	3.1	3.3	0.0	0.0	0.0
1568	7034	5 2 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0

Segment	Acquisition date	Date passed to CAS	CEC	Multispectral acquisition			Robertson stage		CAMS crop percentage estimates				
				1	2	3	Winter wheat	Spring wheat	Winter wheat	Winter small grains	Spring wheat	Spring small grains	Total small grains
1568	7051	5 2 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1568	7052	5 2 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1568	7069	5 2 77	9	0	0	0	2.5	0.0	0.0	0.0	0.0	0.0	0.0
1568	7124	7 5 77	38	6274	0	0	3.4	0.0	1.9	2.0	0.0	0.0	0.0
1568	7142	7 27 77	1	0	0	0	3.8	0.0	0.0	0.0	0.0	0.0	0.0
1568	7178	7 27 77	38	7124	6274	0	5.8	0.0	1.9	2.0	0.0	0.0	0.0
1568	7196	9 30 77	9	0	0	0	7.0	0.0	0.0	0.0	0.0	0.0	0.0
1568	7214	9 30 77	60	0	0	0	7.0	0.0	0.0	0.0	0.0	0.0	0.0
1568LACIE FINAL RATIOED ESTIMATE =									1.9		-1.0		
1568400 DOT GROUND TRUTH =									1.6		0.0		3.3
1568INVENTORY GROUND TRUTH =									1.7		0.0		3.8
1571	6289	1 5 77	9	0	0	0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
1571	6343	1 5 77	36	0	0	0	2.3	0.0	2.3	2.4	0.0	0.0	0.0
1571	6343	5 5 77	34	6253	0	0	2.0	0.0	18.2	18.7	0.0	0.0	0.0
1571	7031	5 5 77	5	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1571	7049	5 5 77	5	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1571	7067	5 5 77	5	0	0	0	2.5	0.0	0.0	0.0	0.0	0.0	0.0
1571	7157	8 22 77	9	0	0	0	4.8	0.0	0.0	0.0	0.0	0.0	0.0
1571	7175	8 22 77	36	0	0	0	5.5	0.0	5.0	5.1	0.0	0.0	0.0
1571	7193	9 22 77	1	0	0	0	6.0	0.0	0.0	0.0	0.0	0.0	0.0
1571	7211	9 22 77	36	0	0	0	7.0	0.0	8.1	8.3	0.0	0.0	0.0
1571LACIE FINAL RATIOED ESTIMATE =									8.1		-1.0		
1571400 DOT GROUND TRUTH =									10.4		0.0		10.9
1571INVENTORY GROUND TRUTH =									9.9		0.0		11.0
1576	6251	1 25 77	9	0	0	0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
1576	6287	1 25 77	9	0	0	0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
1576	6288	1 25 77	9	0	0	0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
1576	6305	1 25 77	36	0	0	0	2.3	0.0	6.9	6.9	0.0	0.0	0.0
1576	6306	1 25 77	9	0	0	0	2.3	0.0	0.0	0.0	0.0	0.0	0.0
1576	6323	1 25 77	9	0	0	0	2.3	0.0	0.0	0.0	0.0	0.0	0.0
1576	6341	1 25 77	9	0	0	0	2.3	0.0	0.0	0.0	0.0	0.0	0.0
1576	7030	8 12 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1576	7066	8 12 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1576	7083	8 12 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1576	7101	8 12 77	9	0	0	0	3.2	0.0	0.0	0.0	0.0	0.0	0.0
1576	7155	8 12 77	38	7101	6305	6251	5.0	0.0	10.0	10.0	0.0	0.0	0.0
1576	7156	8 12 77	9	0	0	0	5.0	0.0	0.0	0.0	0.0	0.0	0.0
1576LACIE FINAL RATIOED ESTIMATE =									10.0		-1.0		
1576400 DOT GROUND TRUTH =									18.2		0.0		20.0
1576INVENTORY GROUND TRUTH =									15.9		0.0		16.8
1577	6306	1 2 77	36	0	0	0	2.3	0.0	0.5	0.5	0.0	0.0	0.0
1577	6306	5 2 77	34	0	0	0	2.0	0.0	1.4	1.4	0.0	0.0	0.0
1577	6360	5 2 77	5	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1577	7030	5 2 77	1	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1577	7048	5 2 77	5	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1577	7066	5 2 77	5	0	0	0	2.5	0.0	0.0	0.0	0.0	0.0	0.0
1577	7120	6 20 77	38	6306	0	0	3.3	0.0	0.6	0.6	0.0	0.0	0.0
1577LACIE FINAL RATIOED ESTIMATE =									-1.0		-1.0		
1577400 DOT GROUND TRUTH =									0.7		0.0		1.9
1577INVENTORY GROUND TRUTH =									1.6		0.0		3.2
1579	6272	1 10 77	7	0	0	0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
1579	6273	1 10 77	9	0	0	0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
1579	6290	1 10 77	7	0	0	0	2.3	0.0	0.0	0.0	0.0	0.0	0.0
1579	6291	1 10 77	1	0	0	0	2.3	0.0	0.0	0.0	0.0	0.0	0.0
1579	6326	1 10 77	9	0	0	0	2.4	0.0	0.0	0.0	0.0	0.0	0.0
1579	6327	1 10 77	1	0	0	0	2.4	0.0	0.0	0.0	0.0	0.0	0.0
1579	6344	1 10 77	36	0	0	0	2.4	0.0	4.0	4.3	0.0	0.0	0.0
1579	6363	4 4 77	38	6254	0	0	2.0	0.0	16.4	17.4	0.0	0.0	0.0
1579	7033	4 4 77	1	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1579	7050	4 4 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1579	7068	6 8 77	9	0	0	0	2.6	0.0	0.0	0.0	0.0	0.0	0.0
1579	7086	6 8 77	38	6254	0	0	2.6	0.0	7.2	7.7	0.0	0.0	0.0
1579	7158	8 10 77	9	0	0	0	4.6	0.0	0.0	0.0	0.0	0.0	0.0
1579	7159	8 10 77	3	0	0	0	4.6	0.0	0.0	0.0	0.0	0.0	0.0
1579	7176	8 10 77	38	7158	6344	6254	5.6	0.0	6.2	6.6	0.0	0.0	0.0
1579	7177	9 30 77	9	0	0	0	5.6	0.0	0.0	0.0	0.0	0.0	0.0
1579	7194	9 30 77	60	0	0	0	7.0	0.0	0.0	0.0	0.0	0.0	0.0
1579LACIE FINAL RATIOED ESTIMATE =									6.2		-1.0		
1579400 DOT GROUND TRUTH =									9.0		0.0		9.0
1579INVENTORY GROUND TRUTH =									8.2		0.0		8.4

Segment	Acquisition date	Date passed to CAS	CEC	Multispectral acquisition			Robertson stage		CAMS crop percentage estimates				
				1	2	3	Winter wheat	Spring wheat	Winter wheat	Winter small grains	Spring wheat	Spring small grains	Total small grains
1582	6272	1 27 77	9	0	0	0	2.1	0.0	0.0	0.0	0.0	0.0	0.0
1582	6290	1 27 77	9	0	0	0	2.3	0.0	0.0	0.0	0.0	0.0	0.0
1582	6326	1 27 77	20	0	0	0	2.4	0.0	22.1	22.9	0.0	0.0	0.0
1582	7014	6 15 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1582	7050	6 15 77	5	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1582	7068	6 15 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1582	7086	6 15 77	38	6326	0	0	2.6	0.0	14.8	15.3	0.0	0.0	0.0
1582	7158	8 30 77	9	0	0	0	4.6	0.0	0.0	0.0	0.0	0.0	0.0
1582	7176	8 30 77	9	0	0	0	5.6	0.0	0.0	0.0	0.0	0.0	0.0
1582	7194	8 30 77	38	7158	7086	6254	6.0	0.0	17.4	18.0	0.0	0.0	0.0
1582LACIE FINAL RATIOED ESTIMATE =									17.9		-1.0		
1582400 DOT GROUND TRUTH =									17.4		0.0		17.8
1582INVENTORY GROUND TRUTH =									19.2		0.0		19.4
1584	7051	4 4 77	7	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1584	7177	8 17 77	1	0	0	0	5.6	0.0	0.0	0.0	0.0	0.0	0.0
1584LACIE FINAL RATIOED ESTIMATE =									-1.0		-1.0		
1584400 DOT GROUND TRUTH =									13.8		0.0		14.6
1586	6272	1 17 77	7	0	0	0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
1586	6273	1 17 77	9	0	0	0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
1586	6290	1 17 77	9	0	0	0	2.3	0.0	0.0	0.0	0.0	0.0	0.0
1586	6291	1 17 77	9	0	0	0	2.3	0.0	0.0	0.0	0.0	0.0	0.0
1586	6326	1 17 77	30	0	0	0	2.4	0.0	21.8	22.4	0.0	0.0	0.0
1586	6344	1 17 77	9	0	0	0	2.4	0.0	0.0	0.0	0.0	0.0	0.0
1586	6363	5 5 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1586	7014	5 5 77	1	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1586	7033	5 5 77	1	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1586	7050	5 5 77	38	6363	0	0	2.0	0.0	9.1	9.4	0.0	0.0	0.0
1586	7086	5 26 77	1	0	0	0	2.6	0.0	0.0	0.0	0.0	0.0	0.0
1586	7158	8 30 77	9	0	0	0	4.5	0.0	0.0	0.0	0.0	0.0	0.0
1586	7159	8 30 77	3	0	0	0	4.5	0.0	0.0	0.0	0.0	0.0	0.0
1586	7176	8 30 77	9	0	0	0	5.6	0.0	0.0	0.0	0.0	0.0	0.0
1586	7194	8 30 77	38	7086	6326	6255	6.0	0.0	20.9	21.5	0.0	0.0	0.0
1586LACIE FINAL RATIOED ESTIMATE =									20.9		-1.0		
1586400 DOT GROUND TRUTH =									16.6		0.0		17.3
1586INVENTORY GROUND TRUTH =									33.3		0.0		33.6
1588	6253	1 26 77	7	0	0	0	1.1	0.0	0.0	0.0	0.0	0.0	0.0
1588	6288	1 26 77	9	0	0	0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
1588	6289	1 26 77	9	0	0	0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
1588	6306	1 26 77	9	0	0	0	2.3	0.0	0.0	0.0	0.0	0.0	0.0
1588	6306	5 3 77	34	6253	0	0	2.0	0.0	21.3	21.4	0.0	0.0	0.0
1588	6307	1 26 77	1	0	0	0	2.3	0.0	0.0	0.0	0.0	0.0	0.0
1588	6324	1 26 77	36	0	0	0	2.3	0.0	16.0	16.1	0.0	0.0	0.0
1588	6343	1 26 77	9	0	0	0	2.3	0.0	0.0	0.0	0.0	0.0	0.0
1588	7048	5 3 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1588	7066	5 3 77	9	0	0	0	2.5	0.0	0.0	0.0	0.0	0.0	0.0
1588	7067	5 3 77	9	0	0	0	2.5	0.0	0.0	0.0	0.0	0.0	0.0
1588	7157	9 20 77	38	6324	6289	6253	4.9	0.0	8.4	8.5	0.0	0.0	0.0
1588	7193	10 20 77	38	7157	6324	6289	7.0	0.0	20.6	20.7	0.0	0.0	0.0
1588LACIE FINAL RATIOED ESTIMATE =									20.6		-1.0		
1588400 DOT GROUND TRUTH =									21.5		0.0		21.9
1588INVENTORY GROUND TRUTH =									21.6		0.0		22.3
1589	6253	1 6 77	7	0	0	0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
1589	6289	1 6 77	1	0	0	0	2.3	0.0	0.0	0.0	0.0	0.0	0.0
1589	7067	5 10 77	18	6253	0	0	2.4	0.0	36.0	36.2	0.0	0.0	0.0
1589	7157	9 30 77	18	7067	6253	0	4.8	0.0	16.9	17.0	0.0	0.0	0.0
1589LACIE FINAL RATIOED ESTIMATE =									-1.0		-1.0		
1589400 DOT GROUND TRUTH =									20.7		0.0		20.7
1592	6288	1 21 77	9	0	0	0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
1592	6306	1 21 77	36	0	0	0	2.3	0.0	5.5	5.5	0.0	0.0	0.0
1592	6342	1 21 77	1	0	0	0	2.3	0.0	0.0	0.0	0.0	0.0	0.0
1592	7030	4 19 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1592	7048	4 19 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1592	7066	4 19 77	38	6288	0	0	2.0	0.0	10.7	10.7	0.0	0.0	0.0
1592	7102	6 2 77	38	6288	0	0	2.9	0.0	28.2	28.3	0.0	0.0	0.0
1592	7156	9 6 77	38	6306	0	0	4.8	0.0	24.9	25.0	0.0	0.0	0.0
1592LACIE FINAL RATIOED ESTIMATE =									25.0		-1.0		
1592400 DOT GROUND TRUTH =									20.1		0.0		20.7

