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AGRICULTURAL COMMODITY PRODUCTION AND YIELD

TRENDS: 1950 to 1975

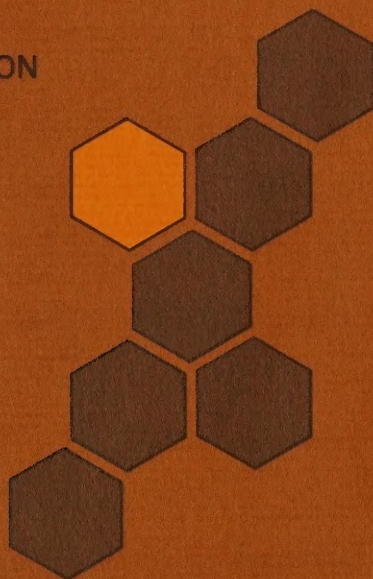
by

Forrest D. Holland, Research Associate

Department of Agricultural Economics

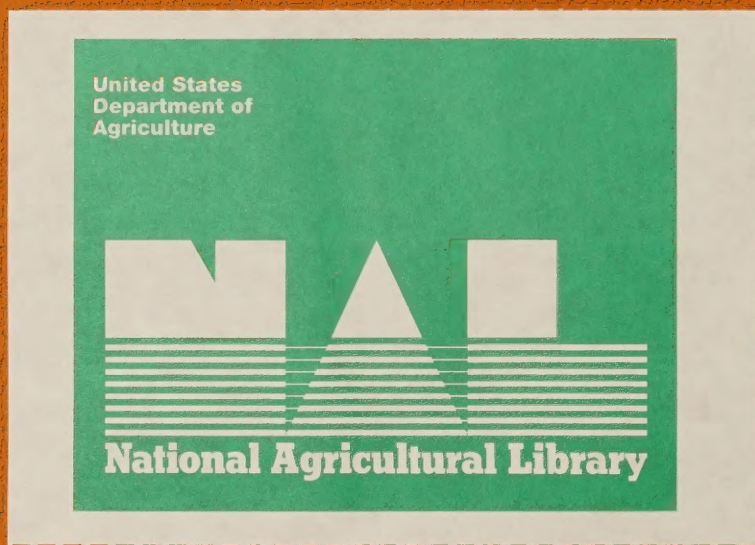
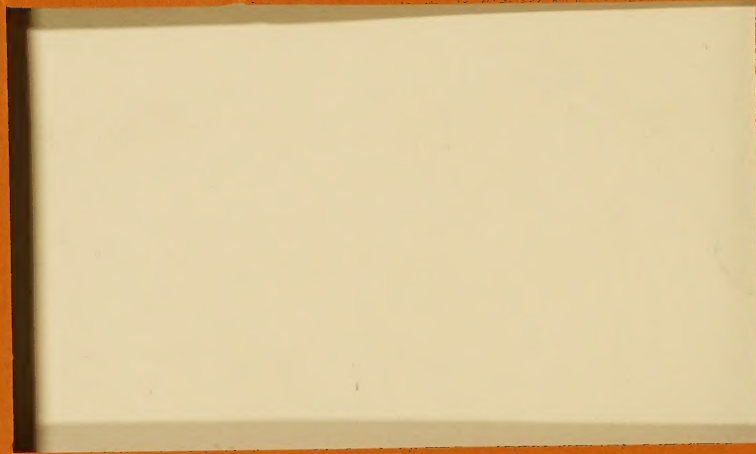
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AGRICULTURAL COMMODITY PRODUCTION AND YIELD

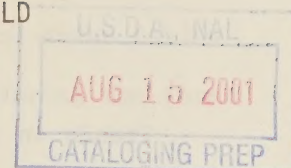
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in cooperation with

The Agricultural Policy Analysis Program Area

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in making available the data on computer tape for this analysis
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AGRICULTURAL COMMODITY PRODUCTION AND YIELD TRENDS:

1950 TO 1975

by Forrest D. Holland

Trends in production and yield are of interest to policy planners in domestic agricultural programs and agricultural trade. Data just recently available makes possible the estimation of long-run trend yield and production relationships. The results of trend estimation for several commodities and regions for the 26 years 1950 to 1975 are presented in this paper.

A linear time trend equation of the form

$$Y = \alpha + \beta t + \epsilon$$

Y = yield (mt./ha.) or production (m.m.t.),

t = 1 to 26 (1950 to 1975),

was estimated with OLS for each commodity and region (see table 1). As expected, the fit as indicated by $\bar{R}^2$ improves with aggregation since fluctuations within smaller regions tend to offset each other. Detailed OLS trend estimation results are presented in tables 2 to 12.

The statistics presented in tables 2 to 12 are conventional. The regression parameters $\hat{\alpha}$ and $\hat{\beta}$ are respectively the estimated intercept and slope. $T(\hat{\beta})$ is the T value $\hat{\beta}$ divided by the estimated standard error of $\hat{\beta}$ and the overall F statistic may be obtained by squaring the T value. $\bar{R}^2$ is the proportion of explained to total variation and S.E. is the standard error of the $\hat{\epsilon}$ vector. The Durbin-Watson (D.W.) is an indicator of autocorrelation. The critical D.W. value for one explanatory variable and 26 observations is 1.19 with inconclusive region 1.19

to 1.35. The mean absolute deviation (M.A.D.) is the average deviation from estimated trend irrespective of sign. Maximum +Dev and -Dev are the largest positive and negative deviations from the estimated trend line within the fit period. The last column of the production trend tables is simply that region's percentage of world production during the three years 1973 to 1975.

Some of the Durbin-Watsons are very low; for example, the trend production equation for U.S.S.R. rice has a D.W. less than 0.1. To a large extent this D.W. reflects misspecification. An examination of U.S.S.R. rice production data indicates that a growth trend $Y = Y_0(1+r)^t$ is more appropriate. In general, a low D.W. may be indicative of improper specification, and growth trend specification should be considered.

The trend equations were estimated by regions, thus residual correlations across commodities within a region were easily obtained. The residual correlation matrices of trend production and yield for the world and the United States are presented in tables 13 and 14. These correlations refer to the deviations from estimated trend, and are interpreted as a measure of linear association.

Actual production and yields, and the estimated linear trend line for all commodity groups for the world and United States are illustrated in plots 1 through 44.

The data used in estimation^{1/} as well as means and standard deviations are reproduced as tables 15 to 34.

^{1/}Data source: ERS data tape.

Table 1
Agricultural Commodity Groups and World Regions

<u>Groups</u>				
1.	Wheat			
2.	Rice			
3.	Food grain (wheat and rice)			
4.	Corn			
5.	Barley			
6.	Oats			
7.	Sorghum-Millet			
8.	Feed grain (corn, barley, oats, and sorghum-millet)			
9.	Rye			
10.	Coarse grain (corn, barley, oats, sorghum-millet, and rye)			
11.	Cereals (wheat, rice, corn, barley, oats, sorghum-millet, and rye)			

<u>Regions</u>				
1.	World			
2.	World less United States			
3.	United States			
4.	Canada			
5.	European Economic Community (E.E.C.):			
	Belgium	Luxemborg	Denmark	
	France	West Germany	Ireland	
	Italy	Netherlands	United Kingdom	
6.	Other Western Europe (O.W.E.):			
	Austria	Norway	Portugal	Spain
	Sweden	Switzerland	Finland	
	Greece	Iceland	Malta	
7.	Total Developed:			
	United States	Canada	E.E.C.	
	O.W.E.	South Africa	Japan	
	Australia	New Zealand		
8.	U.S.S.R.			
9.	Total Centrally Planned:			
	U.S.S.R.	P.R.C.	Albania	Bulgaria
	East Germany	Hungary	Czechoslovakia	Poland
	Romania	Yugoslavia	North Korea	Viet Nam
10.	Other:			
	Latin America	South American	Caribbean	
	Africa	Asia	Pacific Islands	

Table 2--Wheat production and yield statistics

Region	$\hat{\alpha}$	$\hat{\beta}$	$T(\hat{\beta})$	$\bar{R}^2$	D.W.	S.E.	M.A.D.	Maximum		Percent of 1973-75
								+Dev.	-Dev.	
Production										
World	164.380	7.474	19.074	.938	1.936	14.682	11.345	23.613	-31.109	100.00
World less U.S.A.	140.120	6.609	17.627	.928	1.859	14.049	10.746	22.222	-28.975	85.53
United States	24.260	.865	7.257	.687	1.321	4.465	3.576	11.327	-5.785	14.47
Canada	13.717	.085	.919	.034	1.617	3.478	2.699	7.350	-7.027	4.39
European Econ. Community	20.458	.821	12.974	.875	2.616	2.370	1.965	4.346	-3.823	11.78
Other Western Europe	7.126	.142	7.243	.686	2.053	.737	.161	1.652	-1.149	2.92
Total Developed	71.376	2.223	11.308	.842	1.644	7.368	5.434	15.009	-18.389	37.52
U.S.S.R.	37.562	2.315	6.841	.661	1.774	12.679	9.676	23.584	-32.750	24.42
Total Centrally Planned	63.755	3.692	10.632	.825	1.622	13.012	9.662	23.351	-31.651	42.48
Other	29.249	1.559	13.744	.887	.720	4.249	3.283	8.663	-10.442	20.00
Yield										
World	.913	.027	13.458	.883	1.352	.076	.062	.138	-.147	
World less U.S.A.	.890	.026	11.824	.854	1.327	.082	.068	.150	-.157	
United States	1.100	.043	11.908	.855	1.519	.134	.090	.363	-.327	
Canada	1.275	.016	2.263	.176	1.916	.267	.209	.481	-.715	
European Econ. Community	1.694	.081	18.013	.931	1.903	.168	.137	.322	-.310	
Other Western Europe	.907	.036	11.967	.857	1.445	.114	.094	.218	-.171	
Total Developed	1.253	.037	17.305	.926	2.151	.079	.058	.192	-.194	
U.S.S.R.	.741	.028	5.786	.583	1.861	.179	.134	.337	-.413	
Total Centrally Planned	.741	.036	9.198	.779	1.468	.129	.103	.244	-.276	
Other	.781	.015	9.147	.777	.586	.060	.046	.093	-.121	