Segment	Acquisition date	Date passed to CAS	CEC	Multispectral acquisition			Robertson stage		CAMS crop percentage estimates				
				1	2	3	Winter wheat	Spring wheat	Winter wheat	Winter small grains	Spring wheat	Spring small grains	Total small grains
1592INVENTORY GROUND TRUTH =									21.5		0.0		22.1
1594	6287	1 12 77	9	0	0	0	2.1	0.0	0.0	0.0	0.0	0.0	0.0
1594	6305	1 12 77	9	0	0	0	2.3	0.0	0.0	0.0	0.0	0.0	0.0
1594	6323	1 12 77	20	0	0	0	2.3	0.0	43.0	43.1	0.0	0.0	0.0
1594	6323	5 2 77	34	6287	0	0	2.3	0.0	7.9	7.9	0.0	0.0	0.0
1594	6341	1 12 77	9	0	0	0	2.4	0.0	0.0	0.0	0.0	0.0	0.0
1594	7083	5 2 77	1	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1594	7101	5 2 77	1	0	0	0	2.6	0.0	0.0	0.0	0.0	0.0	0.0
1594	7119	6 2 77	38	6323	0	0	3.4	0.0	28.7	28.8	0.0	0.0	0.0
1594	7155	7 26 77	38	7119	6287	0	4.8	0.0	11.0	11.0	0.0	0.0	0.0
1594LACIE FINAL RATIOED ESTIMATE =									11.0		-1.0		
1594400 DOT GROUND TRUTH =									10.5		0.0		11.3
1594INVENTORY GROUND TRUTH =									14.3		0.0		16.7
1595	6287	1 17 77	9	0	0	0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
1595	6288	1 17 77	9	0	0	0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
1595	6305	1 17 77	9	0	0	0	2.3	0.0	0.0	0.0	0.0	0.0	0.0
1595	6306	1 17 77	9	0	0	0	2.3	0.0	0.0	0.0	0.0	0.0	0.0
1595	6323	1 17 77	20	0	0	0	2.3	0.0	30.6	30.7	0.0	0.0	0.0
1595	6341	1 17 77	9	0	0	0	2.4	0.0	0.0	0.0	0.0	0.0	0.0
1595	7048	5 3 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1595	7066	5 3 77	38	6287	0	0	2.6	0.0	5.6	5.6	0.0	0.0	0.0
1595	7083	6 2 77	38	6287	0	0	2.8	0.0	22.0	22.1	0.0	0.0	0.0
1595	7155	7 14 77	38	7083	6305	6287	4.8	0.0	31.6	31.7	0.0	0.0	0.0
1595	7156	8 26 77	9	0	0	0	4.8	0.0	0.0	0.0	0.0	0.0	0.0
1595	7191	9 21 77	60	0	0	0	6.0	0.0	0.0	0.0	0.0	0.0	0.0
1595	7192	8 26 77	38	7155	6305	6287	6.0	0.0	25.9	26.0	0.0	0.0	0.0
1595LACIE FINAL RATIOED ESTIMATE =									25.9		-1.0		
1595400 DOT GROUND TRUTH =									32.1		0.0		34.0
1595INVENTORY GROUND TRUTH =									33.2		0.0		35.0
1602	7125	7 8 77	7	0	0	0	0.0	1.5	0.0	0.0	0.0	0.0	0.0
1602	7143	7 8 77	38	7125	0	0	0.0	2.7	0.0	0.0	7.4	9.0	0.0
1602	7179	8 18 77	9	0	0	0	0.0	3.6	0.0	0.0	0.0	0.0	0.0
1602	7197	9 23 77	60	0	0	0	0.0	6.0	0.0	0.0	0.0	0.0	0.0
1602	7198	8 18 77	30	0	0	0	0.0	4.5	0.0	0.0	21.4	26.0	0.0
1602	7216	9 23 77	9	0	0	0	0.0	6.0	0.0	0.0	0.0	0.0	0.0
1602LACIE FINAL RATIOED ESTIMATE =									-1.0		21.4		
1602400 DOT GROUND TRUTH =									0.0		27.5		32.1
1602INVENTORY GROUND TRUTH =									0.2		31.3		38.5
1604	7125	7 30 77	7	0	0	0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
1604	7143	7 30 77	38	7125	0	0	0.0	2.8	0.0	0.0	28.8	35.0	0.0
1604	7197	8 12 77	3	0	0	0	0.0	4.8	0.0	0.0	0.0	0.0	0.0
1604LACIE FINAL RATIOED ESTIMATE =									-1.0		-1.0		
1604400 DOT GROUND TRUTH =									0.0		29.2		53.8
1604INVENTORY GROUND TRUTH =									0.0		28.0		52.4
1606	7125	6 17 77	7	0	0	0	0.0	1.5	0.0	0.0	0.0	0.0	0.0
1606	7143	6 17 77	7	0	0	0	0.0	2.8	0.0	0.0	0.0	0.0	0.0
1606	7179	9 6 77	1	0	0	0	0.0	4.2	0.0	0.0	0.0	0.0	0.0
1606	7197	9 6 77	38	7125	0	0	0.0	4.8	0.0	0.0	15.6	19.0	0.0
1606	7250	9 27 77	60	0	0	0	0.0	6.0	0.0	0.0	0.0	0.0	0.0
1606LACIE FINAL RATIOED ESTIMATE =									-1.0		15.6		
1606400 DOT GROUND TRUTH =									0.0		24.2		30.8
1606INVENTORY GROUND TRUTH =									0.0		24.4		32.9
1609	7123	8 12 77	7	0	0	0	0.0	1.5	0.0	0.0	0.0	0.0	0.0
1609	7159	11 2 77	38	7123	0	0	0.0	3.5	0.0	0.0	25.5	38.9	0.0
1609LACIE FINAL RATIOED ESTIMATE =									-1.0		25.5		
1609400 DOT GROUND TRUTH =									0.0		20.2		25.5
1616	7122	7 8 77	7	0	0	0	0.0	1.3	0.0	0.0	0.0	0.0	0.0
1616	7123	7 8 77	7	0	0	0	0.0	1.3	0.0	0.0	0.0	0.0	0.0
1616	7140	7 8 77	9	0	0	0	0.0	2.7	0.0	0.0	0.0	0.0	0.0
1616	7141	7 8 77	38	7122	7123	0	0.0	2.7	0.0	0.0	15.7	25.0	0.0
1616	7158	8 25 77	9	0	0	0	0.0	3.5	0.0	0.0	0.0	0.0	0.0
1616	7159	8 25 77	38	7141	7122	0	0.0	3.6	0.0	0.0	27.1	43.3	0.0
1616	7159	10 3 77	34	7141	7122	0	0.0	3.6	0.0	0.0	34.2	54.6	0.0
1616	7230	10 3 77	9	0	0	0	0.0	6.0	0.0	0.0	0.0	0.0	0.0
1616LACIE FINAL RATIOED ESTIMATE =									-1.0		34.2		

Segment	Acquisition date	Date passed to CAS	CEC	Multispectral acquisition			Robertson stage		CAMS crop percentage estimates				
				1	2	3	Winter wheat	Spring wheat	Winter wheat	Winter small grains	Spring wheat	Spring small grains	Total small grains
1616400 DOT GROUND TRUTH =									1.1		34.1		59.0
1616INVENTORY GROUND TRUTH =									0.5		37.7		67.2
1619	7122	6 30 77	9	0	0	0	0.0	1.1	0.0	0.0	0.0	0.0	0.0
1619	7140	6 30 77	38 7122	0	0	0	0.0	2.7	0.0	0.0	16.9	27.0	0.0
1619	7158	8 8 77	9	0	0	0	0.0	3.5	0.0	0.0	0.0	0.0	0.0
1619	7175	8 8 77	38 7158	7122	0	0	0.0	4.3	0.0	0.0	29.3	46.8	0.0
1619	7175	9 1 77	34 7158	7122	0	0	0.0	4.3	0.0	0.0	30.1	48.0	0.0
1619	7176	8 8 77	1	0	0	0	0.0	4.3	0.0	0.0	0.0	0.0	0.0
1619	7212	9 1 77	3	0	0	0	0.0	6.9	0.0	0.0	0.0	0.0	0.0
1619	7230	9 27 77	60	0	0	0	0.0	6.0	0.0	0.0	0.0	0.0	0.0
1619LACIE FINAL RATIOED ESTIMATE =									-1.0		30.1		
1619400 DOT GROUND TRUTH =									0.2		40.4		54.4
1619INVENTORY GROUND TRUTH =									0.1		41.1		52.8
1622	7122	7 8 77	9	0	0	0	0.0	1.3	0.0	0.0	0.0	0.0	0.0
1622	7140	7 8 77	9	0	0	0	0.0	2.6	0.0	0.0	0.0	0.0	0.0
1622	7141	7 8 77	9	0	0	0	0.0	2.6	0.0	0.0	0.0	0.0	0.0
1622	7158	8 8 77	1	0	0	0	0.0	3.5	0.0	0.0	0.0	0.0	0.0
1622	7159	7 8 77	38 7122	0	0	0	0.0	3.2	0.0	0.0	27.6	44.0	0.0
1622	7176	8 8 77	38 7159	7122	0	0	0.0	4.3	0.0	0.0	24.6	39.3	0.0
1622	7230	10 17 77	38 7176	7159	7122	0	0.0	6.0	0.0	0.0	31.3	49.9	0.0
1622LACIE FINAL RATIOED ESTIMATE =									-1.0		31.3		
1622400 DOT GROUND TRUTH =									0.0		42.2		64.2
1622INVENTORY GROUND TRUTH =									0.0		31.5		50.3
1625	7125	8 18 77	7	0	0	0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
1625	7143	8 18 77	1	0	0	0	0.0	2.8	0.0	0.0	0.0	0.0	0.0
1625	7179	8 18 77	38 7125	0	0	0	0.0	4.5	0.0	0.0	8.9	12.0	0.0
1625	7197	10 3 77	9	0	0	0	0.0	6.0	0.0	0.0	0.0	0.0	0.0
1625	7233	10 3 77	38 7179	7125	0	0	0.0	6.0	0.0	0.0	15.0	20.3	0.0
1625LACIE FINAL RATIOED ESTIMATE =									-1.0		15.0		
1625400 DOT GROUND TRUTH =									0.0		23.7		24.8
1625INVENTORY GROUND TRUTH =									0.1		19.8		25.0
1635	7105	8 26 77	7	0	0	0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
1635	7123	8 26 77	1	0	0	0	0.0	2.2	0.0	0.0	0.0	0.0	0.0
1635	7159	8 26 77	30	0	0	0	0.0	3.5	0.0	0.0	5.4	8.0	0.0
1635	7195	8 26 77	1	0	0	0	0.0	4.9	0.0	0.0	0.0	0.0	0.0
1635LACIE FINAL RATIOED ESTIMATE =									-1.0		5.4		
1635400 DOT GROUND TRUTH =									0.0		10.4		12.9
1635INVENTORY GROUND TRUTH =									0.0		12.3		15.8
1637	7123	6 17 77	1	0	0	0	0.0	1.5	0.0	0.0	0.0	0.0	0.0
1637	7140	6 17 77	7	0	0	0	0.0	2.6	0.0	0.0	0.0	0.0	0.0
1637	7159	8 30 77	1	0	0	0	0.0	3.5	0.0	0.0	0.0	0.0	0.0
1637	7194	8 30 77	38 7140	0	0	0	0.0	4.9	0.0	0.0	20.8	30.8	0.0
1637	7248	10 18 77	60	0	0	0	0.0	7.0	0.0	0.0	0.0	0.0	0.0
1637LACIE FINAL RATIOED ESTIMATE =									-1.0		20.8		
1637400 DOT GROUND TRUTH =									0.0		23.8		32.9
1637INVENTORY GROUND TRUTH =									0.0		26.5		35.8
1640	7121	7 5 77	9	0	0	0	0.0	1.5	0.0	0.0	0.0	0.0	0.0
1640	7122	7 5 77	9	0	0	0	0.0	1.5	0.0	0.0	0.0	0.0	0.0
1640	7139	7 5 77	1	0	0	0	0.0	2.8	0.0	0.0	0.0	0.0	0.0
1640	7140	7 5 77	38 7121	0	0	0	0.0	2.8	0.0	0.0	4.8	8.0	0.0
1640	7175	9 2 77	38 7140	7121	0	0	0.0	4.4	0.0	0.0	29.1	48.0	0.0
1640	7193	10 13 77	9	0	0	0	0.0	5.4	0.0	0.0	0.0	0.0	0.0
1640	7194	9 2 77	1	0	0	0	0.0	5.4	0.0	0.0	0.0	0.0	0.0
1640	7211	10 13 77	38 7193	7175	7122	0	0.0	6.0	0.0	0.0	31.6	52.2	0.0
1640	7229	10 13 77	9	0	0	0	0.0	6.0	0.0	0.0	0.0	0.0	0.0
1640LACIE FINAL RATIOED ESTIMATE =									-1.0		31.6		
1640400 DOT GROUND TRUTH =									0.2		30.8		47.5
1640INVENTORY GROUND TRUTH =									0.3		31.5		52.4
1644	7122	7 5 77	9	0	0	0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
1644	7140	7 5 77	38 7122	0	0	0	0.0	2.8	0.0	0.0	9.1	15.0	0.0
1644	7158	9 27 77	3	0	0	0	0.0	3.5	0.0	0.0	0.0	0.0	0.0
1644LACIE FINAL RATIOED ESTIMATE =									-1.0		-1.0		
1644400 DOT GROUND TRUTH =									0.4		26.7		50.9
1644INVENTORY GROUND TRUTH =									0.0		26.6		51.9