Table 3--Rice production and yield statistics

Region	$\hat{\alpha}$	$\hat{\beta}$	$T(\hat{\beta})$	$\bar{R}^2$	D.W.	S.E.	M.A.D.	Maximum		Percent of 1973-75
								+Dev.	-Dev.	
Production										
World	165.411	6.557	32.683	.978	1.622	7.518	5.946	13.171	-14.713	100.00
World less U.S.A.	163.881	6.432	32.324	.978	1.660	7.455	5.892	13.760	-14.902	98.50
United States	1.531	.126	10.449	.820	.618	.451	.374	.992	-.631	1.50
Canada	--	--	--	--	--	--	--	--	--	--
European Econ. Community	.810	.003	.995	.040	1.078	.125	.104	.216	-.256	0.31
Other Western Europe	.549	.004	2.757	.241	.820	.054	.042	.077	-.166	0.18
Total Developed	15.447	.319	7.918	.723	.908	1.512	1.184	2.824	-3.115	6.78
U.S.S.R.	-.287	.073	10.254	.814	.076	.266	.230	.416	-.389	0.56
Total Centrally Planned	65.942	2.622	15.377	.908	.686	6.388	4.833	15.276	-10.006	40.36
Other	84.922	3.616	22.155	.953	1.751	6.116	4.735	9.634	-13.589	52.85
Yield										
World	1.648	.031	25.041	.963	1.705	.047	.037	.090	-.089	
World less U.S.A.	1.643	.031	24.404	.961	1.708	.047	.037	.092	-.092	
United States	2.578	.115	16.030	.915	.547	.269	.218	.440	-.544	
Canada	--	--	--	--	--	--	--	--	--	
European Econ. Community	4.960	-.007	.637	.017	2.251	.425	.344	.556	-.954	
Other Western Europe	4.680	.033	4.423	.449	.978	.282	.237	.310	-.639	
Total Developed	3.629	.081	13.550	.884	1.797	.223	.163	.482	-.541	
U.S.S.R.	1.040	.114	24.359	.961	.627	.175	.139	.299	-.335	
Total Centrally Planned	2.071	.051	15.353	.908	1.157	.125	.095	.205	-.354	
Other	1.314	.023	15.140	.905	1.712	.057	.045	.095	-.152	

Table 4-- Food grain production and yield statistics

Region	$\hat{\alpha}$	$\hat{\beta}$	$T(\hat{\beta})$	$\bar{R}^2$	D.W.	S.E.	M.A.D.	Maximum		Percent of 1973-75
								+Dev.	-Dev.	
Production										
World	329.792	14.031	29.503	.973	1.883	17.820	13.543	35.229	-35.256	100.00
World less U.S.A.	304.001	13.041	29.632	.973	1.820	16.490	13.305	28.239	-30.579	91.84
United States	25.791	.990	7.979	.726	1.241	4.651	3.709	12.319	-6.006	8.16
Canada	13.717	.085	.919	.034	1.617	3.478	2.699	7.350	-7.027	2.25
European Econ. Community	21.268	.824	12.852	.873	2.576	2.402	1.986	4.497	-3.969	6.19
Other Western Europe	7.675	.146	7.388	.695	1.982	.742	.620	1.636	-1.150	1.59
Total Developed	86.823	2.543	12.395	.865	1.658	7.687	5.749	14.811	-19.053	22.55
U.S.S.R.	37.275	2.388	7.095	.677	1.792	12.611	9.548	23.343	-32.358	12.80
Total Centrally Planned	128.798	6.314	14.599	.899	1.283	16.205	12.593	34.055	-35.302	41.45
Other	114.171	5.175	24.058	.960	1.208	8.059	6.104	13.713	-24.030	36.00
Yield										
World	1.178	.029	19.783	.942	1.268	.056	.044	.100	-.109	
World less U.S.A.	1.182	.028	17.968	.931	1.170	.059	.047	.099	-.116	
United States	1.141	.046	13.116	.878	1.471	.132	.090	.336	-.337	
Canada	1.275	.016	2.263	.176	1.916	.267	.209	.481	-.715	
European Econ. Community	1.741	.080	17.775	.929	1.880	.168	.138	.325	-.312	
Other Western Europe	.965	.037	12.475	.866	1.413	.111	.091	.210	-.176	
Total Developed	1.419	.039	18.649	.935	2.097	.079	.061	.158	-.174	
U.S.S.R.	.737	.028	5.958	.597	1.850	.179	.134	.337	-.405	
Total Centrally Planned	1.099	.037	12.322	.864	1.120	.113	.095	.177	-.250	
Other	1.115	.020	15.883	.913	1.218	.046	.034	.097	-.129	

Table 5--Corn production and yield statistics

Region	$\hat{\alpha}$	$\hat{\beta}$	$T(\hat{\beta})$	$\bar{R}^2$	D.W.	S.E.	M.A.D.	Maximum		Percent of 1973-75
								+Dev.	-Dev.	
Production										
World	117.478	7.437	30.445	.975	1.910	9.153	7.194	20.716	-16.415	100.00
World less U.S.A.	58.575	4.385	39.857	.985	1.808	4.122	3.024	7.823	-8.274	55.50
United States	58.903	3.052	12.671	.870	2.077	9.025	7.199	17.246	-17.529	44.50
Canada	-.114	.114	12.417	.865	.730	.344	.279	.770	-.564	0.98
European Econ. Community	.980	.506	13.766	.888	.626	1.377	1.062	3.184	-2.443	4.88
Other Western Europe	.828	.117	12.485	.867	.294	.353	.294	.654	-.652	1.34
Total Developed	62.870	4.039	14.850	.902	1.741	10.192	8.353	21.449	-20.654	54.50
U.S.S.R.	6.518	.195	2.225	.171	1.327	3.285	2.631	8.254	-5.590	3.41
Total Centrally Planned	29.080	1.575	16.719	.921	1.740	3.531	2.872	8.805	-5.318	22.70
Other	25.527	1.822	30.625	.975	1.252	2.230	1.742	4.422	-4.345	22.80
Yield										
World	1.375	.052	25.242	.964	1.746	.078	.059	.157	-.174	
World less U.S.A.	1.020	.035	30.325	.975	2.287	.043	.034	.084	-.065	
United States	2.043	.144	14.533	.898	1.679	.372	.275	.735	-1.167	
Canada	3.124	.092	8.645	.757	1.810	.349	.326	.558	-1.068	
European Econ. Community	1.552	.144	15.595	.910	1.564	.345	.266	.525	-.831	
Other Western Europe	.732	.095	13.558	.885	.237	.264	.223	.478	-.488	
Total Developed	1.869	.124	17.569	.928	1.849	.265	.190	.543	-.750	
U.S.S.R.	1.086	.075	7.458	.699	1.951	.377	.302	.562	-1.035	
Total Centrally Planned	1.070	.062	22.676	.955	2.268	.102	.082	.177	-.182	
Other	.929	.015	17.592	.928	1.712	.032	.025	.074	-.048	

Table 7--Oats production and yield statistics

Region	$\hat{\alpha}$	$\hat{\beta}$	$T(\hat{\beta})$	$\bar{R}^2$	D.W.:	S.E.:	M.A.D.:	Maximum		Percent of 1973-75
								+Dev.:	-Dev.:	
Production										
World	67.757	-.553	4.755	.485	.631	4.356	3.460	6.572	-10.017	100.00
World less U.S.A.	41.097	-.126	1.257	.062	.600	3.752	2.854	5.282	-8.134	81.89
United States	20.659	-.427	9.814	.800	1.524	1.630	1.357	3.617	-2.212	18.81
Canada	6.714	-.075	3.345	.318	2.078	.843	.668	1.878	-1.613	8.99
European Econ. Community	12.017	-.182	9.369	.785	1.171	.726	.629	1.748	-.986	15.61
Other Western Europe	2.586	.060	7.319	.691	1.761	.308	.254	.809	-.475	8.15
Total Developed	43.020	-.604	11.119	.837	1.882	2.035	1.673	4.247	-3.096	53.97
U.S.S.R.	10.720	.067	.773	.024	.347	3.262	2.507	5.181	-7.697	30.64
Total Centrally Planned	16.951	.074	.802	.026	.339	3.471	2.663	5.291	-7.874	43.67
Other	1.785	-.023	4.049	.406	1.730	.215	.168	.381	-.586	2.37
Yield										
World	1.086	.027	12.285	.863	1.035	.082	.061	.191	-.216	
World less U.S.A.	1.047	.027	11.740	.852	1.113	.086	.067	.192	-.215	
United States	1.176	.029	8.498	.751	1.396	.126	.103	.207	-.224	
Canada	1.374	.020	4.566	.465	1.819	.165	.136	.211	-.349	
European Econ. Community	1.753	.062	17.268	.926	1.302	.135	.120	.207	-.265	
Other Western Europe	1.020	.046	11.488	.846	1.455	.149	.121	.371	-.270	
Total Developed	1.290	.029	14.068	.892	1.804	.078	.060	.201	-.125	
U.S.S.R.	.627	.030	6.800	.658	.851	.165	.131	.281	-.355	
Total Centrally Planned	.763	.030	9.600	.793	.998	.116	.092	.194	-.292	
Other	1.010	.008	4.618	.471	1.588	.062	.050	.133	-.114	

Table 8--Sorghum-millet production and yield statistics

Region	$\hat{\alpha}$	$\hat{\beta}$	$T(\hat{\beta})$	$\bar{R}^2$	D.W.	S.E.	M.A.D.	Maximum	Percent of
								+Dev.	-Dev.
Production									
World	32.280	1.638	18.422	.934	2.149	3.331	2.746	5.435	-6.427
World less U.S.A.	28.464	.910	14.224	.894	2.379	2.396	1.839	3.932	-6.423
United States	3.817	.728	9.660	.795	1.267	2.824	2.311	4.775	-6.033
Canada	--	--	--	--	--	--	--	--	--
European Econ. Community	-.080	.014	13.572	.885	.331	.040	.033	.070	-.061
Other Western Europe	-.049	.008	8.296	.741	.278	.036	.031	.075	-.055
Total Developed	3.796	.799	10.821	.830	1.322	2.767	2.303	4.733	-5.539
U.S.S.R.	2.458	.010	.446	.008	2.108	.869	.698	2.026	-1.727
Total Centrally Planned	2.625	.006	.276	.003	2.090	.871	.702	2.040	-1.717
Other	25.860	.832	13.764	.888	1.990	2.266	1.608	4.623	-6.504
Yield									
World	.518	.016	16.045	.915	1.491	.038	.032	.068	-.070
World less U.S.A.	.481	.009	11.796	.853	2.307	.028	.021	.043	-.068
United States	1.050	.107	10.775	.829	.632	.373	.299	.632	-.882
Canada	--	--	--	--	--	--	--	--	--
European Econ. Community	.773	.130	16.256	.917	2.011	.299	.224	.552	-.653
Other Western Europe	-.118	.151	9.273	.782	.441	.609	.497	.967	-1.102
Total Developed	1.064	.096	11.228	.840	.615	.321	.261	.488	-.726
U.S.S.R.	.474	.018	3.185	.297	2.105	.218	.148	.632	-.621
Total Centrally Planned	.487	.018	3.200	.299	2.094	.212	.144	.620	-.608
Other	.480	.008	10.842	.830	1.931	.027	.020	.051	-.064

Table 10--Rye production and yield statistics

Region	$\hat{\alpha}$	$\hat{\beta}$	$T(\hat{\beta})$	R^2	Production			Maximum	Percent of 1973-75
					D.W.	S.E.	M.A.D.	+Dev.	-Dev.
World	38.748	-.398	6.600	.645	1.866	2.258	1.819	3.908	-4.528
World less U.S.A.	38.138	-.405	6.835	.661	1.868	2.218	1.761	4.159	-4.194
United States	.610	.007	1.404	.076	1.198	.183	.138	.492	-.334
Canada	.343	.002	.604	.015	.857	.135	.103	.381	-.203
European Econ. Community	5.586	-.089	7.387	.695	1.275	.451	.373	.829	-.767
Other Western Europe	1.558	-.012	4.673	.477	1.731	.098	.077	.197	-.249
Total Developed	8.120	-.092	6.639	.648	1.536	.520	.406	.987	-.924
U.S.S.R.	17.777	-.250	5.387	.547	2.092	1.738	1.444	3.691	-2.402
Total Centrally Planned	29.181	-.294	4.934	.504	1.855	2.233	1.851	4.262	-3.915
Other	1.446	-.012	1.556	.092	2.033	.278	.199	.649	-.697
					Yield				
World	.863	.032	11.823	.854	1.079	.102	.077	.225	-.192
World less U.S.A.	.866	.032	11.571	.848	1.076	.104	.079	.231	-.194
United States	.714	.037	11.368	.843	1.093	.121	.089	.243	-.287
Canada	.888	.021	5.042	.514	1.677	.159	.125	.268	-.413
European Econ. Community	1.899	.056	11.923	.856	1.972	.177	.130	.242	-.470
Other Western Europe	.922	.028	8.882	.767	.795	.119	.093	.268	-.263
Total Developed	1.425	.030	11.564	.856	1.900	.093	.071	.113	-.252
U.S.S.R.	.639	.027	8.242	.739	1.384	.122	.092	.249	-.233
Total Centrally Planned	.765	.035	10.685	.826	1.038	.121	.091	.290	-.242
Other	.849	.005	2.011	.144	1.533	.089	.072	.142	-.197

Table 12--Cereals production and yield statistics

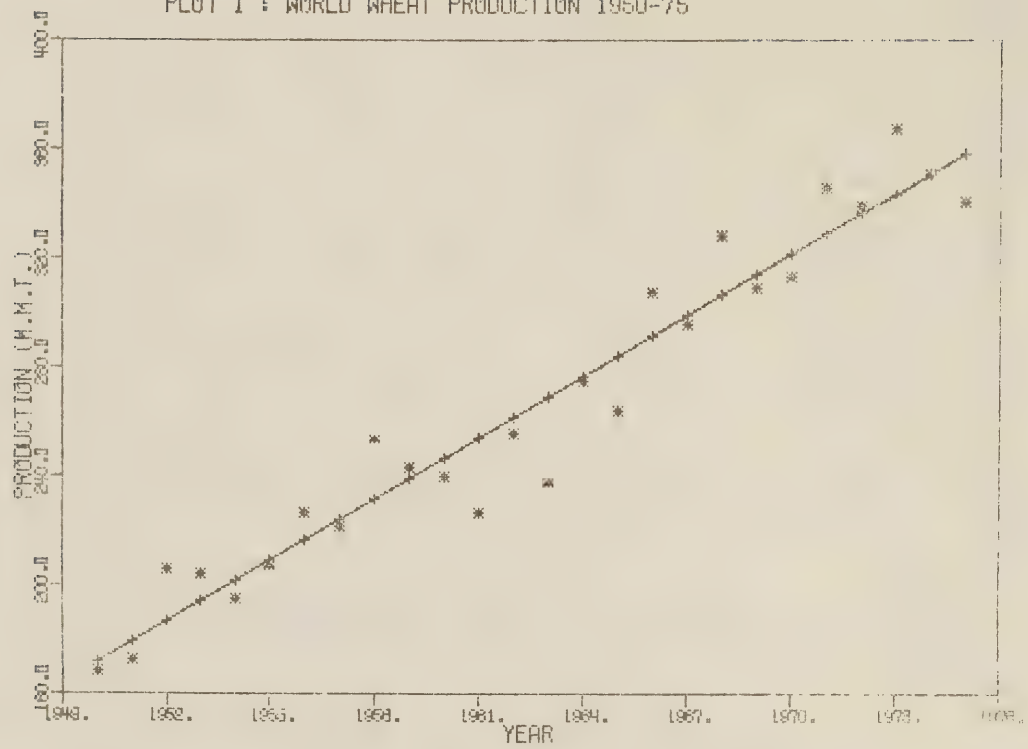
Region	$\hat{\alpha}$	$\hat{\beta}$	$T(\hat{\beta})$	$\bar{R}^2$	D.W.	S.E.	M.A.D.	Maximum		Percent of 1973-75
								+Dev.	-Dev.	
Production										
World	623.365	26.285	32.153	.977	1.490	30.632	22.561	60.862	-58.984	100.00
World less U.S.A.	506.350	21.851	30.831	.975	1.552	28.556	20.345	47.088	-54.495	82.30
United States	117.016	4.434	13.099	.877	2.116	12.683	10.237	23.036	-23.412	17.70
Canada	23.703	.366	2.829	.250	1.799	4.851	3.889	9.065	-12.646	2.54
European Econ. Community	44.776	2.268	22.230	.954	1.630	3.823	3.015	5.735	-7.671	7.90
Other Western Europe	13.755	.680	15.342	.908	1.128	1.661	1.358	3.633	-2.864	2.47
Total Developed	224.175	8.552	19.253	.939	2.099	16.644	13.356	34.587	-37.956	34.01
U.S.S.R.	73.599	4.143	8.735	.761	2.131	8.641	6.446	22.497	-15.965	13.63
Total Centrally Planned	216.080	3.826	16.443	.919	1.461	22.392	17.105	43.957	-51.459	36.46
Other	183.110	7.906	29.362	.973	1.317	10.089	7.771	19.169	-24.721	29.53
Yield										
World	1.097	.033	25.608	.965	1.031	.048	.037	.111	-.078	
World less U.S.A.	1.035	.028	21.680	.951	1.174	.048	.038	.084	-.095	
United States	1.442	.089	15.527	.910	1.383	.215	.154	.414	-.695	
Canada	1.269	.026	4.130	.416	1.700	.240	.190	.421	-.640	
European Econ. Community	1.803	.082	22.221	.954	1.595	.138	.111	.216	-.262	
Other Western Europe	.958	.047	16.196	.916	1.008	.109	.093	.242	-.148	
Total Developed	1.480	.063	24.494	.962	1.610	.097	.071	.226	-.233	
U.S.S.R.	.706	.032	7.568	.705	1.813	.158	.109	.320	-.435	
Total Centrally Planned	.996	.039	15.410	.908	1.273	.096	.074	.174	-.216	
Other	.897	.016	20.084	.944	1.039	.030	.021	.061	-.077	

Table 13--World **P**roduction and yield trend residual correlation matrices

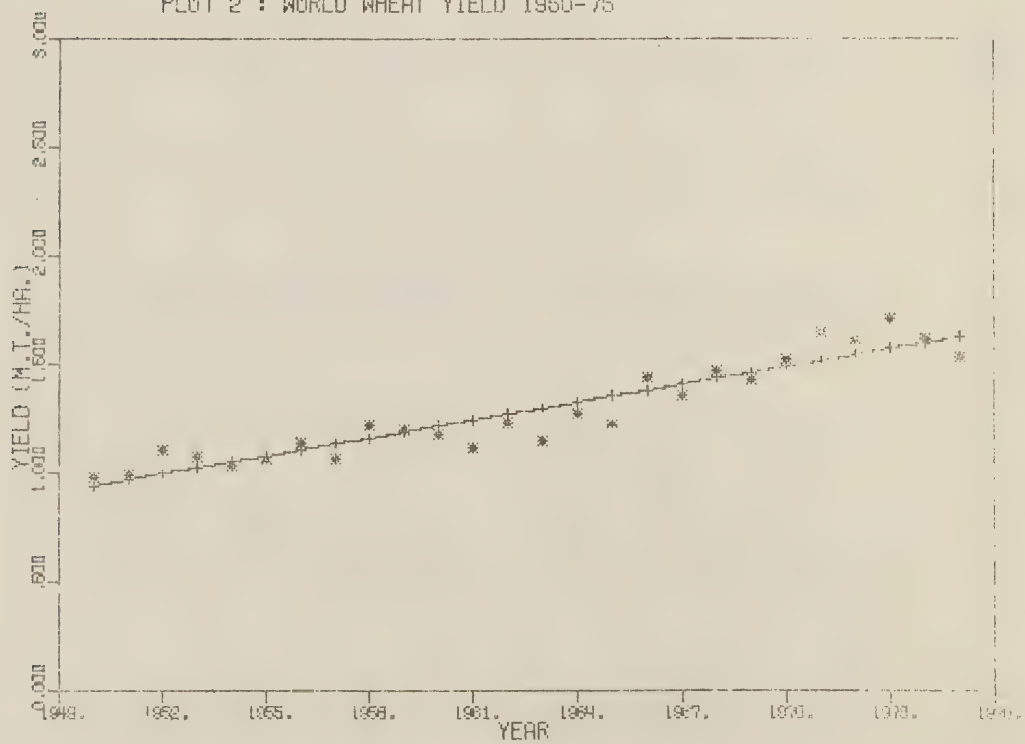
	Wheat	Rice	Food grain	Corn	Barley	Oats	Sorghum-Millet	Feed grain	Rye	Coarse grain	Cereals
Wheat	1.00										
Rice	.21	1.00									
Food grain	.91	.59	1.00								
Corn	.27	.09	.26	1.00							
Barley	.57	.24	.57	.27	1.00						
Oats	.54	.43	.62	.45	.58	1.00					
Sorghum-Millet	.11	.16	.16	.16	-.20	.12	1.00				
Feed grain	.56	.30	.59	.82	.70	.78	.23	1.00			
Rye	.10	-.32	-.05	-.17	-.13	.01	.07	-.13	1.00		
Coarse grain	.58	.26	.59	.80	.68	.79	.24	.99	.00	1.00	
Cereals	.84	.48	.90	.58	.70	.79	.22	.88	-.03	.88	1.00