Segment	Acquisition date	Date passed to CAS	CEC	Multispectral acquisition			Robertson stage		CAMS crop percentage estimates				
				1	2	3	Winter wheat	Spring wheat	Winter wheat	Winter small grains	Spring wheat	Spring small grains	Total small grains
1648	7107	8 8 77	7	0	0	0	0.0	2.1	0.0	0.0	0.0	0.0	0.0
1648	7125	8 8 77	7	0	0	0	0.0	2.9	0.0	0.0	0.0	0.0	0.0
1648	7143	8 8 77	9	0	0	0	0.0	3.4	0.0	0.0	0.0	0.0	0.0
1648	7179	8 8 77	38	7125	0	0	0.0	4.8	0.0	0.0	25.5	34.5	0.0
1648	7233	9 23 77	60	0	0	0	0.0	6.0	0.0	0.0	0.0	0.0	0.0
1648LACIE FINAL RATIOED ESTIMATE =									-1.0		25.5		
1648400 DOT GROUND TRUTH =									17.9		13.3		36.9
1648INVENTORY GROUND TRUTH =									17.6		14.4		37.9
1652	7125	7 19 77	7	0	0	0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
1652	7143	7 19 77	7	0	0	0	0.0	2.8	0.0	0.0	0.0	0.0	0.0
1652	7179	8 19 77	38	7125	0	0	0.0	4.4	0.0	0.0	17.0	23.0	0.0
1652	7197	9 27 77	38	7143	7125	0	0.0	5.0	0.0	0.0	17.0	23.0	0.0
1652	7233	11 7 77	38	7197	7125	0	0.0	6.0	0.0	0.0	18.0	24.3	0.0
1652LACIE FINAL RATIOED ESTIMATE =									-1.0		18.0		
1652400 DOT GROUND TRUTH =									1.0		28.1		35.0
1652INVENTORY GROUND TRUTH =									1.3		31.3		37.5
1654	7123	8 12 77	7	0	0	0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
1654	7159	8 12 77	1	0	0	0	0.0	3.5	0.0	0.0	0.0	0.0	0.0
1654LACIE FINAL RATIOED ESTIMATE =									-1.0		-1.0		
1654400 DOT GROUND TRUTH =									0.0		26.1		33.0
1656	7124	8 12 77	7	0	0	0	0.0	2.1	0.0	0.0	0.0	0.0	0.0
1656	7214	10 19 77	60	0	0	0	0.0	6.0	0.0	0.0	0.0	0.0	0.0
1656LACIE FINAL RATIOED ESTIMATE =									-1.0		-1.0		
1656400 DOT GROUND TRUTH =									0.0		6.2		9.3
1661	7123	9 27 77	7	0	0	0	0.0	2.1	0.0	0.0	0.0	0.0	0.0
1661	7159	9 27 77	38	7123	0	0	0.0	3.7	0.0	0.0	18.7	33.0	0.0
1661LACIE FINAL RATIOED ESTIMATE =									-1.0		18.7		
1661400 DOT GROUND TRUTH =									0.0		25.9		30.7
1661INVENTORY GROUND TRUTH =									0.2		25.7		41.5
1663	7120	7 8 77	7	0	0	0	0.0	1.5	0.0	0.0	0.0	0.0	0.0
1663	7121	7 8 77	7	0	0	0	0.0	1.5	0.0	0.0	0.0	0.0	0.0
1663	7138	7 8 77	9	0	0	0	0.0	2.8	0.0	0.0	0.0	0.0	0.0
1663	7139	7 8 77	38	7120	0	0	0.0	2.8	0.0	0.0	23.3	41.1	0.0
1663	7156	8 8 77	9	0	0	0	0.0	3.5	0.0	0.0	0.0	0.0	0.0
1663	7157	8 8 77	9	0	0	0	0.0	3.5	0.0	0.0	0.0	0.0	0.0
1663	7174	8 8 77	9	0	0	0	0.0	4.3	0.0	0.0	0.0	0.0	0.0
1663	7175	8 8 77	38	7156	7120	0	0.0	4.3	0.0	0.0	22.7	40.0	0.0
1663	7193	10 11 77	9	0	0	0	0.0	5.4	0.0	0.0	0.0	0.0	0.0
1663	7211	10 11 77	38	7175	7156	7120	0.0	6.0	0.0	0.0	21.2	37.4	0.0
1663	7229	10 11 77	9	0	0	0	0.0	6.0	0.0	0.0	0.0	0.0	0.0
1663LACIE FINAL RATIOED ESTIMATE =									-1.0		21.2		
1663400 DOT GROUND TRUTH =									0.2		30.0		49.0
1663INVENTORY GROUND TRUTH =									0.0		32.3		51.8
1667	6257	1 20 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1667	6275	1 20 77	36	0	0	0	2.2	0.0	0.1	0.1	0.0	0.0	0.0
1667	7071	6 13 77	1	0	0	0	2.4	0.0	0.0	0.0	0.0	0.0	0.0
1667	7107	6 13 77	2	0	0	0	2.6	0.0	0.0	0.0	0.0	0.0	0.0
1667	7125	6 27 77	36	0	0	0	3.2	2.0	0.0	0.0	0.0	0.0	0.0
1667	7143	6 27 77	1	0	0	0	3.8	2.8	0.0	0.0	0.0	0.0	0.0
1667	7161	8 8 77	38	7125	6275	6257	4.8	3.7	0.0	0.0	5.6	8.3	0.0
1667	7179	8 30 77	9	0	0	0	0.0	4.5	0.0	0.0	0.0	0.0	0.0
1667	7197	8 30 77	38	7179	7161	6257	0.0	5.7	0.0	0.0	9.1	13.4	0.0
1667LACIE FINAL RATIOED ESTIMATE =									-1.0		9.1		
1667400 DOT GROUND TRUTH =									0.0		5.9		9.3
1669	6257	1 6 77	9	0	0	0	1.2	0.0	0.0	0.0	0.0	0.0	0.0
1669	6275	1 6 77	7	0	0	0	2.3	0.0	0.0	0.0	0.0	0.0	0.0
1669	7107	6 3 77	3	0	0	0	2.6	0.0	0.0	0.0	0.0	0.0	0.0
1669	7125	7 11 77	9	0	0	0	3.3	2.2	0.0	0.0	0.0	0.0	0.0
1669	7143	7 11 77	38	6257	0	0	3.5	2.7	1.9	1.9	1.4	2.0	0.0
1669	7161	8 2 77	38	7143	7107	6257	4.8	3.7	1.2	1.2	3.9	5.7	0.0
1669	7179	8 31 77	38	7161	7107	6257	5.9	4.6	1.0	1.0	4.2	6.2	0.0
1669	7197	8 31 77	1	0	0	0	6.0	5.8	0.0	0.0	0.0	0.0	0.0
1669	7215	9 27 77	60	0	0	0	7.0	6.0	0.0	0.0	0.0	0.0	0.0
1669LACIE FINAL RATIOED ESTIMATE =									1.0		4.2		

Segment	Acquisition date	Date passed to CAS	CEC	Multispectral acquisition			Robertson stage		CAMS crop percentage estimates				
				1	2	3	Winter wheat	Spring wheat	Winter wheat	Winter small grains	Spring wheat	Spring small grains	Total small grains
1669400 DOT GROUND TRUTH =									0.4		5.0		8.0
1669INVENTORY GROUND TRUTH =									0.3		5.9		9.9
1675	6272	1 11 77	9	0	0	0	1.5	0.0	0.0	0.0	0.0	0.0	0.0
1675	6273	1 11 77	9	0	0	0	1.5	0.0	0.0	0.0	0.0	0.0	0.0
1675	6290	1 11 77	9	0	0	0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
1675	6291	1 11 77	7	0	0	0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
1675	6327	1 11 77	1	0	0	0	2.3	0.0	0.0	0.0	0.0	0.0	0.0
1675	7050	3 31 77	7	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1675	7051	3 31 77	7	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1675	7086	6 1 77	7	0	0	0	2.4	0.0	0.0	0.0	0.0	0.0	0.0
1675	7122	6 1 77	1	0	0	0	2.8	0.0	0.0	0.0	0.0	0.0	0.0
1675	7123	7 5 77	9	0	0	0	3.5	2.9	0.0	0.0	0.0	0.0	0.0
1675	7140	7 5 77	38	6273	0	0	3.5	2.9	0.0	0.0	0.0	0.0	13.7
1675	7176	8 8 77	38	7140	7123	0	4.8	4.4	0.0	0.0	0.0	0.0	11.9
1675	7230	10 13 77	38	7176	7123	6254	0.0	6.0	0.0	0.0	3.2	5.0	0.0
1675LACIE FINAL RATIOED ESTIMATE =									-1.0		3.2		
1675400 DOT GROUND TRUTH =									0.0		17.5		22.9
1675INVENTORY GROUND TRUTH =									0.0		15.7		28.7
1677	6271	1 5 77	7	0	0	0	2.1	0.0	0.0	0.0	0.0	0.0	0.0
1677	6272	1 5 77	7	0	0	0	2.3	0.0	0.0	0.0	0.0	0.0	0.0
1677	6289	1 5 77	1	0	0	0	2.3	0.0	0.0	0.0	0.0	0.0	0.0
1677	6307	1 5 77	1	0	0	0	2.4	0.0	0.0	0.0	0.0	0.0	0.0
1677	6325	1 5 77	36	0	0	0	2.4	0.0	1.6	2.7	0.0	0.0	0.0
1677	7122	7 20 77	38	6254	0	0	2.9	2.2	0.0	0.0	0.0	0.0	30.1
1677	7139	8 30 77	1	0	0	0	0.0	2.5	0.0	0.0	0.0	0.0	0.0
1677	7140	8 30 77	9	0	0	0	0.0	2.5	0.0	0.0	0.0	0.0	0.0
1677	7175	8 30 77	9	0	0	0	0.0	4.4	0.0	0.0	0.0	0.0	0.0
1677	7176	8 30 77	38	7140	7122	0	0.0	4.4	0.0	0.0	11.7	18.5	0.0
1677	7193	9 30 77	9	0	0	0	0.0	6.0	0.0	0.0	0.0	0.0	0.0
1677	7211	9 30 77	38	7193	7176	7140	0.0	7.0	0.0	0.0	14.7	23.3	0.0
1677	7230	9 30 77	60	0	0	0	0.0	7.0	0.0	0.0	0.0	0.0	0.0
1677LACIE FINAL RATIOED ESTIMATE =									-1.0		14.7		
1677400 DOT GROUND TRUTH =									0.0		27.3		34.6
1677INVENTORY GROUND TRUTH =									0.0		27.2		34.1
1681	6271	1 19 77	1	0	0	0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
1681	7120	6 7 77	7	0	0	0	2.8	0.0	0.0	0.0	0.0	0.0	0.0
1681	7139	7 11 77	9	0	0	0	3.3	2.6	0.0	0.0	0.0	0.0	0.0
1681	7156	8 30 77	9	0	0	0	0.0	3.4	0.0	0.0	0.0	0.0	0.0
1681	7157	7 11 77	38	7120	0	0	3.7	3.4	0.0	0.0	16.6	40.0	0.0
1681	7174	8 30 77	9	0	0	0	0.0	4.3	0.0	0.0	0.0	0.0	0.0
1681	7175	8 30 77	38	7156	7120	0	0.0	4.3	0.0	0.0	12.0	29.0	0.0
1681	7192	9 29 77	38	7157	7120	0	0.0	6.0	0.0	0.0	10.3	25.0	0.0
1681	7193	9 29 77	9	0	0	0	0.0	6.0	0.0	0.0	0.0	0.0	0.0
1681	7210	9 29 77	60	0	0	0	0.0	7.0	0.0	0.0	0.0	0.0	0.0
1681LACIE FINAL RATIOED ESTIMATE =									-1.0		10.4		
1681400 DOT GROUND TRUTH =									1.5		26.3		69.5
1681INVENTORY GROUND TRUTH =									1.0		17.0		42.1
1686	6254	1 24 77	9	0	0	0	1.8	0.0	0.0	0.0	0.0	0.0	0.0
1686	6271	1 24 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1686	6272	1 24 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1686	6289	1 24 77	9	0	0	0	2.4	0.0	0.0	0.0	0.0	0.0	0.0
1686	6290	1 24 77	36	0	0	0	2.4	0.0	0.8	0.9	0.0	0.0	0.0
1686	6307	1 24 77	9	0	0	0	2.4	0.0	0.0	0.0	0.0	0.0	0.0
1686	6325	1 24 77	9	0	0	0	2.4	0.0	0.0	0.0	0.0	0.0	0.0
1686	6361	1 24 77	9	0	0	0	2.4	0.0	0.0	0.0	0.0	0.0	0.0
1686	7104	7 8 77	1	0	0	0	2.8	1.0	0.0	0.0	0.0	0.0	0.0
1686	7140	7 8 77	30	0	0	0	3.5	2.8	7.6	8.0	9.3	18.0	0.0
1686	7194	9 23 77	38	7140	6307	6254	0.0	6.0	0.0	0.0	7.9	15.4	0.0
1686	7211	10 19 77	60	0	0	0	6.0	6.0	0.0	0.0	0.0	0.0	0.0
1686LACIE FINAL RATIOED ESTIMATE =									-1.0		7.9		
1686400 DOT GROUND TRUTH =									1.0		3.5		20.6
1686INVENTORY GROUND TRUTH =									1.0		3.8		18.8
1690	6289	1 17 77	9	0	0	0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
1690	6307	1 17 77	9	0	0	0	2.4	0.0	0.0	0.0	0.0	0.0	0.0
1690	6325	1 17 77	36	0	0	0	2.4	0.0	2.0	2.3	0.0	0.0	0.0
1690	7193	8 17 77	2	0	0	0	6.0	0.0	0.0	0.0	0.0	0.0	0.0
1690	7211	10 12 77	38	7193	6325	0	0.0	7.0	0.0	0.0	1.0	9.0	0.0
1690LACIE FINAL RATIOED ESTIMATE =									-1.0		1.0		
1690400 DOT GROUND TRUTH =									0.4		8.6		20.8