	Wheat	Rice	Food grain	Corn	Barley	Oats	Sorghum-Millet	Feed grain	Rye	Coarse grain	Cereals
Wheat	1.00										
Rice	.19	1.00									
Food grain	.95	.47	1.00								
Corn	.31	-.14	.23	1.00							
Barley	.80	.15	.75	.22	1.00						
Oats	.39	.01	.34	.41	.74	1.00					
Sorghum-Millet	.17	-.07	.12	.30	.18	.27	1.00				
Feed grain	.67	-.05	.58	.80	.72	.75	.45	1.00			
Rye	.57	-.05	.50	.27	.51	.17	.19	.50	1.00		
Coarse grain	.70	-.05	.60	.78	.73	.71	.44	.99	.61	1.00	
Cereals	.93	.61	.91	.54	.83	.58	.31	.86	.61	.88	1.00

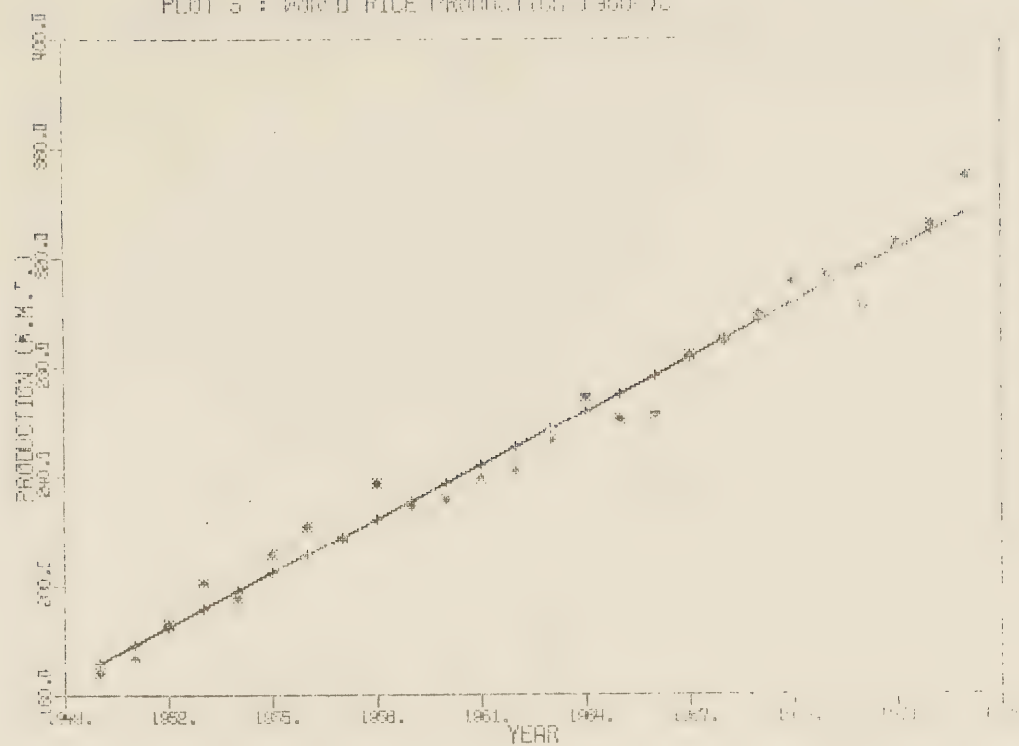
PLOT 1 : WORLD WHEAT PRODUCTION 1950-75



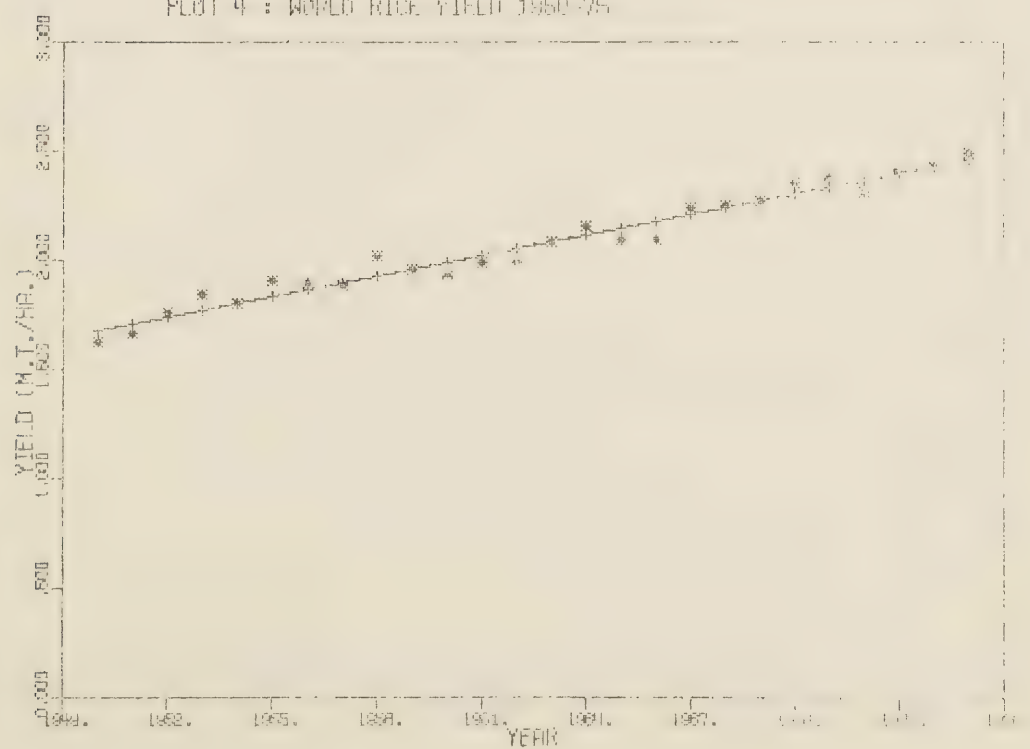
PLOT 2 : WORLD WHEAT YIELD 1950-75



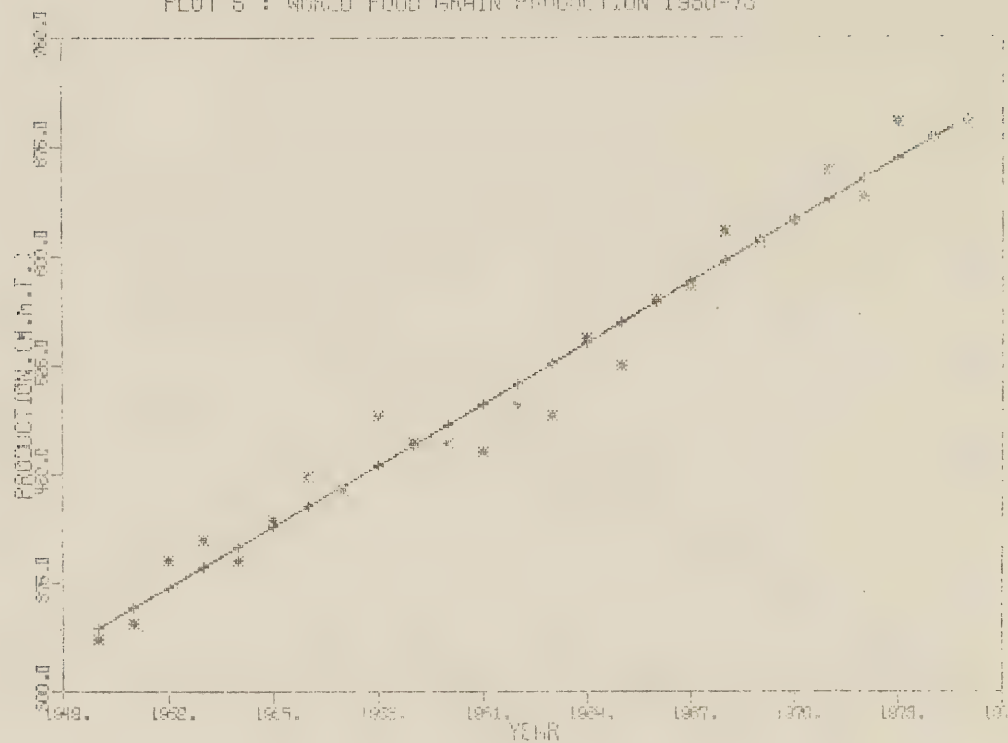
PLOT 3 : WORLD RICE PRODUCTION 1950-75



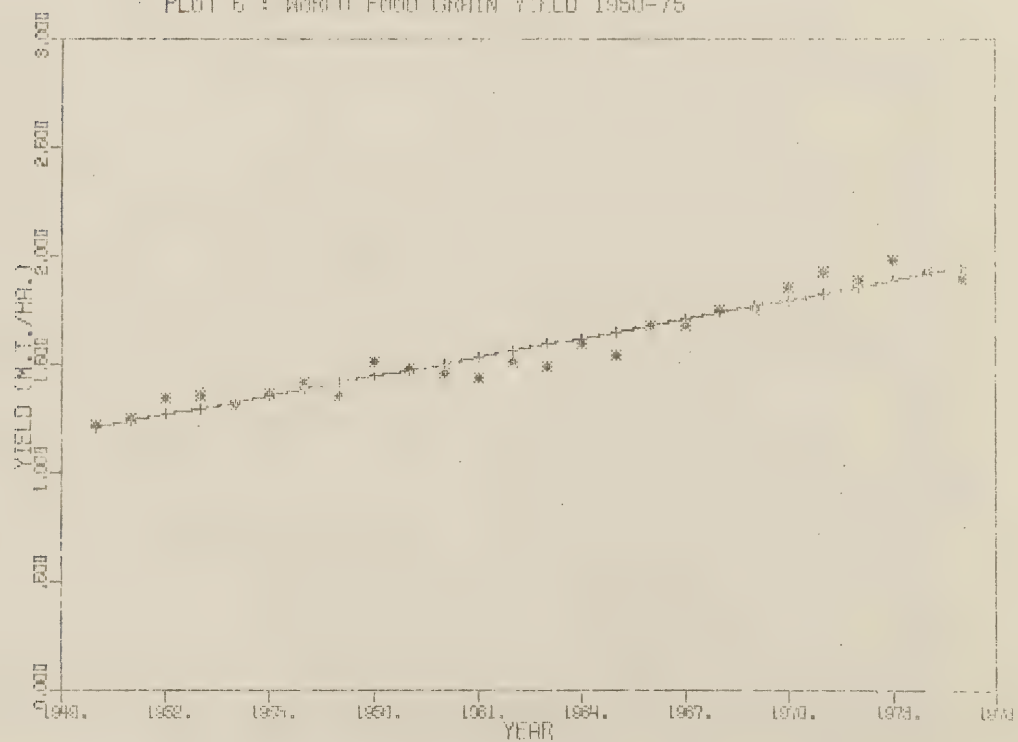
PLOT 4 : WORLD RICE YIELD 1950-75



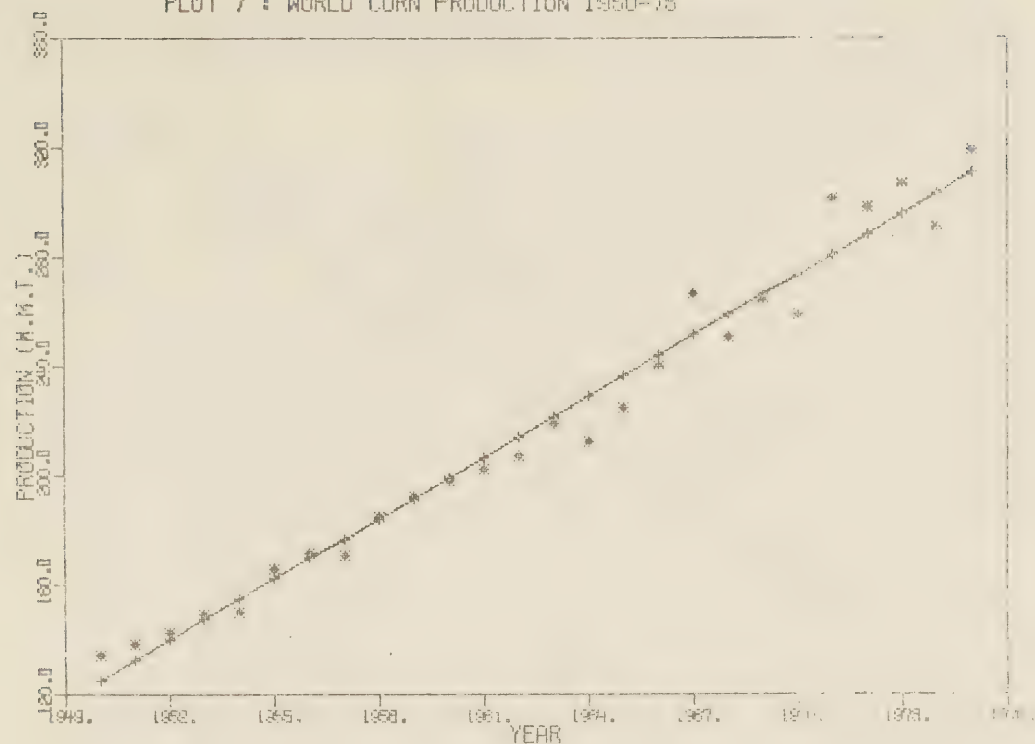
PLOT 5 : WORLD FOOD GRAIN PRODUCTION 1950-75



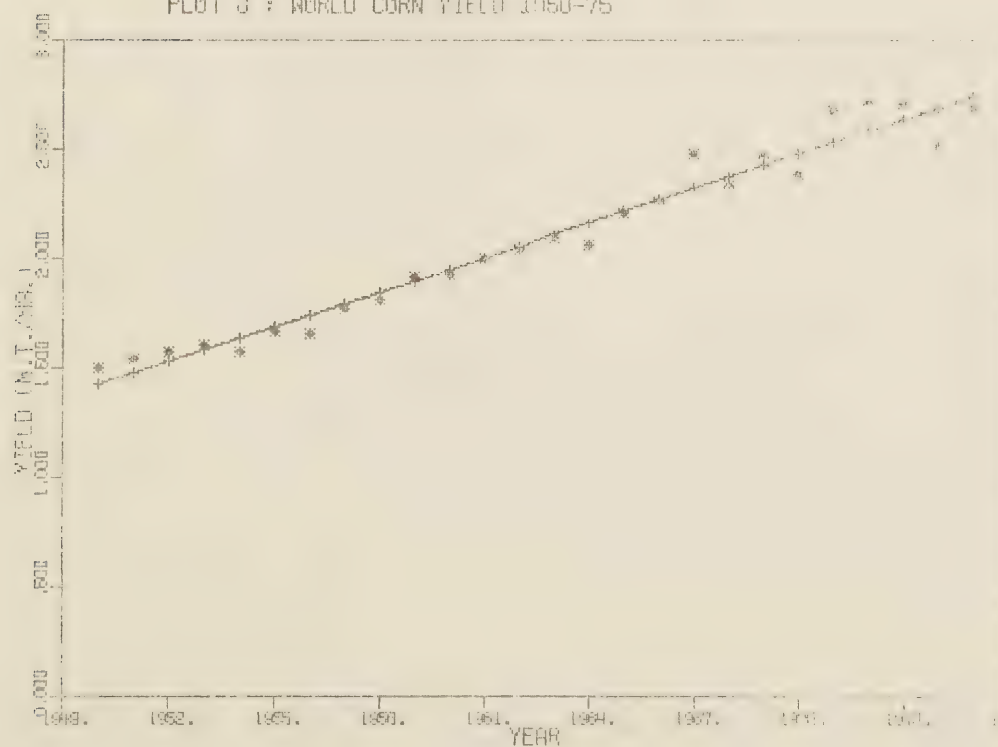
PLOT 6 : WORLD FOOD GRAIN YIELD 1950-75



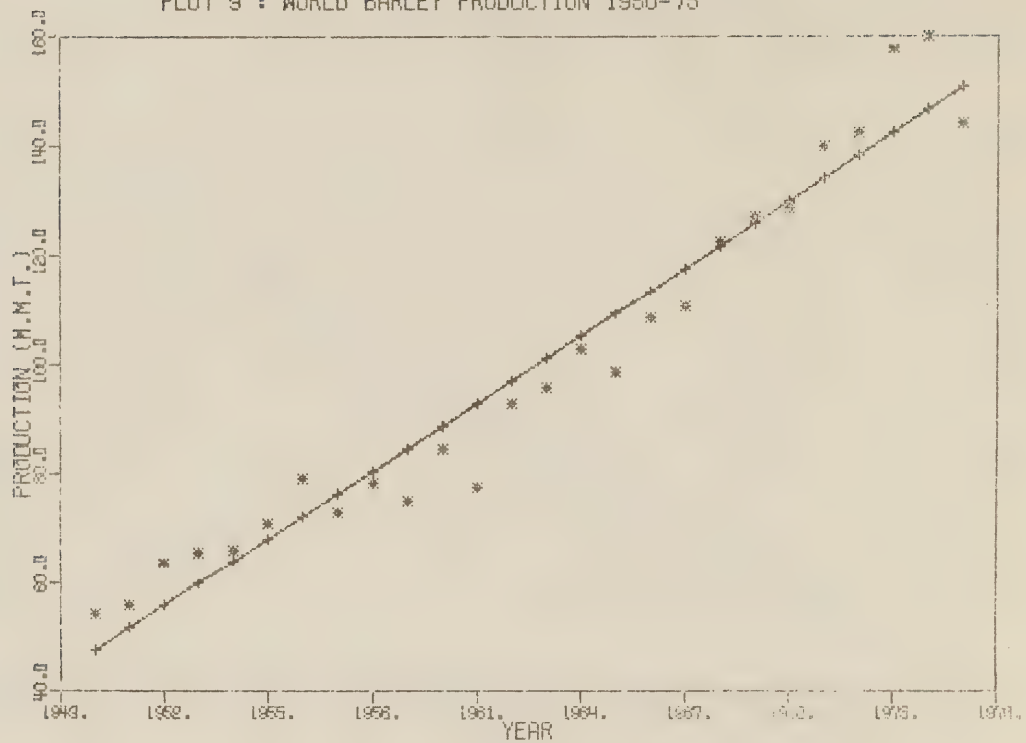
PLOT 7 : WORLD CORN PRODUCTION 1950-75



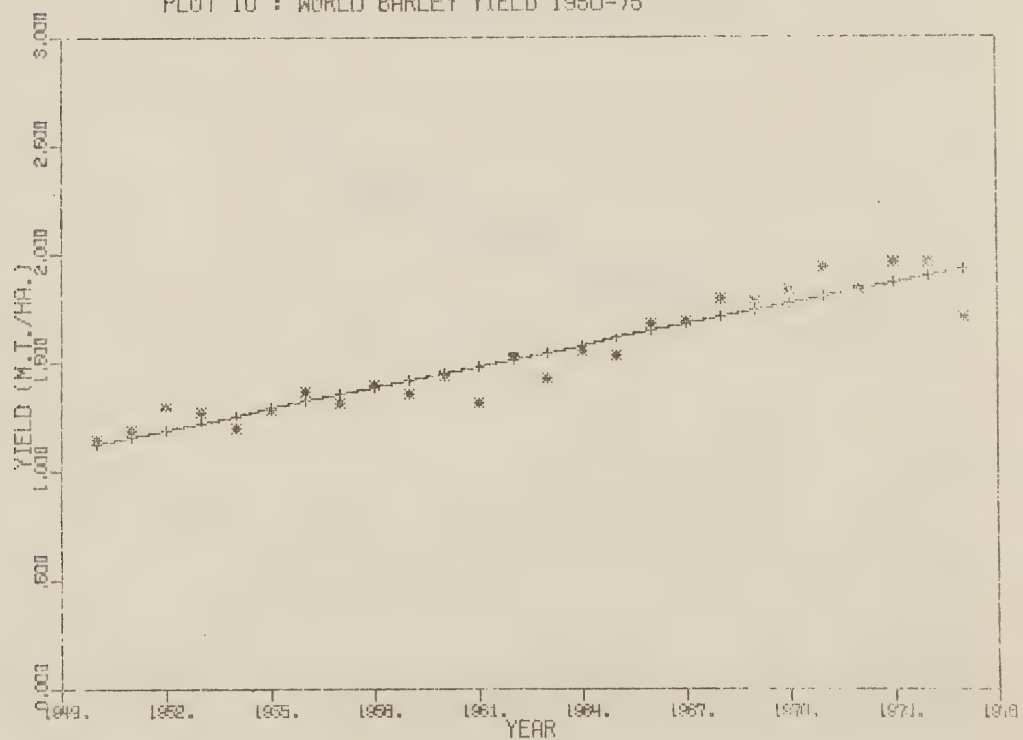
PLOT 8 : WORLD CORN YIELD 1950-75



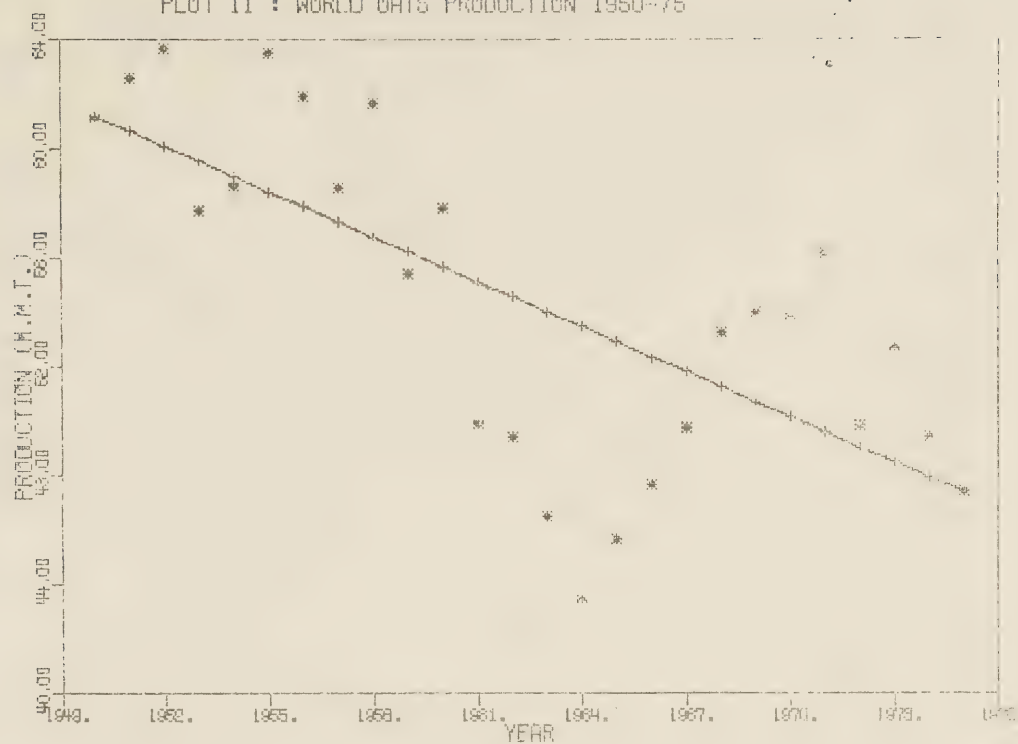
PLOT 9 : WORLD BARLEY PRODUCTION 1950-75