Segment	Acquisition date	Date passed to CAS	CEC	Multispectral acquisition			Robertson stage		CAMS crop percentage estimates				
				1	2	3	Winter wheat	Spring wheat	Winter wheat	Winter small grains	Spring wheat	Spring small grains	Total small grains
1690INVENTORY GROUND TRUTH =									0.1		10.0		21.3
1694	6254	1 17 77	7	0	0	0	1.9	0.0	0.0	0.0	0.0	0.0	0.0
1694	6255	1 17 77	7	0	0	0	1.9	0.0	0.0	0.0	0.0	0.0	0.0
1694	6273	1 17 77	7	0	0	0	2.4	0.0	0.0	0.0	0.0	0.0	0.0
1694	6290	1 17 77	20	0	0	0	2.4	0.0	14.1	14.2	0.0	0.0	0.0
1694	6290	4 20 77	34	6255	0	0	2.0	0.0	10.6	10.7	0.0	0.0	0.0
1694	6362	4 20 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1694	7050	4 20 77	1	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1694	7051	4 20 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1694	7123	7 8 77	9	0	0	0	3.2	2.3	0.0	0.0	0.0	0.0	0.0
1694	7140	7 8 77	38	6290	6255	0	4.0	3.1	17.9	18.0	0.0	0.0	0.0
1694	7158	8 23 77	9	0	0	0	4.6	0.0	0.0	0.0	0.0	0.0	0.0
1694	7159	8 23 77	9	0	0	0	4.6	0.0	0.0	0.0	0.0	0.0	0.0
1694	7176	8 23 77	9	0	0	0	6.0	0.0	0.0	0.0	0.0	0.0	0.0
1694	7194	8 23 77	38	7176	6290	6255	6.0	0.0	12.1	12.2	0.0	0.0	0.0
1694	7195	9 6 77	9	0	0	0	6.0	0.0	0.0	0.0	0.0	0.0	0.0
1694	7213	9 6 77	38	7195	6290	6255	6.0	0.0	12.1	12.2	0.0	0.0	0.0
1694LACIE FINAL RATIOED ESTIMATE =									12.1		-1.0		
1694400 DOT GROUND TRUTH =									20.2		0.0		41.7
1694INVENTORY GROUND TRUTH =									16.0		0.5		23.0
1699	6254	3 17 77	7	0	0	0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
1699	6272	3 17 77	7	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1699	6290	3 17 77	36	0	0	0	2.0	0.0	0.2	0.2	0.0	0.0	0.0
1699	6362	5 25 77	5	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1699	7086	5 25 77	5	0	0	0	2.5	0.0	0.0	0.0	0.0	0.0	0.0
1699	7140	7 8 77	38	6272	0	0	3.6	2.7	0.0	0.0	8.3	16.0	0.0
1699	7158	8 8 77	9	0	0	0	4.4	4.0	0.0	0.0	0.0	0.0	0.0
1699	7176	8 8 77	38	7158	7140	6290	5.2	4.6	0.0	0.0	0.0	0.0	14.7
1699	7194	9 6 77	38	7140	6254	0	6.0	5.9	0.0	0.0	0.0	0.0	26.0
1699	7230	9 26 77	60	0	0	0	7.0	7.0	0.0	0.0	0.0	0.0	0.0
1699LACIE FINAL RATIOED ESTIMATE =									-1.0		-1.0		
1699400 DOT GROUND TRUTH =									1.9		8.3		24.1
1699INVENTORY GROUND TRUTH =									0.1		7.7		20.7
1725	6265	1 12 77	9	0	0	0	1.8	0.0	0.0	0.0	0.0	0.0	0.0
1725	6266	1 12 77	9	0	0	0	1.8	0.0	0.0	0.0	0.0	0.0	0.0
1725	6283	1 12 77	9	0	0	0	1.9	0.0	0.0	0.0	0.0	0.0	0.0
1725	6302	1 12 77	7	0	0	0	2.1	0.0	0.0	0.0	0.0	0.0	0.0
1725	7008	7 12 77	9	0	0	0	2.2	1.0	0.0	0.0	0.0	0.0	0.0
1725	7097	7 12 77	9	0	0	0	2.4	1.0	0.0	0.0	0.0	0.0	0.0
1725	7098	7 12 77	9	0	0	0	2.4	1.0	0.0	0.0	0.0	0.0	0.0
1725	7115	7 12 77	38	6265	0	0	2.6	1.5	2.0	2.0	0.0	0.0	0.0
1725	7152	9 30 77	9	0	0	0	3.2	0.0	0.0	0.0	0.0	0.0	0.0
1725	7169	8 8 77	9	0	0	0	3.9	3.4	0.0	0.0	0.0	0.0	0.0
1725	7170	8 8 77	38	7115	6265	0	4.0	3.5	3.0	3.0	0.7	5.0	0.0
1725	7188	9 1 77	36	0	0	0	4.7	0.0	3.3	3.3	0.0	0.0	0.0
1725	7224	9 30 77	36	0	0	0	7.0	0.0	5.0	5.0	0.0	0.0	0.0
1725LACIE FINAL RATIOED ESTIMATE =									5.0		-1.0		
1725400 DOT GROUND TRUTH =									3.6		1.0		19.6
1725INVENTORY GROUND TRUTH =									5.0		1.1		23.3
1730	6245	1 17 77	9	0	0	0	1.9	0.0	0.0	0.0	0.0	0.0	0.0
1730	6263	1 17 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1730	6281	1 17 77	36	0	0	0	2.1	0.0	2.7	2.7	0.0	0.0	0.0
1730	6299	1 17 77	1	0	0	0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
1730	7059	4 29 77	7	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1730	7113	6 17 77	38	6263	0	0	2.9	1.0	14.4	14.4	0.0	0.0	0.0
1730	7149	7 14 77	38	6263	0	0	3.5	2.8	4.0	4.0	0.0	0.0	0.0
1730	7203	9 9 77	38	7113	6263	0	6.0	0.0	26.0	26.0	0.0	0.0	0.0
1730LACIE FINAL RATIOED ESTIMATE =									26.0		-1.0		
1730400 DOT GROUND TRUTH =									18.5		2.7		24.2
1730INVENTORY GROUND TRUTH =									18.4		2.3		25.0
1734	6245	1 19 77	9	0	0	0	1.8	0.0	0.0	0.0	0.0	0.0	0.0
1734	6263	1 19 77	9	0	0	0	1.9	0.0	0.0	0.0	0.0	0.0	0.0
1734	6281	1 19 77	7	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1734	7059	4 12 77	2	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1734	7095	6 10 77	5	0	0	0	2.4	0.0	0.0	0.0	0.0	0.0	0.0
1734	7113	6 10 77	38	6281	0	0	2.6	0.0	28.3	28.3	0.0	0.0	0.0
1734	7203	8 31 77	38	7113	6281	0	6.0	6.0	35.0	35.0	2.8	7.0	0.0
1734LACIE FINAL RATIOED ESTIMATE =									35.0		2.8		
1734400 DOT GROUND TRUTH =									39.6		0.6		43.1

Segment	Acquisition date	Date passed to CAS	CEC	Multispectral acquisition			Robertson stage		CAMS crop percentage estimates				
				1	2	3	Winter wheat	Spring wheat	Winter wheat	Winter small grains	Spring wheat	Spring small grains	Total small grains
1734INVENTORY GROUND TRUTH =									40.6		0.4		44.0
1739	6263	1 12 77	9	0	0	0	1.8	0.0	0.0	0.0	0.0	0.0	0.0
1739	6281	1 12 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1739	6282	1 12 77	36	0	0	0	2.0	0.0	0.9	0.9	0.0	0.0	0.0
1739	7113	6 22 77	9	0	0	0	2.6	1.0	0.0	0.0	0.0	0.0	0.0
1739	7114	6 22 77	38	6263	0	0	2.6	1.0	8.0	8.0	0.0	0.0	0.0
1739	7131	7 25 77	1	0	0	0	3.2	2.4	0.0	0.0	0.0	0.0	0.0
1739	7132	7 25 77	9	0	0	0	3.2	2.4	0.0	0.0	0.0	0.0	0.0
1739	7149	7 25 77	9	0	0	0	3.4	3.1	0.0	0.0	0.0	0.0	0.0
1739	7150	7 25 77	38	7113	6263	0	3.4	3.1	10.5	10.5	2.3	5.8	0.0
1739	7168	8 31 77	38	7132	7113	6263	3.9	3.5	8.8	8.8	3.5	8.8	0.0
1739	7222	10 17 77	38	7168	7132	6263	6.0	6.0	9.2	9.2	4.3	10.9	0.0
1739LACIE FINAL RATIOED ESTIMATE =									9.8		-1.0		
1739400 DOT GROUND TRUTH =									13.9		3.1		24.4
1739INVENTORY GROUND TRUTH =									17.9		3.0		28.4
1741	6263	1 20 77	9	0	0	0	1.8	0.0	0.0	0.0	0.0	0.0	0.0
1741	6264	1 20 77	9	0	0	0	1.8	0.0	0.0	0.0	0.0	0.0	0.0
1741	6281	1 20 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1741	6282	1 20 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1741	6299	1 20 77	9	0	0	0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
1741	6300	1 20 77	36	0	0	0	2.2	0.0	0.9	0.9	0.0	0.0	0.0
1741	6300	4 25 77	14	6263	0	0	2.0	0.0	5.5	5.5	0.0	0.0	0.0
1741	6318	1 20 77	9	0	0	0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
1741	6354	1 20 77	9	0	0	0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
1741	7023	4 25 77	1	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1741	7042	4 25 77	5	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1741	7059	6 15 77	5	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1741	7095	6 15 77	1	0	0	0	2.4	0.0	0.0	0.0	0.0	0.0	0.0
1741	7096	6 15 77	1	0	0	0	2.4	0.0	0.0	0.0	0.0	0.0	0.0
1741	7114	6 15 77	38	6264	0	0	2.6	0.0	2.1	2.1	0.0	0.0	0.0
1741	7132	7 8 77	9	0	0	0	3.1	2.5	0.0	0.0	0.0	0.0	0.0
1741	7150	7 8 77	38	7114	6264	0	3.4	3.0	3.9	3.9	1.9	4.9	0.0
1741	7168	8 5 77	38	7132	6264	0	4.2	3.7	8.0	8.0	1.5	3.9	0.0
1741	7203	9 20 77	38	7168	7096	6264	6.0	5.4	8.0	8.0	1.2	3.0	0.0
1741	7222	9 30 77	1	0	0	0	6.0	6.0	0.0	0.0	0.0	0.0	0.0
1741LACIE FINAL RATIOED ESTIMATE =									-1.0		-1.0		
1741400 DOT GROUND TRUTH =									9.3		0.4		10.1
1741INVENTORY GROUND TRUTH =									11.3		0.2		11.5
1742	6281	1 21 77	20	0	0	0	2.0	0.0	23.1	23.1	0.0	0.0	0.0
1742	6299	1 21 77	9	0	0	0	2.3	0.0	0.0	0.0	0.0	0.0	0.0
1742	7113	7 19 77	38	6245	0	0	2.6	1.0	25.0	25.0	0.0	0.0	0.0
1742	7167	8 12 77	1	0	0	0	4.1	3.7	0.0	0.0	0.0	0.0	0.0
1742	7203	9 26 77	60	0	0	0	6.0	0.0	0.0	0.0	0.0	0.0	0.0
1742LACIE FINAL RATIOED ESTIMATE =									25.0		-1.0		
1742400 DOT GROUND TRUTH =									25.8		5.2		40.9
1742INVENTORY GROUND TRUTH =									23.2		5.2		36.4
1747	6316	3 31 77	30	0	0	0	2.0	0.0	18.2	18.2	0.0	0.0	0.0
1747	6316	5 2 77	34	0	0	0	2.0	0.0	21.8	21.8	0.0	0.0	0.0
1747	7022	5 2 77	5	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1747	7040	5 2 77	3	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1747	7112	6 17 77	38	6316	0	0	2.9	1.0	13.7	13.7	0.0	0.0	0.0
1747	7130	8 2 77	38	7112	6316	0	3.0	2.4	21.0	21.0	0.0	0.0	0.0
1747	7184	9 1 77	38	7112	6316	0	5.1	0.0	20.0	20.0	0.0	0.0	0.0
1747LACIE FINAL RATIOED ESTIMATE =									20.0		-1.0		
1747400 DOT GROUND TRUTH =									15.3		0.0		23.6
1747INVENTORY GROUND TRUTH =									15.3		0.0		24.8
1750	6281	1 12 77	9	0	0	0	2.1	0.0	0.0	0.0	0.0	0.0	0.0
1750	6298	1 12 77	9	0	0	0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
1750	6316	1 12 77	36	0	0	0	2.2	0.0	1.2	1.2	0.0	0.0	0.0
1750	6316	6 14 77	34	6281	0	0	2.0	0.0	3.8	3.8	0.0	0.0	0.0
1750	7112	6 14 77	3	0	0	0	2.4	0.0	0.0	0.0	0.0	0.0	0.0
1750	7113	6 14 77	3	0	0	0	2.4	0.0	0.0	0.0	0.0	0.0	0.0
1750	7184	8 24 77	38	6281	0	0	4.6	4.0	0.0	0.0	0.0	0.0	19.0
1750	7203	10 18 77	9	0	0	0	5.8	0.0	0.0	0.0	0.0	0.0	0.0
1750	7221	10 18 77	38	7203	6316	6281	6.0	0.0	0.0	0.0	0.0	0.0	18.0
1750LACIE FINAL RATIOED ESTIMATE =									7.9		-1.0		
1750400 DOT GROUND TRUTH =									3.5		1.2		7.3
1750INVENTORY GROUND TRUTH =									4.4		0.1		23.4