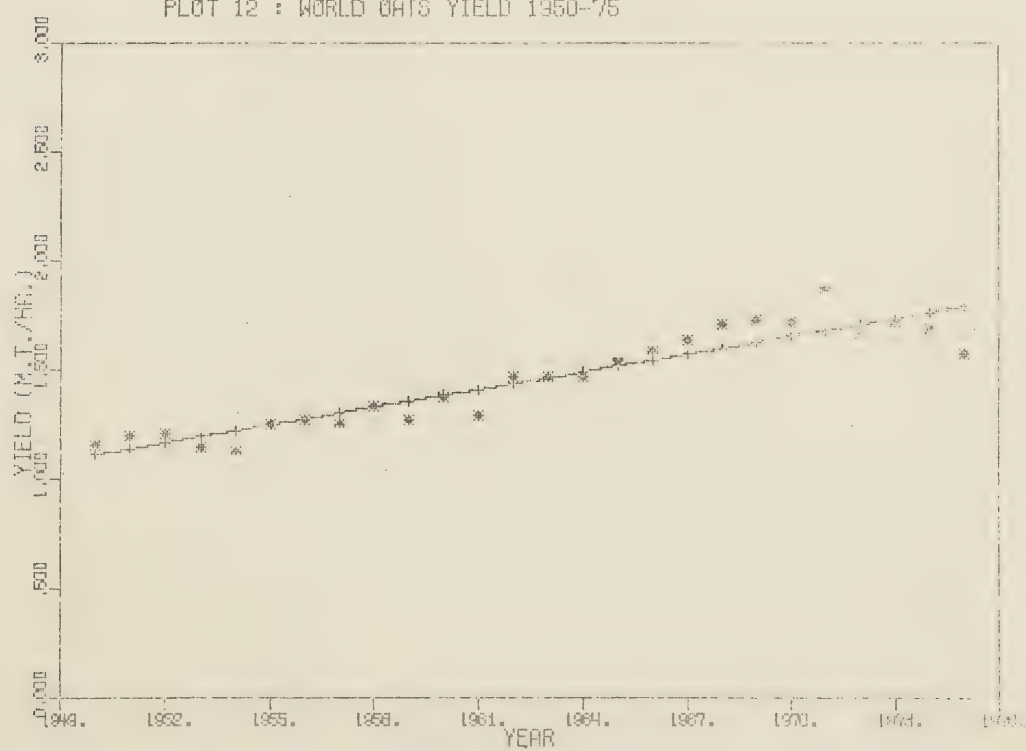
PLOT 10 : WORLD BARLEY YIELD 1950-75



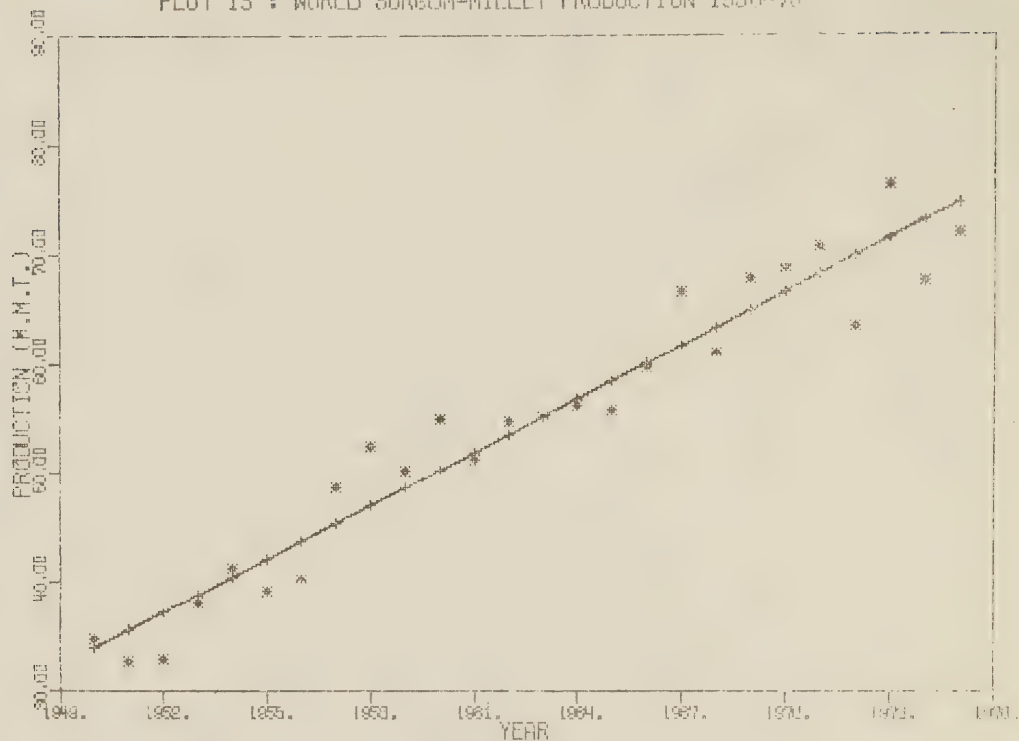
PLOT 11 : WORLD OATS PRODUCTION 1950-75



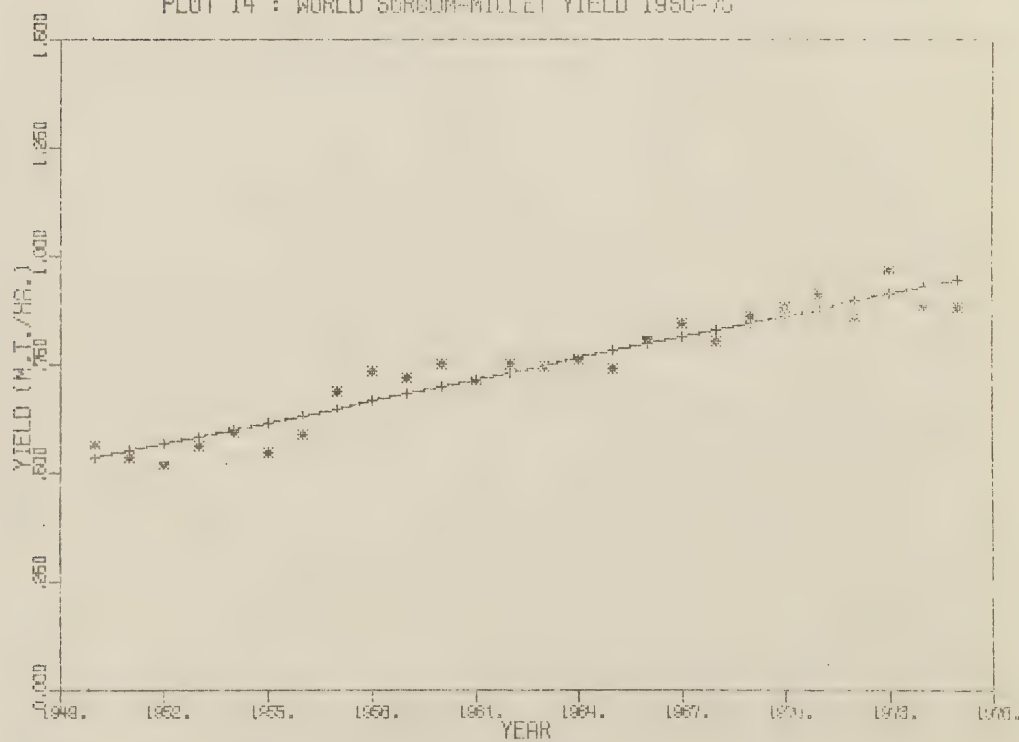
PLOT 12 : WORLD OATS YIELD 1950-75



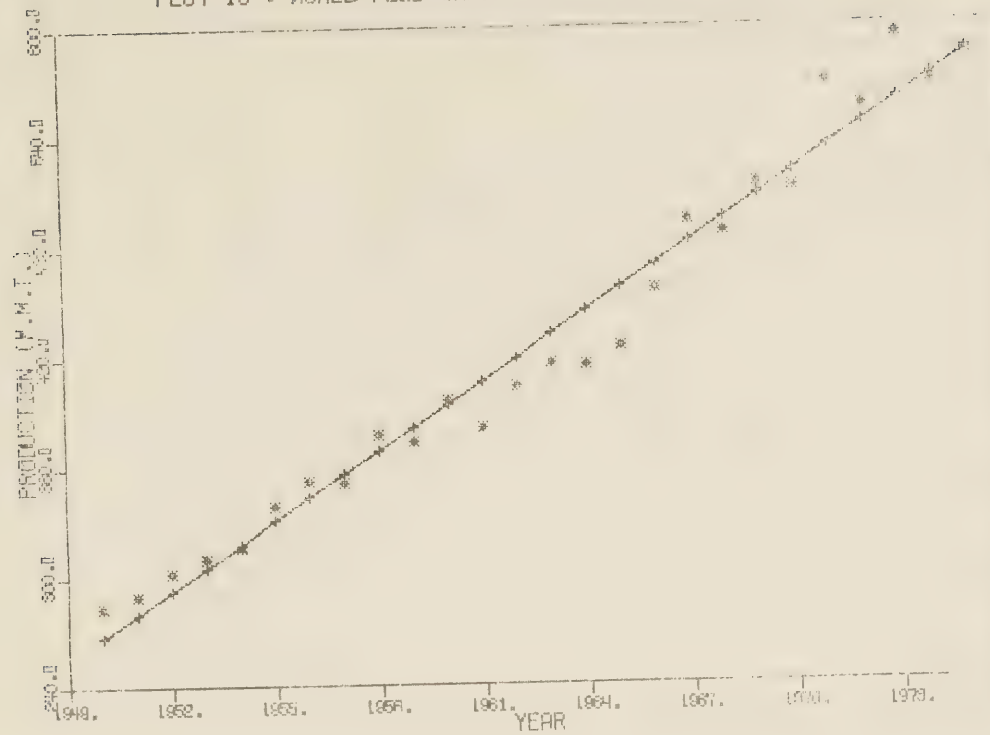
PLOT 13 : WORLD SORGHUM-MILLET PRODUCTION 1950-75



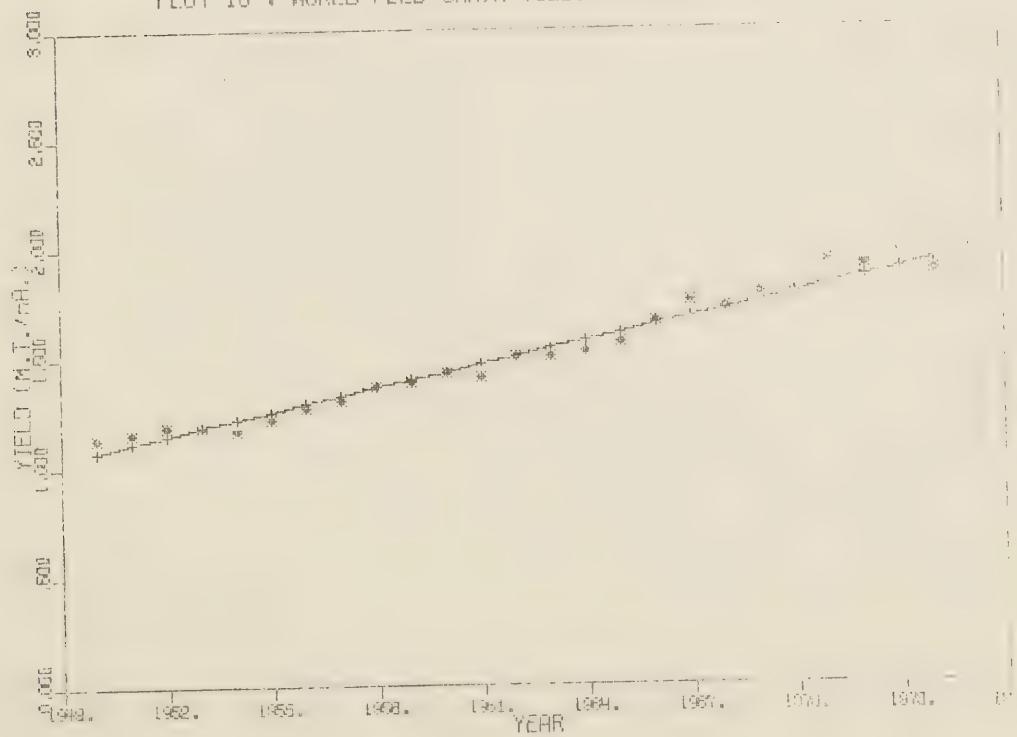
PLOT 14 : WORLD SORGHUM-MILLET YIELD 1950-75



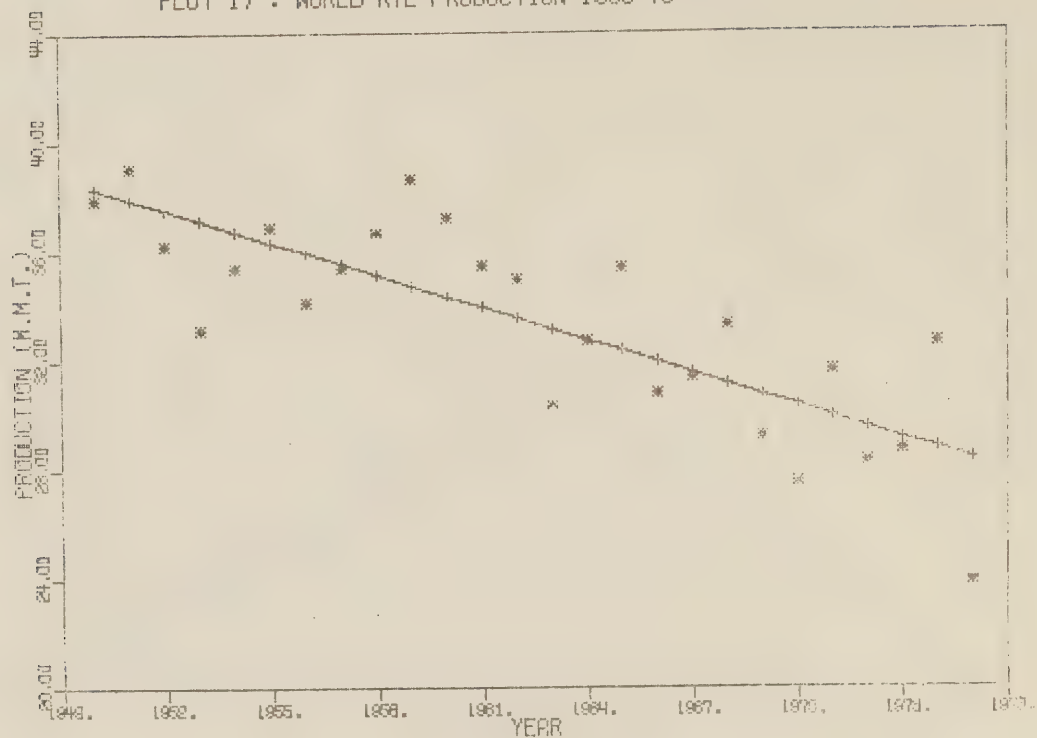
PLOT 15 : WORLD FEED GRAIN PRODUCTION 1950-75



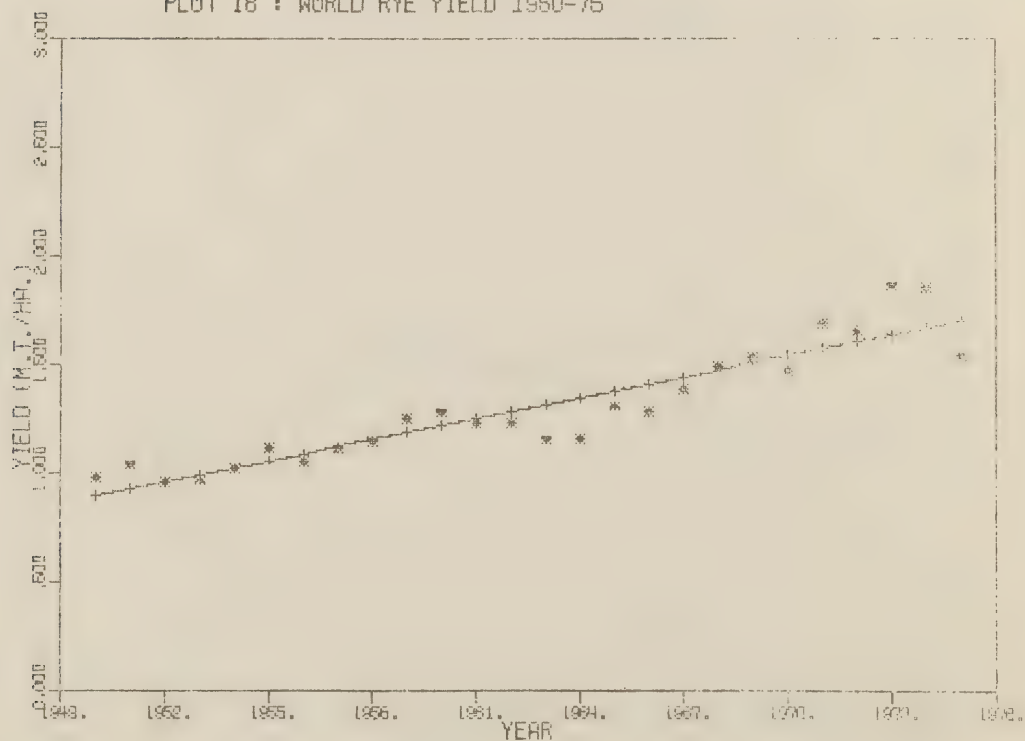
PLOT 16 : WORLD FEED GRAIN YIELD 1950-75