Segment	Acquisition date	Date passed to CAS	CEC	Multispectral acquisition			Robertson stage		CAMS crop percentage estimates				
				1	2	3	Winter wheat	Spring wheat	Winter wheat	Winter small grains	Spring wheat	Spring small grains	Total small grains
1752	6280	1 12 77	9	0	0	0	2.1	0.0	0.0	0.0	0.0	0.0	0.0
1752	6298	1 12 77	9	0	0	0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
1752	6316	1 12 77	36	0	0	0	2.3	0.0	4.5	4.5	0.0	0.0	0.0
1752	7112	6 15 77	38	6298	0	0	2.8	0.0	5.7	5.7	0.0	0.0	0.0
1752	7130	7 18 77	38	6316	6244	0	2.9	2.3	12.8	12.8	0.2	1.9	0.0
1752	7184	8 8 77	38	6316	6244	0	4.7	0.0	5.5	5.5	0.2	2.1	0.0
1752	7203	8 31 77	38	7184	7112	6244	5.2	5.2	6.0	6.0	0.2	2.0	0.0
1752	7221	10 19 77	60	0	0	0	6.0	6.0	0.0	0.0	0.0	0.0	0.0
1752LACIE FINAL RATIOED ESTIMATE =									-1.0		-1.0		
1752400 DOT GROUND TRUTH =									11.0		0.0		11.0
1752INVENTORY GROUND TRUTH =									12.0		1.5		19.9
1753	6298	1 12 77	36	0	0	0	2.2	0.0	2.0	2.0	0.0	0.0	0.0
1753	6352	1 12 77	1	0	0	0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
1753	7022	4 8 77	5	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1753	7039	4 8 77	5	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1753	7040	4 8 77	5	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1753	7075	6 9 77	1	0	0	0	2.3	0.0	0.0	0.0	0.0	0.0	0.0
1753	7112	6 9 77	38	6244	0	0	2.8	0.0	12.1	12.1	0.0	0.0	0.0
1753	7129	7 11 77	9	0	0	0	3.0	2.4	0.0	0.0	0.0	0.0	0.0
1753	7130	7 11 77	38	7112	0	0	3.0	2.4	4.5	4.5	0.2	2.0	0.0
1753	7166	8 26 77	1	0	0	0	5.0	3.8	0.0	0.0	0.0	0.0	0.0
1753	7184	8 26 77	38	7130	7112	0	6.0	5.0	12.0	12.0	0.5	5.0	0.0
1753LACIE FINAL RATIOED ESTIMATE =									12.0		-1.0		
1753400 DOT GROUND TRUTH =									11.3		0.6		15.0
1753INVENTORY GROUND TRUTH =									11.8		0.8		16.2
1800	6253	3 22 77	7	0	0	0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
1800	6288	3 22 77	7	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1800	6306	4 25 77	7	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1800	6307	3 22 77	7	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1800	6324	3 22 77	7	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1800	6325	3 22 77	7	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1800	7030	4 25 77	3	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1800	7120	5 27 77	2	0	0	0	3.1	0.0	0.0	0.0	0.0	0.0	0.0
1800	7121	5 27 77	3	0	0	0	3.1	0.0	0.0	0.0	0.0	0.0	0.0
1800	7156	8 26 77	38	7120	6306	6253	4.3	3.9	5.8	6.7	3.2	29.8	0.0
1800	7174	9 29 77	9	0	0	0	5.5	4.5	0.0	0.0	0.0	0.0	0.0
1800	7192	9 29 77	9	0	0	0	6.0	6.0	0.0	0.0	0.0	0.0	0.0
1800	7193	9 29 77	9	0	0	0	6.0	6.0	0.0	0.0	0.0	0.0	0.0
1800	7210	9 29 77	38	7156	7120	6253	6.0	6.0	5.8	6.7	3.2	29.6	0.0
1800	7211	9 29 77	60	0	0	0	6.0	6.0	0.0	0.0	0.0	0.0	0.0
1800LACIE FINAL RATIOED ESTIMATE =									-1.0		-1.0		
1800400 DOT GROUND TRUTH =									0.0		0.3		31.2
1800INVENTORY GROUND TRUTH =									0.1		0.5		33.1
1802	6253	3 22 77	7	0	0	0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
1802	6307	3 22 77	2	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1802	6325	3 22 77	2	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1802	7121	6 1 77	36	0	0	0	3.2	0.0	0.0	0.0	0.0	0.0	0.0
1802	7157	7 11 77	38	7121	6307	0	4.0	3.6	0.0	0.0	0.0	0.0	40.0
1802	7193	9 8 77	38	7157	7121	6253	6.0	6.0	6.1	7.1	1.0	9.1	0.0
1802	7211	10 14 77	38	7157	7121	6253	6.0	6.0	10.2	11.8	1.2	11.2	.0.0
1802LACIE FINAL RATIOED ESTIMATE =									-1.0		-1.0		
1802400 DOT GROUND TRUTH =									0.4		0.3		13.2
1802INVENTORY GROUND TRUTH =									0.4		0.5		15.3
1803	6255	6 8 77	7	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1803	6273	3 18 77	7	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1803	6274	3 18 77	7	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1803	6291	3 18 77	36	0	0	0	2.0	0.0	1.7	1.7	0.0	0.0	0.0
1803	6328	3 18 77	1	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1803	7051	6 8 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1803	7052	6 8 77	38	6255	0	0	2.0	0.0	4.7	4.8	0.0	0.0	0.0
1803	7069	6 8 77	1	0	0	0	2.5	0.0	0.0	0.0	0.0	0.0	0.0
1803	7123	7 1 77	9	0	0	0	3.2	2.3	0.0	0.0	0.0	0.0	0.0
1803	7124	7 1 77	9	0	0	0	3.2	2.3	0.0	0.0	0.0	0.0	0.0
1803	7142	7 1 77	38	7123	6274	6255	3.8	3.2	2.0	2.0	0.0	0.0	0.0
1803	7159	8 31 77	9	0	0	0	4.7	0.0	0.0	0.0	0.0	0.0	0.0
1803	7160	8 31 77	9	0	0	0	4.7	0.0	0.0	0.0	0.0	0.0	0.0
1803	7178	8 31 77	38	7159	7123	6255	6.0	0.0	2.0	2.0	0.0	0.0	0.0
1803	7195	9 26 77	9	0	0	0	6.0	0.0	0.0	0.0	0.0	0.0	0.0
1803	7213	9 26 77	9	0	0	0	7.0	0.0	0.0	0.0	0.0	0.0	0.0
1803	7214	9 26 77	60	0	0	0	7.0	0.0	0.0	0.0	0.0	0.0	0.0

Segment	Acquisition date	Date passed to CAS	CEC	Multispectral acquisition			Robertson stage		CAMS crop percentage estimates				
				1	2	3	Winter wheat	Spring wheat	Winter wheat	Winter small grains	Spring wheat	Spring small grains	Total small grains
1803LACIE FINAL RATIOED ESTIMATE =									2.0		-1.0		
1803400 DOT GROUND TRUTH =									2.3		0.0		3.3
1803INVENTORY GROUND TRUTH =									0.5		0.0		1.1
1805 6253	3	18 77	7	0	0	0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
1805 6254	3	18 77	7	0	0	0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
1805 6272	3	18 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1805 6290	3	18 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1805 6307	3	18 77	36	0	0	0	2.0	0.0	4.9	4.9	0.0	0.0	0.0
1805 6325	3	18 77	1	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1805 7050	6	22 77	5	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1805 7086	6	22 77	5	0	0	0	2.4	0.0	0.0	0.0	0.0	0.0	0.0
1805 7158	9	7 77	38	6307	6290	0	4.8	4.0	2.0	2.0	1.5	4.9	0.0
1805 7175	10	3 77	9	0	0	0	6.0	6.0	0.0	0.0	0.0	0.0	0.0
1805 7176	10	3 77	9	0	0	0	6.0	6.0	0.0	0.0	0.0	0.0	0.0
1805 7193	10	3 77	9	0	0	0	6.0	6.0	0.0	0.0	0.0	0.0	0.0
1805 7194	10	3 77	9	0	0	0	6.0	6.0	0.0	0.0	0.0	0.0	0.0
1805 7211	10	3 77	38	7158	6307	6290	7.0	7.0	0.0	0.0	3.8	12.4	0.0
1805LACIE FINAL RATIOED ESTIMATE =									-1.0		3.8		
1805400 DOT GROUND TRUTH =									1.0		0.0		14.7
1805INVENTORY GROUND TRUTH =									0.3		1.2		15.8
1807 6253	3	22 77	7	0	0	0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
1807 6288	3	22 77	7	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1807 6289	3	22 77	7	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1807 6306	6	2 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1807 6307	3	22 77	7	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1807 6325	3	22 77	7	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1807 6360	3	22 77	7	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1807 6361	6	2 77	1	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1807 7030	6	2 77	1	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1807 7048	6	2 77	1	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1807 7120	6	2 77	38	6253	0	0	3.2	0.0	2.3	2.5	0.0	0.0	0.0
1807 7156	8	11 77	38	7120	0	0	4.6	3.9	3.9	4.2	1.6	19.7	0.0
1807 7174	9	6 77	38	7156	7120	0	5.6	4.8	2.9	3.1	1.4	18.0	0.0
1807 7175	9	6 77	9	0	0	0	5.6	4.8	0.0	0.0	0.0	0.0	0.0
1807 7210	10	5 77	9	0	0	0	7.0	7.0	0.0	0.0	0.0	0.0	0.0
1807 7211	10	5 77	38	7156	7120	6253	7.0	7.0	0.0	0.0	2.2	28.2	0.0
1807LACIE FINAL RATIOED ESTIMATE =									-1.0		-1.0		
1807400 DOT GROUND TRUTH =									0.0		1.2		23.8
1807INVENTORY GROUND TRUTH =									0.0		1.7		30.7
1811 6253	3	18 77	7	0	0	0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
1811 6288	3	18 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1811 6289	3	18 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1811 6306	6	9 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1811 6307	3	18 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1811 6325	3	18 77	36	0	0	0	2.0	0.0	0.9	1.0	0.0	0.0	0.0
1811 7030	6	9 77	1	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1811 7120	6	9 77	38	6253	0	0	3.6	0.0	2.1	2.2	0.0	0.0	0.0
1811 7138	7	22 77	9	0	0	0	3.7	2.9	0.0	0.0	0.0	0.0	0.0
1811 7156	9	6 77	9	0	0	0	4.7	3.9	0.0	0.0	0.0	0.0	0.0
1811 7157	7	22 77	38	7120	6253	0	4.7	3.9	10.6	11.4	1.3	16.5	0.0
1811 7174	9	6 77	38	7157	7120	6253	5.3	4.8	10.3	11.0	1.4	18.0	0.0
1811 7192	10	13 77	9	0	0	0	6.0	6.0	0.0	0.0	0.0	0.0	0.0
1811 7193	10	13 77	9	0	0	0	6.0	6.0	0.0	0.0	0.0	0.0	0.0
1811 7210	10	13 77	9	0	0	0	7.0	7.0	0.0	0.0	0.0	0.0	0.0
1811 7211	10	13 77	38	7174	7157	7120	7.0	7.0	2.9	3.1	1.5	18.8	0.0
1811LACIE FINAL RATIOED ESTIMATE =									-1.0		-1.0		
1811400 DOT GROUND TRUTH =									0.6		0.6		20.4
1811INVENTORY GROUND TRUTH =									0.6		0.4		22.6
1816 7120	6	16 77	7	0	0	0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
1816 7138	6	16 77	7	0	0	0	0.0	2.5	0.0	0.0	0.0	0.0	0.0
1816 7156	7	22 77	36	0	0	0	0.0	3.5	0.0	0.0	0.0	0.0	0.0
1816LACIE FINAL RATIOED ESTIMATE =									-1.0		-1.0		
1816400 DOT GROUND TRUTH =									0.0		0.2		4.0
1830 7157	8	8 77	9	0	0	0	0.0	3.5	0.0	0.0	0.0	0.0	0.0
1830 7175	8	8 77	30	0	0	0	0.0	4.3	0.0	0.0	33.3	60.2	0.0
1830 7193	9	20 77	9	0	0	0	0.0	5.7	0.0	0.0	0.0	0.0	0.0
1830 7211	9	20 77	38	7193	7175	0	0.0	6.0	0.0	0.0	29.9	54.0	0.0
1830 7229	10	19 77	60	0	0	0	0.0	6.0	0.0	0.0	0.0	0.0	0.0
1830LACIE FINAL RATIOED ESTIMATE =									-1.0		29.9		

Segment	Acquisition date	Date passed to CAS	CEC	Multispectral acquisition			Robertson stage		CAMS crop percentage estimates				
				1	2	3	Winter wheat	Spring wheat	Winter wheat	Winter small grains	Spring wheat	Spring small grains	Total small grains
1830400 DOT GROUND TRUTH =									0.0		45.1		65.0
1830INVENTORY GROUND TRUTH =									0.1		36.7		58.1
1835	7120	7 8 77	7	0	0	0	0.0	1.6	0.0	0.0	0.0	0.0	0.0
1835	7138	7 8 77	1	0	0	0	0.0	2.6	0.0	0.0	0.0	0.0	0.0
1835	7156	7 8 77	38	7120	0	0	0.0	3.4	0.0	0.0	13.7	24.0	0.0
1835	7174	8 22 77	38	7156	7120	0	0.0	4.2	0.0	0.0	15.8	27.7	0.0
1835	7174	10 11 77	34	7156	7120	0	0.0	4.2	0.0	0.0	14.1	24.7	0.0
1835	7210	10 11 77	1	0	0	0	0.0	6.0	0.0	0.0	0.0	0.0	0.0
1835LACIE FINAL RATIOED ESTIMATE =									-1.0		14.1		
1835400 DOT GROUND TRUTH =									0.0		9.5		25.0
1835INVENTORY GROUND TRUTH =									0.0		9.9		30.1
1839	7119	6 30 77	9	0	0	0	0.0	1.6	0.0	0.0	0.0	0.0	0.0
1839	7120	6 30 77	9	0	0	0	0.0	1.6	0.0	0.0	0.0	0.0	0.0
1839	7137	6 30 77	38	7120	0	0	0.0	2.6	0.0	0.0	11.4	20.0	0.0
1839	7138	6 30 77	9	0	0	0	0.0	2.6	0.0	0.0	0.0	0.0	0.0
1839	7156	7 8 77	38	7137	7119	0	0.0	3.6	0.0	0.0	12.6	22.0	0.0
1839	7174	8 5 77	38	7156	7137	7119	0.0	4.4	0.0	0.0	13.7	24.0	0.0
1839LACIE FINAL RATIOED ESTIMATE =									-1.0		13.7		
1839400 DOT GROUND TRUTH =									0.0		17.2		24.4
1839INVENTORY GROUND TRUTH =									0.0		16.6		24.7
1849	7100	7 1 77	7	0	0	0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
1849	7118	7 1 77	7	0	0	0	0.0	2.2	0.0	0.0	0.0	0.0	0.0
1849	7119	7 1 77	1	0	0	0	0.0	2.2	0.0	0.0	0.0	0.0	0.0
1849	7136	7 1 77	38	7118	7100	0	0.0	2.8	0.0	0.0	4.4	13.4	0.0
1849	7172	10 19 77	60	0	0	0	0.0	6.0	0.0	0.0	0.0	0.0	0.0
1849LACIE FINAL RATIOED ESTIMATE =									-1.0		4.4		
1849400 DOT GROUND TRUTH =									0.5		11.5		18.1
1849INVENTORY GROUND TRUTH =									1.6		10.5		18.7
1850	6255	1 27 77	7	0	0	0	1.7	0.0	0.0	0.0	0.0	0.0	0.0
1850	6273	1 27 77	9	0	0	0	2.4	0.0	0.0	0.0	0.0	0.0	0.0
1850	6327	1 27 77	30	0	0	0	2.6	0.0	13.4	13.4	0.0	0.0	0.0
1850	6327	4 28 77	34	6255	0	0	2.0	0.0	12.4	12.4	0.0	0.0	0.0
1850	6363	4 28 77	3	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1850	7015	4 28 77	9	0	0	0	2.6	0.0	0.0	0.0	0.0	0.0	0.0
1850	7050	4 28 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1850	7051	4 28 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1850	7068	4 28 77	9	0	0	0	2.8	0.0	0.0	0.0	0.0	0.0	0.0
1850	7069	4 28 77	9	0	0	0	2.8	0.0	0.0	0.0	0.0	0.0	0.0
1850	7087	5 12 77	1	0	0	0	3.1	0.0	0.0	0.0	0.0	0.0	0.0
1850	7177	8 12 77	3	0	0	0	6.0	0.0	0.0	0.0	0.0	0.0	0.0
1850LACIE FINAL RATIOED ESTIMATE =									-1.0		-1.0		
1850400 DOT GROUND TRUTH =									35.3		0.0		35.3
1850INVENTORY GROUND TRUTH =									20.8		0.0		20.8
1851	6289	1 27 77	7	0	0	0	2.3	0.0	0.0	0.0	0.0	0.0	0.0
1851	6343	1 27 77	9	0	0	0	2.4	0.0	0.0	0.0	0.0	0.0	0.0
1851	7031	6 22 77	9	0	0	0	2.4	0.0	0.0	0.0	0.0	0.0	0.0
1851	7067	6 22 77	38	6289	0	0	2.6	0.0	23.4	23.7	0.0	0.0	0.0
1851	7157	9 14 77	1	0	0	0	4.8	0.0	0.0	0.0	0.0	0.0	0.0
1851	7193	9 14 77	2	0	0	0	6.0	0.0	0.0	0.0	0.0	0.0	0.0
1851LACIE FINAL RATIOED ESTIMATE =									23.4		-1.0		
1851400 DOT GROUND TRUTH =									22.3		0.0		22.5
1853	6289	1 25 77	9	0	0	0	2.3	0.0	0.0	0.0	0.0	0.0	0.0
1853	6343	1 25 77	30	0	0	0	2.4	0.0	38.9	39.1	0.0	0.0	0.0
1853	6361	4 29 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1853	7031	4 29 77	1	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1853	7049	4 29 77	1	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1853	7067	4 29 77	38	6253	0	0	2.0	0.0	29.3	29.4	0.0	0.0	0.0
1853	7157	7 19 77	1	0	0	0	5.2	0.0	0.0	0.0	0.0	0.0	0.0
1853	7193	9 1 77	38	7067	6253	0	6.0	0.0	25.9	26.0	0.0	0.0	0.0
1853LACIE FINAL RATIOED ESTIMATE =									25.9		-1.0		
1853400 DOT GROUND TRUTH =									28.7		0.0		28.7
1853INVENTORY GROUND TRUTH =									30.5		0.0		30.6
1859	6290	1 26 77	9	0	0	0	2.4	0.0	0.0	0.0	0.0	0.0	0.0
1859	6326	1 26 77	30	0	0	0	2.4	0.0	29.2	29.2	0.0	0.0	0.0
1859	6326	4 28 77	34	0	0	0	2.0	0.0	24.1	24.1	0.0	0.0	0.0
1859	6362	4 28 77	1	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0

Segment	Acquisition date	Date passed to CAS	CEC	Multispectral acquisition			Robertson stage		CAMS crop percentage estimates				
				1	2	3	Winter wheat	Spring wheat	Winter wheat	Winter small grains	Spring wheat	Spring small grains	Total small grains
1859	7032	4 28 77	1	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1859	7050	4 28 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1859	7068	4 28 77	9	0	0	0	2.6	0.0	0.0	0.0	0.0	0.0	0.0
1859	LACIE FINAL RATIOED ESTIMATE =								-1.0		-1.0		
1859	400 DOT GROUND TRUTH =								29.5		0.0		29.5
1859	INVENTORY GROUND TRUTH =								26.4		0.0		26.4
1861	6290	1 20 77	1	0	0	0	2.3	0.0	0.0	0.0	0.0	0.0	0.0
1861	6326	1 20 77	20	0	0	0	2.4	0.0	27.4	27.4	0.0	0.0	0.0
1861	6362	4 29 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1861	7032	4 29 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1861	7050	4 29 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1861	7068	4 29 77	38	6326	0	0	2.0	0.0	25.4	25.4	0.0	0.0	0.0
1861	7086	5 26 77	1	0	0	0	2.8	0.0	0.0	0.0	0.0	0.0	0.0
1861	7104	5 26 77	30	0	0	0	3.0	0.0	20.0	20.0	0.0	0.0	0.0
1861	7122	6 13 77	1	0	0	0	3.6	0.0	0.0	0.0	0.0	0.0	0.0
1861	7158	7 25 77	38	7104	0	0	4.8	0.0	18.0	18.0	0.0	0.0	0.0
1861	7194	9 14 77	38	7158	7104	6326	5.3	0.0	22.8	22.8	0.0	0.0	0.0
1861	LACIE FINAL RATIOED ESTIMATE =								22.8		-1.0		
1861	400 DOT GROUND TRUTH =								35.3		0.0		35.3
1864	6290	1 26 77	9	0	0	0	2.3	0.0	0.0	0.0	0.0	0.0	0.0
1864	6326	1 26 77	30	0	0	0	2.5	0.0	19.4	19.6	0.0	0.0	0.0
1864	7014	4 28 77	30	0	0	0	2.0	0.0	31.1	31.4	0.0	0.0	0.0
1864	7050	4 28 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1864	7068	4 28 77	9	0	0	0	2.6	0.0	0.0	0.0	0.0	0.0	0.0
1864	7122	6 15 77	38	6290	0	0	3.6	0.0	30.5	30.8	0.0	0.0	0.0
1864	7194	9 20 77	60	0	0	0	6.0	0.0	0.0	0.0	0.0	0.0	0.0
1864	LACIE FINAL RATIOED ESTIMATE =								30.5		-1.0		
1864	400 DOT GROUND TRUTH =								35.8		0.0		35.8
1864	INVENTORY GROUND TRUTH =								34.4		0.0		34.6
1873	7120	7 8 77	7	0	0	0	0.0	2.2	0.0	0.0	0.0	0.0	0.0
1873	7138	7 8 77	38	7120	0	0	0.0	2.8	0.0	0.0	8.1	20.0	0.0
1873	7156	8 17 77	9	0	0	0	0.0	3.8	0.0	0.0	0.0	0.0	0.0
1873	7174	8 17 77	38	7156	7138	7120	0.0	4.8	0.0	0.0	7.3	18.0	0.0
1873	7192	9 29 77	38	7174	7156	7120	0.0	6.0	0.0	0.0	6.9	16.9	0.0
1873	LACIE FINAL RATIOED ESTIMATE =								-1.0		6.9		
1873	400 DOT GROUND TRUTH =								0.0		6.1		27.5
1873	INVENTORY GROUND TRUTH =								2.6		2.3		29.0
1881	6288	1 10 77	9	0	0	0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
1881	6306	1 10 77	9	0	0	0	2.3	0.0	0.0	0.0	0.0	0.0	0.0
1881	6324	1 10 77	36	0	0	0	2.3	0.0	5.7	5.7	0.0	0.0	0.0
1881	6360	4 29 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1881	7030	4 29 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1881	7066	4 29 77	38	6288	0	0	2.0	0.0	14.8	14.8	0.0	0.0	0.0
1881	7156	8 30 77	38	7066	6288	0	4.9	0.0	25.4	25.5	0.0	0.0	0.0
1881	7192	8 30 77	1	0	0	0	6.0	0.0	0.0	0.0	0.0	0.0	0.0
1881	LACIE FINAL RATIOED ESTIMATE =								25.4		-1.0		
1881	400 DOT GROUND TRUTH =								23.8		0.0		23.8
1885	6287	1 5 77	9	0	0	0	2.1	0.0	0.0	0.0	0.0	0.0	0.0
1885	6288	1 5 77	9	0	0	0	2.1	0.0	0.0	0.0	0.0	0.0	0.0
1885	6305	1 5 77	9	0	0	0	2.3	0.0	0.0	0.0	0.0	0.0	0.0
1885	6306	1 5 77	9	0	0	0	2.3	0.0	0.0	0.0	0.0	0.0	0.0
1885	6324	1 5 77	7	0	0	0	2.3	0.0	0.0	0.0	0.0	0.0	0.0
1885	6359	4 5 77	1	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1885	6360	4 5 77	7	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1885	7029	4 5 77	7	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1885	7030	4 5 77	1	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1885	7048	4 5 77	7	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1885	7066	5 2 77	9	0	0	0	2.6	0.0	0.0	0.0	0.0	0.0	0.0
1885	7083	5 2 77	9	0	0	0	2.7	0.0	0.0	0.0	0.0	0.0	0.0
1885	7101	5 2 77	38	6287	0	0	3.0	0.0	39.0	39.3	0.0	0.0	0.0
1885	7155	7 22 77	38	7101	6305	0	4.9	0.0	52.8	53.2	0.0	0.0	0.0
1885	7156	9 30 77	9	0	0	0	4.9	0.0	0.0	0.0	0.0	0.0	0.0
1885	7191	9 30 77	38	7155	7101	6287	6.0	0.0	44.7	45.0	0.0	0.0	0.0
1885	7192	9 30 77	1	0	0	0	6.0	0.0	0.0	0.0	0.0	0.0	0.0
1885	LACIE FINAL RATIOED ESTIMATE =								44.7		-1.0		
1885	400 DOT GROUND TRUTH =								54.1		0.0		54.3
1890	6288	1 6 77	9	0	0	0	2.2	0.0	0.0	0.0	0.0	0.0	0.0

Segment	Acquisition date	Date passed to CAS	CEC	Multispectral acquisition			Robertson stage		CAMS crop percentage estimates				
				1	2	3	Winter wheat	Spring wheat	Winter wheat	Winter small grains	Spring wheat	Spring small grains	Total small grains
1890	6306	1 6 77	9	0	0	0	2.3	0.0	0.0	0.0	0.0	0.0	0.0
1890	6324	1 6 77	36	0	0	0	2.3	0.0	0.9	0.9	0.0	0.0	0.0
1890	6360	5 2 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1890	7030	5 2 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1890	7048	5 2 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1890	7066	5 2 77	38	6288	0	0	2.6	0.0	33.8	34.0	0.0	0.0	0.0
1890	7084	6 14 77	1	0	0	0	2.8	0.0	0.0	0.0	0.0	0.0	0.0
1890	7156	10 19 77	60	0	0	0	6.0	0.0	0.0	0.0	0.0	0.0	0.0
1890LACIE FINAL RATIOED ESTIMATE =									33.8		-1.0		
1890400 DOT GROUND TRUTH =									38.9		0.0		38.9
1894	7137	8 12 77	9	0	0	0	0.0	2.5	0.0	0.0	0.0	0.0	0.0
1894	7155	8 12 77	38	7137	0	0	0.0	3.7	0.0	0.0	3.7	9.0	0.0
1894LACIE FINAL RATIOED ESTIMATE =									-1.0		-1.0		
1894400 DOT GROUND TRUTH =									0.0		1.0		9.2
1894INVENTORY GROUND TRUTH =									0.0		1.2		8.5
1897	7143	8 8 77	7	0	0	0	0.0	2.8	0.0	0.0	0.0	0.0	0.0
1897	7179	8 8 77	38	7143	0	0	0.0	4.4	0.0	0.0	18.9	28.8	0.0
1897	7196	10 3 77	9	0	0	0	0.0	5.0	0.0	0.0	0.0	0.0	0.0
1897	7197	10 3 77	9	0	0	0	0.0	5.0	0.0	0.0	0.0	0.0	0.0
1897	7214	10 3 77	38	7197	7143	0	0.0	6.0	0.0	0.0	29.7	45.4	0.0
1897	7250	11 7 77	18	7214	7197	7143	0.0	7.0	0.0	0.0	19.6	30.0	0.0
1897LACIE FINAL RATIOED ESTIMATE =									-1.0		29.7		
1897400 DOT GROUND TRUTH =									0.0		25.0		34.4
1897INVENTORY GROUND TRUTH =									0.0		25.1		38.9
1899	7122	7 8 77	7	0	0	0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
1899	7140	7 8 77	9	0	0	0	0.0	2.4	0.0	0.0	0.0	0.0	0.0
1899	7157	7 8 77	38	7140	7122	0	0.0	3.1	0.0	0.0	37.6	60.0	0.0
1899	7175	8 8 77	38	7157	7122	0	0.0	4.3	0.0	0.0	39.5	63.0	0.0
1899	7193	9 6 77	38	7175	7157	7122	0.0	5.1	0.0	0.0	37.0	59.0	0.0
1899LACIE FINAL RATIOED ESTIMATE =									-1.0		37.0		
1899400 DOT GROUND TRUTH =									0.0		31.4		62.7
1899INVENTORY GROUND TRUTH =									0.0		28.6		59.3
1902	7107	8 2 77	7	0	0	0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
1902	7125	8 2 77	9	0	0	0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
1902	7143	8 2 77	9	0	0	0	0.0	2.6	0.0	0.0	0.0	0.0	0.0
1902	7144	8 2 77	30	0	0	0	0.0	2.6	0.0	0.0	0.7	1.0	0.0
1902	7197	10 3 77	38	7125	0	0	0.0	5.0	0.0	0.0	5.2	7.0	0.0
1902LACIE FINAL RATIOED ESTIMATE =									-1.0		5.2		
1902400 DOT GROUND TRUTH =									0.0		4.2		5.0
1902INVENTORY GROUND TRUTH =									0.0		6.6		8.6
1903	7125	8 8 77	7	0	0	0	0.0	2.2	0.0	0.0	0.0	0.0	0.0
1903	7179	8 8 77	38	7125	0	0	0.0	4.3	0.0	0.0	14.8	20.0	0.0
1903	7196	10 11 77	1	0	0	0	0.0	5.0	0.0	0.0	0.0	0.0	0.0
1903	7197	10 11 77	9	0	0	0	0.0	5.0	0.0	0.0	0.0	0.0	0.0
1903	7233	10 11 77	38	7197	7125	0	0.0	7.0	0.0	0.0	10.3	13.9	0.0
1903LACIE FINAL RATIOED ESTIMATE =									-1.0		10.3		
1903400 DOT GROUND TRUTH =									0.0		10.5		14.8
1903INVENTORY GROUND TRUTH =									0.0		12.1		17.4
1909	7159	8 12 77	2	0	0	0	0.0	3.5	0.0	0.0	0.0	0.0	0.0
1909LACIE FINAL RATIOED ESTIMATE =									-1.0		-1.0		
1909400 DOT GROUND TRUTH =									0.0		10.4		15.7
1913	7125	8 8 77	7	0	0	0	0.0	2.4	0.0	0.0	0.0	0.0	0.0
1913	7143	8 8 77	9	0	0	0	0.0	3.0	0.0	0.0	0.0	0.0	0.0
1913	7161	8 8 77	9	0	0	0	0.0	3.7	0.0	0.0	0.0	0.0	0.0
1913	7179	8 8 77	38	7161	7125	0	0.0	4.4	0.0	0.0	14.8	20.0	0.0
1913	7197	9 6 77	38	7179	7161	7125	0.0	5.6	0.0	0.0	16.3	22.1	0.0
1913	7215	10 11 77	38	7197	7125	0	0.0	6.0	0.0	0.0	14.0	19.0	0.0
1913	7233	10 11 77	9	0	0	0	0.0	7.0	0.0	0.0	0.0	0.0	0.0
1913LACIE FINAL RATIOED ESTIMATE =									-1.0		14.0		
1913400 DOT GROUND TRUTH =									0.9		25.2		30.3
1913INVENTORY GROUND TRUTH =									0.6		25.7		30.5
1916	7105	8 12 77	7	0	0	0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
1916	7123	8 12 77	7	0	0	0	0.0	1.8	0.0	0.0	0.0	0.0	0.0

Segment	Acquisition date	Date passed to CAS	CEC	Multispectral acquisition			Robertson stage		CAMS crop percentage estimates				
				1	2	3	Winter wheat	Spring wheat	Winter wheat	Winter small grains	Spring wheat	Spring small grains	Total small grains
1916	7195	8 12 77	1	0	0	0	0.0	4.8	0.0	0.0	0.0	0.0	0.0
1916	7213	9 6 77	2	0	0	0	0.0	6.0	0.0	0.0	0.0	0.0	0.0
1916LACIE FINAL RATIOED ESTIMATE =									-1.0		-1.0		
1916400 DOT GROUND TRUTH =									0.4		5.0		10.4
1920	7123	8 12 77	1	0	0	0	0.0	2.1	0.0	0.0	0.0	0.0	0.0
1920	7178	8 12 77	2	0	0	0	0.0	4.2	0.0	0.0	0.0	0.0	0.0
1920	7195	8 12 77	1	0	0	0	0.0	5.4	0.0	0.0	0.0	0.0	0.0
1920LACIE FINAL RATIOED ESTIMATE =									-1.0		-1.0		
1920400 DOT GROUND TRUTH =									0.4		16.5		20.4
1924	7122	7 8 77	9	0	0	0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
1924	7140	7 8 77	38	7122	0	0	0.0	2.9	0.0	0.0	0.0	0.0	40.0
1924	7176	9 27 77	38	7140	7122	0	0.0	4.3	0.0	0.0	19.8	34.9	0.0
1924	7194	9 27 77	1	0	0	0	0.0	5.4	0.0	0.0	0.0	0.0	0.0
1924	7230	10 17 77	60	0	0	0	0.0	6.0	0.0	0.0	0.0	0.0	0.0
1924LACIE FINAL RATIOED ESTIMATE =									-1.0		19.8		
1924400 DOT GROUND TRUTH =									0.0		34.0		39.2
1924INVENTORY GROUND TRUTH =									0.0		34.0		45.5
1927	7121	7 12 77	9	0	0	0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
1927	7122	7 12 77	9	0	0	0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
1927	7140	7 12 77	9	0	0	0	0.0	2.7	0.0	0.0	0.0	0.0	0.0
1927	7157	7 12 77	9	0	0	0	0.0	3.6	0.0	0.0	0.0	0.0	0.0
1927	7158	7 12 77	18	7140	7122	0	0.0	3.6	0.0	0.0	0.0	0.0	61.6
1927	7175	9 6 77	38	7157	7121	0	0.0	4.4	0.0	0.0	20.2	35.7	0.0
1927	7176	9 6 77	9	0	0	0	0.0	4.4	0.0	0.0	0.0	0.0	0.0
1927	7193	10 3 77	9	0	0	0	0.0	5.4	0.0	0.0	0.0	0.0	0.0
1927	7194	9 6 77	1	0	0	0	0.0	5.4	0.0	0.0	0.0	0.0	0.0
1927	7230	10 3 77	38	7193	7175	7121	0.0	6.0	0.0	0.0	17.2	30.3	0.0
1927LACIE FINAL RATIOED ESTIMATE =									-1.0		17.2		
1927400 DOT GROUND TRUTH =									0.2		16.3		27.5
1927INVENTORY GROUND TRUTH =									0.4		16.6		31.8
1929	6261	3 9 77	7	0	0	0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
1929	6279	3 9 77	36	0	0	0	2.0	0.0	0.5	0.5	0.0	0.0	0.0
1929	6316	3 9 77	3	0	0	0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
1929	7076	4 28 77	2	0	0	0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
1929	7112	6 7 77	3	0	0	0	2.8	0.0	0.0	0.0	0.0	0.0	0.0
1929	7129	7 22 77	9	0	0	0	3.1	2.4	0.0	0.0	0.0	0.0	0.0
1929	7147	7 22 77	38	6261	7129	0	3.6	3.2	0.0	0.0	5.9	15.0	0.0
1929	7148	7 22 77	1	0	0	0	3.6	3.2	0.0	0.0	0.0	0.0	0.0
1929	7184	9 1 77	38	7129	0	0	5.2	5.0	0.0	0.0	18.0	45.6	0.0
1929	7201	9 26 77	9	0	0	0	7.0	7.0	0.0	0.0	0.0	0.0	0.0
1929	7202	9 26 77	9	0	0	0	7.0	7.0	0.0	0.0	0.0	0.0	0.0
1929	7220	9 26 77	60	0	0	0	7.0	7.0	0.0	0.0	0.0	0.0	0.0
1929LACIE FINAL RATIOED ESTIMATE =									-1.0		18.0		
1929400 DOT GROUND TRUTH =									1.8		31.4		46.2
1929INVENTORY GROUND TRUTH =									1.5		29.5		42.6
1937	6263	3 18 77	7	0	0	0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
1937	6264	3 18 77	7	0	0	0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
1937	6281	3 18 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1937	6282	3 18 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1937	6299	3 18 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1937	6300	3 18 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1937	6317	3 18 77	30	0	0	0	2.0	0.0	15.2	15.2	0.0	0.0	0.0
1937	6318	3 18 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1937	6318	5 10 77	34	6264	0	0	2.0	0.0	24.9	24.9	0.0	0.0	0.0
1937	6354	5 10 77	9	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1937	7023	5 10 77	1	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1937	7059	5 10 77	5	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1937	7096	5 10 77	1	0	0	0	2.4	0.0	0.0	0.0	0.0	0.0	0.0
1937	7113	6 15 77	9	0	0	0	2.8	0.0	0.0	0.0	0.0	0.0	0.0
1937	7114	6 15 77	38	6264	0	0	2.8	0.0	18.2	18.2	0.0	0.0	0.0
1937	7132	7 19 77	38	7114	6318	6264	3.1	2.6	15.0	15.0	0.4	1.0	0.0
1937	7168	8 11 77	18	7132	6317	6264	4.0	3.4	17.2	17.2	9.2	23.3	0.0
1937	7203	9 1 77	38	7168	7113	6264	6.0	6.0	15.1	15.1	7.7	19.4	0.0
1937LACIE FINAL RATIOED ESTIMATE =									15.1		7.7		
1937400 DOT GROUND TRUTH =									24.1		1.6		51.3
1937INVENTORY GROUND TRUTH =									24.4		1.5		51.4
1944	6295	3 23 77	7	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0

Segment	Acquisition date	Date passed to CAS	CEC	Multispectral acquisition			Robertson stage		CAMS crop percentage estimates				
				1	2	3	Winter wheat	Spring wheat	Winter wheat	Winter small grains	Spring wheat	Spring small grains	Total small grains
1944	6313	3 23 77	1	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1944	7199	9 20 77	38	6295	0	0	0.0	5.5	0.0	0.0	29.3	41.0	0.0
1944	7217	9 26 77	60	0	0	0	0.0	6.0	0.0	0.0	0.0	0.0	0.0
1944LACIE FINAL RATIOED ESTIMATE =									-1.0		-1.0		
1944400 DOT GROUND TRUTH =									2.6		46.1		52.7
1944INVENTORY GROUND TRUTH =									2.4		40.8		47.2
1948	6280	4 25 77	7	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1948	6316	5 9 77	7	0	0	0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
1948	6352	4 25 77	7	0	0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
1948	7076	4 25 77	1	0	0	0	2.3	0.0	0.0	0.0	0.0	0.0	0.0
1948	7112	6 1 77	2	0	0	0	2.7	0.0	0.0	0.0	0.0	0.0	0.0
1948	7148	7 6 77	1	0	0	0	3.6	3.1	0.0	0.0	0.0	0.0	0.0
1948	7184	8 3 77	38	7112	6280	0	5.2	5.0	0.0	0.0	4.9	23.0	0.0
1948	7220	10 19 77	60	0	0	0	6.0	0.0	0.0	0.0	0.0	0.0	0.0
1948LACIE FINAL RATIOED ESTIMATE =									-1.0		-1.0		
1948400 DOT GROUND TRUTH =									10.4		0.0		14.5
1948INVENTORY GROUND TRUTH =									11.9		0.0		17.8

APPENDIX C

LACIE PHASE III BLIND SITES

APPENDIX C

LACIE PHASE III BLIND SITES

Reason for deletion[a]	Segment	County	State	Lat., N.	Long., W.
	1000	Logan	Colorado	40°34'	102°54'
	1005	Cheyenne	Colorado	38°49'	102°20'
	1007	Kiowa	Colorado	39°29'	103°26'
1	1008	Kit Carson	Colorado	39°33'	102°19'
1	1011	Lincoln	Colorado	38°55'	103°37'
2	1015	Prowers	Colorado	37°49'	102°31'
1	1021	Sherman	Kansas	39°27'	101°47'
2	1024	Logan	Kansas	38°55'	100°48'
	1032	Wichita	Kansas	38°22'	101°21'
	1033	Clark	Kansas	37°02'	99°38'
1	1048	Cimarron	Oklahoma	36°48'	102°18'
1	1049	Texas	Oklahoma	36°46'	101°20'
1	1056	Moore	Texas	35°57'	101°38'
	1059	Ochiltree	Texas	36°15'	100°52'
	1060	Sherman	Texas	36°22'	101°41'
	1079	Floyd	Texas	34°55'	101°13'
2	1080	Hale	Texas	34°05'	101°55'
1	1086	Bailey	Texas	34°14'	103°01'
1	1091	Washington	Colorado	40°16'	103°18'
	1094	Dolores	Colorado	37°50'	103°50'
3	1098	Alamosa	Colorado	37°32'	105°50'
	1099	Baca	Colorado	37°25'	102°18'
	1102	Yellowstone	Montana	45°57'	108°20'

[a]Segment deleted from Accuracy Assessment data base for the following reason:
1 — Misregistration; used in proportion studies but not used in pixel studies
2 — Inventory or aerial photograph problems
3 — County redesignated as group III; segment not used in aggregation
4 — Digitization canceled
5 — LACIE production decision
6 — Reason not known

Reason for deletion	Segment	County	State	Lat., N.	Long., W.
	1104	Rosebud	Montana	46°14'	106°20'
4	1153	Jewell	Kansas	39°45'	98°18'
4	1155	Phillips	Kansas	39°55'	99°35'
	1158	Washington	Kansas	39°47	97°06'
2	1161	Marshall	Kansas	39°48'	96°35'
	1166	Lyon	Kansas	38°39'	96°02'
4	1170	Harper	Kansas	37°09'	97°52'
	1175	Sedgwick	Kansas	37°46'	97°32'
	1180	Cherokee	Kansas	37°04'	94°50'
	1183	Labette	Kansas	37°04'	95°27'
	1219	Ellis	Oklahoma	36°03'	99°44'
	1220	Harper	Oklahoma	36°53'	99°39'
	1222	Blaine	Oklahoma	35°42'	98°28'
	1223	Custer	Oklahoma	35°35'	98°47'
2	1224	Dewey	Oklahoma	35°50'	98°51'
	1228	Comanche	Oklahoma	34°37'	98°32'
	1231	Jackson	Oklahoma	34°34'	99°28'
	1233	Tillman	Oklahoma	34°36'	99°01'
	1236	Grant	Oklahoma	36°43'	97°56'
2	1237	Kay	Oklahoma	36°51'	97°03'
	1239	Noble	Oklahoma	36°16'	97°02'
1	1242	Canadian	Oklahoma	35°27'	98°05'
1	1244	Kingfisher	Oklahoma	35°47'	97°59'
2	1260	Foard	Texas	35°54'	100°02'
	1263	Knox	Texas	33°33'	99°39'
	1266	Wilbarger	Texas	34°03'	99°14'
5	1268	Wichita	Texas	33°55'	98°41'
5	1270	Throckmorton	Texas	33°10'	99°03'
	1272	Collin	Texas	33°05'	96°44'
	1275	Grayson	Texas	33°33'	96°40'
	1279	Cheyenne	Kansas	39°41'	101°28'

Reason for deletion	Segment	County	State	Lat., N.	Long., W.
4	1285	Logan	Kansas	38°45'	101°04'
	1290	Ford	Kansas	37°31'	100°02'
	1293	Meade	Kansas	37°06'	100°34'
4	1295	Osborne	Kansas	39°25'	98°37'
4	1297	Dickinson	Kansas	38°44'	96°56'
	1325	Coleman	Texas	31°32'	99°18'
1	1340	Sumner	Kansas	37°19'	97°13'
4	1343	Riley	Kansas	39°19'	96°46'
4	1346	Geary	Kansas	38°58'	96°40'
2	1349	Butler	Kansas	38°04'	96°58'
	1355	Beaver	Oklahoma	36°35'	100°00'
	1362	Caddo	Oklahoma	35°00'	98°18'
	1365	Garfield	Oklahoma	36°30'	97°32'
	1367	Major	Oklahoma	36°21'	98°31'
2	1369	Kingfisher	Oklahoma	36°05'	98°03'
1	1370	Briscoe	Texas	34°25'	101°08'
	1371	Deaf Smith	Texas	35°08'	102°58'
2	1373	Yoakum	Texas	33°09'	102°54'
2	1377	Karnes	Texas	28°48'	97°51'
	1378	Box Butte	Nebraska	42°06'	102°50'
3	1387	Cedar	Nebraska	42°50'	97°25'
3	1389	Knox	Nebraska	42°41'	97°59'
3	1392	Thurston	Nebraska	42°05'	96°29'
5	1395	Dawson	Nebraska	41°04'	99°43'
	1398	Cass	Nebraska	40°58'	95°57'
	1450	Seward	Nebraska	41°01'	97°14'
5	1451	Dundy	Nebraska	40°17'	102°00'
	1479	Harlan	Nebraska	40°04'	99°29'
5	1482	Otoe	Nebraska	40°45'	96°19'
	1489	Walworth	South Dakota	45°29'	99°42'
	1498	Codington	South Dakota	44°57'	97°02'
1	1501	Routt	Colorado	40°25'	107°23'

Reason for deletion	Segment	County	State	Lat., N.	Long., W.
	1502	Larimer	Colorado	40°27'	105°01'
	1506	Sedgwick	Colorado	40°51'	102°31'
	1507	Weld	Colorado	40°49'	104°22'
	1512	Clay	Minnesota	47°01'	96°22'
	1513	Kittson	Minnesota	48°52'	97°06'
5	1514	Marshall	Minnesota	48°20'	96°07'
	1515	Norman	Minnesota	47°22'	96°30'
	1520	Big Stone	Minnesota	45°21'	96°22'
	1521	Grant	Minnesota	46°05'	96°01'
	1522	Otter Tail	Minnesota	46°19'	95°34'
	1523	Wilkin	Minnesota	46°31'	96°25'
5	1524	Kandiyohi	Minnesota	45°22'	94°56'
	1529	Blaine	Montana	48°27'	108°37'
	1531	Phillips	Montana	48°14'	108°16'
	1532	Daniels	Montana	48°55'	105°55'
	1537	McCone	Montana	47°27'	105°30'
5	1539	Richland	Montana	48°03'	104°39'
2	1540	Richland	Montana	47°43'	104°20'
2	1541	Roosevelt	Montana	48°32'	105°27'
	1544	Sheridan	Montana	48°45'	104°24'
2	1546	Valley	Montana	48°58'	106°33'
5	1548	Marshall	South Dakota	45°46'	97°16'
5	1549	Big Horn	Montana	45°26'	107°38'
2	1556	Powder River	Montana	45°42'	105°14'
	1560	Banner	Nebraska	41°29'	104°00'
	1564	Deuel	Nebraska	41°06'	102°08'
	1566	Kimball	Nebraska	41°22'	103°43'
	1568	Sheridan	Nebraska	42°21'	102°41'
1	1571	Buffalo	Nebraska	43°56'	98°57'
	1576	Lancaster	Nebraska	40°52'	98°50'
	1577	Platte	Nebraska	41°22'	97°36'

Reason for deletion	Segment	County	State	Lat., N.	Long., W.
1	1579	Chase	Nebraska	40°26'	101°27'
1	1582	Hayes	Nebraska	40°31'	100°56'
5	1584	Keith	Nebraska	41°12'	101°44'
	1586	Perkins	Nebraska	40°46'	101°20'
	1588	Webster	Nebraska	40°20'	98°34'
5	1589	Furnas	Nebraska	40°11'	99°46'
	1592	Clay	Nebraska	40°24'	98°11'
	1594	Gage	Nebraska	40°16'	96°53'
	1595	Saline	Nebraska	40°27'	97°08'
5	1597	Jackson	South Dakota	43°49'	101°30'
2	1602	Mountrail	North Dakota	48°21'	102°25'
	1604	Renville	North Dakota	48°31'	101°49'
	1606	Ward	North Dakota	48°16'	101°22'
5	1609	Benson	North Dakota	48°06'	99°34'
2	1610	Bottineau	North Dakota	48°57'	100°56'
	1616	Cavalier	North Dakota	48°39'	98°21'
	1619	Grand Forks	North Dakota	48°54'	97°30'
1	1622	Ramsey	North Dakota	48°10'	98°32'
	1625	Dunn	North Dakota	47°16'	102°33'
2	1629	McLean	North Dakota	47°35'	101°40'
	1635	Sheridan	North Dakota	47°37'	100°37'
	1637	Stutsman	North Dakota	47°15'	99°19'
	1640	Barnes	North Dakota	45°55'	97°51'
	1644	Steele	North Dakota	47°29'	97°31'
	1648	Bowman	North Dakota	46°04'	103°06'
	1652	Stark	North Dakota	46°56'	102°50'
5	1654	Emmons	North Dakota	46°21'	100°04'
5	1656	Morton	North Dakota	46°36'	101°13'
	1661	McIntosh	North Dakota	46°16'	99°45'
	1663	Richland	North Dakota	46°23'	96°44'
6	1665	Corson	South Dakota	45°52'	101°39'

Reason for deletion	Segment	County	State	Lat., N.	Long., W.
2	1666	Dewey	South Dakota	45°24'	101°16'
6	1667	Harding	South Dakota	45°55'	103°22'
	1669	Perkins	South Dakota	45°55'	102°48'
2	1670	Ziebach	South Dakota	45°05'	101°33'
	1675	McPherson	South Dakota	45°56'	99°13'
	1677	Spink	South Dakota	45°04'	98°06'
	1681	Roberts	South Dakota	45°32'	96°48'
2	1683	Meade	South Dakota	44°21'	102°37'
	1686	Beadle	South Dakota	44°14'	98°25'
1	1690	Kingsbury	South Dakota	44°14'	97°43'
	1694	Lyman	South Dakota	43°51'	100°06'
	1699	Hyde	South Dakota	44°28'	99°27'
	1725	Flathead	Montana	48°19'	114°12'
	1730	Chouteau	Montana	47°48'	112°46'
2	1732	Glacier	Montana	48°39'	112°45'
1	1734	Hill	Montana	48°19'	110°42'
	1739	Teton	Montana	47°45'	111°30'
	1741	Toole	Montana	48°21'	111°19'
	1742	Cascade	Montana	47°23'	111°00'
	1747	Judith Basin	Montana	46°54'	109°59'
	1750	Gallatin	Montana	45°35'	111°07'
	1752	Park	Montana	45°54'	110°36'
	1753	Stillwater	Montana	45°54'	109°18'
	1800	McCook	South Dakota	43°41'	97°24'
	1802	Sanborn	South Dakota	43°57'	98°05'
	1803	Shannon	South Dakota	43°03'	102°19'
	1805	Gregory	South Dakota	43°08'	99°20'
	1807	Bon Homme	South Dakota	43°03'	97°57'
	1811	Hutchinson	South Dakota	43°26'	97°41'
5	1816	Becker	Minnesota	46°58'	95°18'
2	1818	Clearwater	Minnesota	47°43'	95°15'
2	1825	Norman	Minnesota	47°15'	96°10'

Reason for deletion	Segment	County	State	Lat., N.	Long., W.
	1830	Red Lake	Minnesota	47°55'	96°25'
	1835	Otter Tail	Minnesota	46°20'	95°57'
	1839	Swift	Minnesota	45°15'	95°44'
2	1846	Morrison	Minnesota	46°16'	94°30'
	1849	Sibley	Minnesota	44°36'	94°14'
	1850	Baca	Colorado	37°29'	102°48'
4	1851	Graham	Kansas	39°33'	99°57'
	1853	Ness	Kansas	38°38	99°39'
	1859	Hamilton	Kansas	38°03'	101°38'
4	1861	Kearny	Kansas	38°12'	101°29'
	1864	Stanton	Kansas	37°43'	102°01'
3	1869	Todd	Minnesota	46°12'	94°57'
	1873	Lincoln	Minnesota	44°16'	96°14'
4	1881	Ellsworth	Kansas	38°40'	98°12'
4	1885	Rice	Kansas	38°20'	98°03'
4	1890	Pawnee	Kansas	38°07'	98°25'
	1894	Nobles	Minnesota	43°38'	95°34'
	1897	McHenry	North Dakota	48°29'	100°54'
	1899	Walsh	North Dakota	48°32'	97°17'
1	1902	McKenzie	North Dakota	47°47'	102°48'
	1903	Mercer	North Dakota	47°18'	101°55'
5	1909	Kidder	North Dakota	47°04'	99°42'
	1913	Hettinger	North Dakota	46°33'	102°47'
5	1916	Burleigh	North Dakota	46°42'	100°35'
5	1920	Sioux	North Dakota	46°03'	101°00'
	1924	La Moure	North Dakota	46°28'	98°50'
	1927	Sargent	North Dakota	46°07'	97°58'
1	1929	Blaine	Montana	48°51'	108°19'
	1937	Pondera	Montana	48°10'	111°50'
	1944	Sheridan	Montana	48°58'	104°40'
2	1945	Valley	Montana	48°03'	106°35'
	1948	Fergus	Montana	47°37'	109°28'

APPENDIX D

METHOD OF DESIGNATING SEGMENTS AS SPRING, WINTER, OR MIXED WHEAT