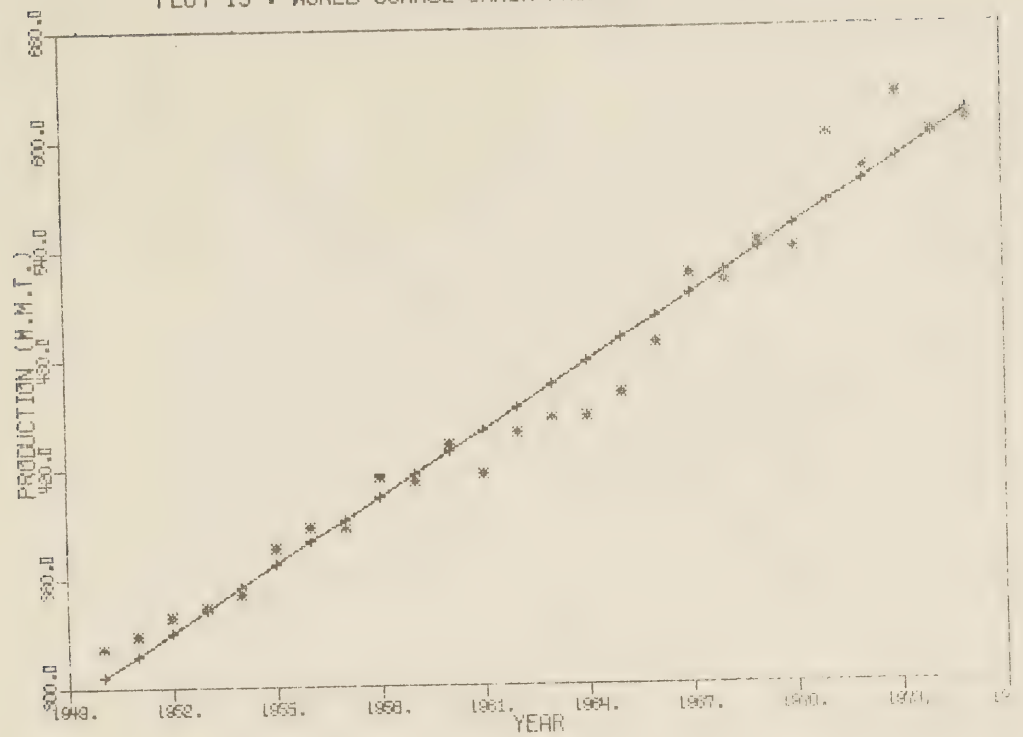
PLOT 17 : WORLD RYE PRODUCTION 1950-75



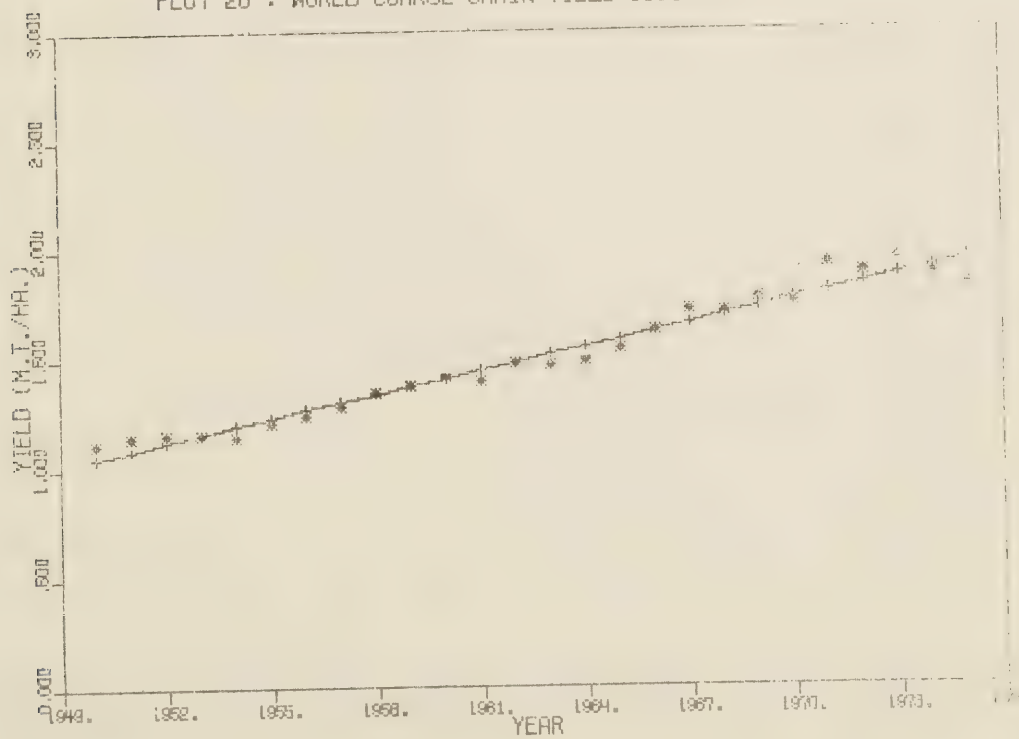
PLOT 18 : WORLD RYE YIELD 1950-75



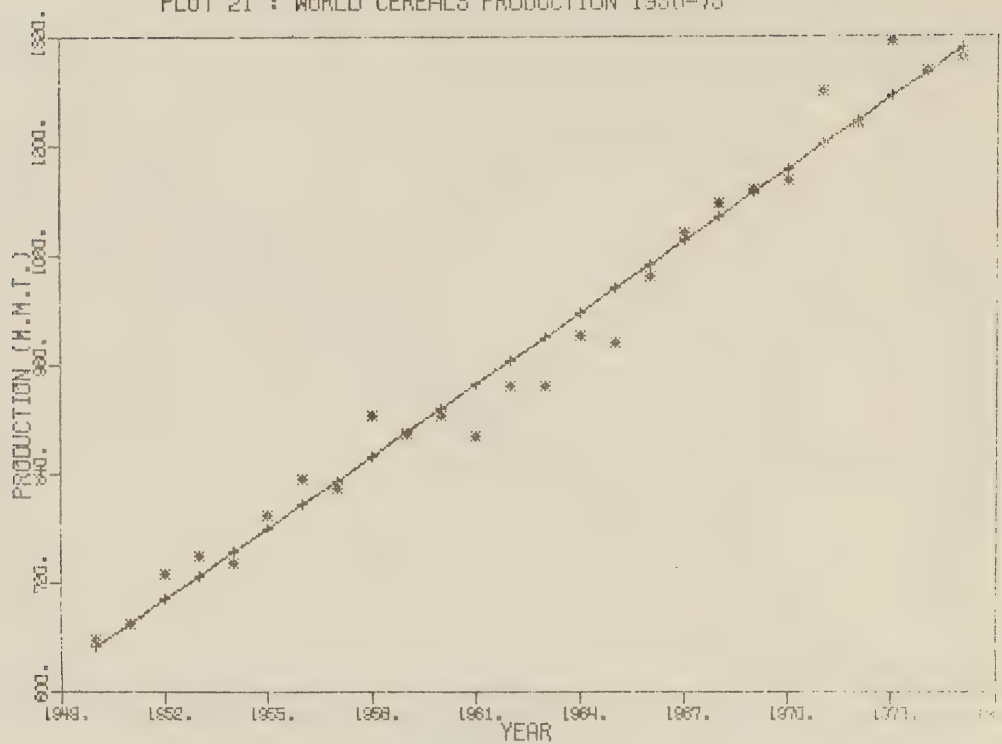
PL0T 19 : WORLD COARSE GRAIN PRODUCTION 1950-75



PL0T 20 : WORLD COARSE GRAIN YIELD 1950-75



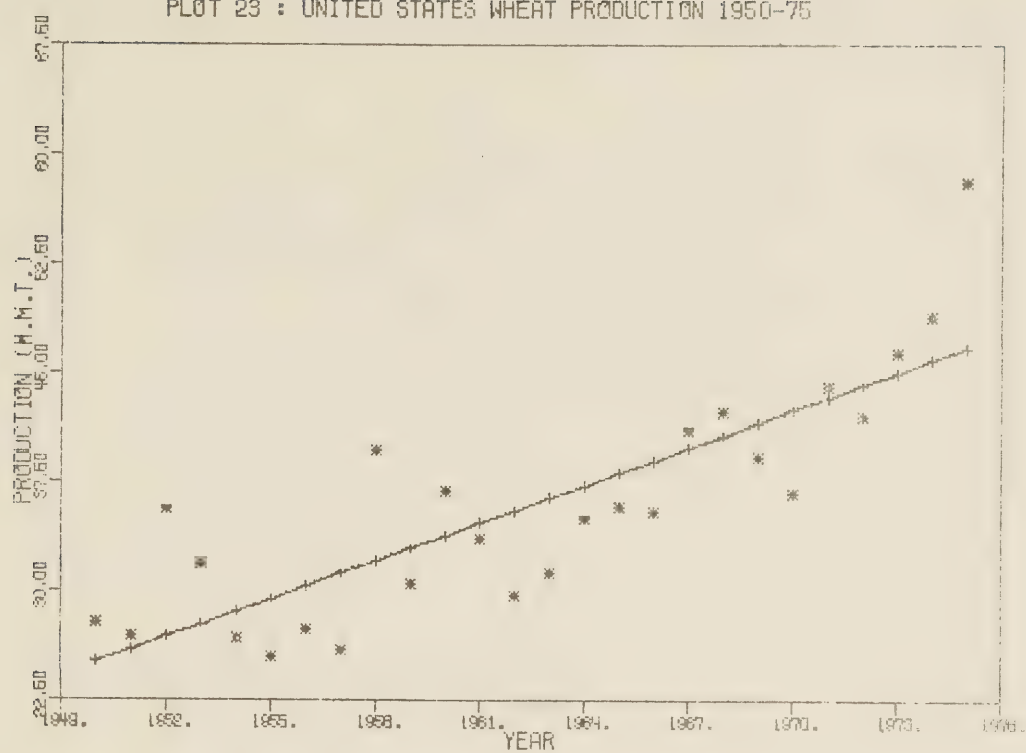
PLOT 21 : WORLD CEREALS PRODUCTION 1950-75



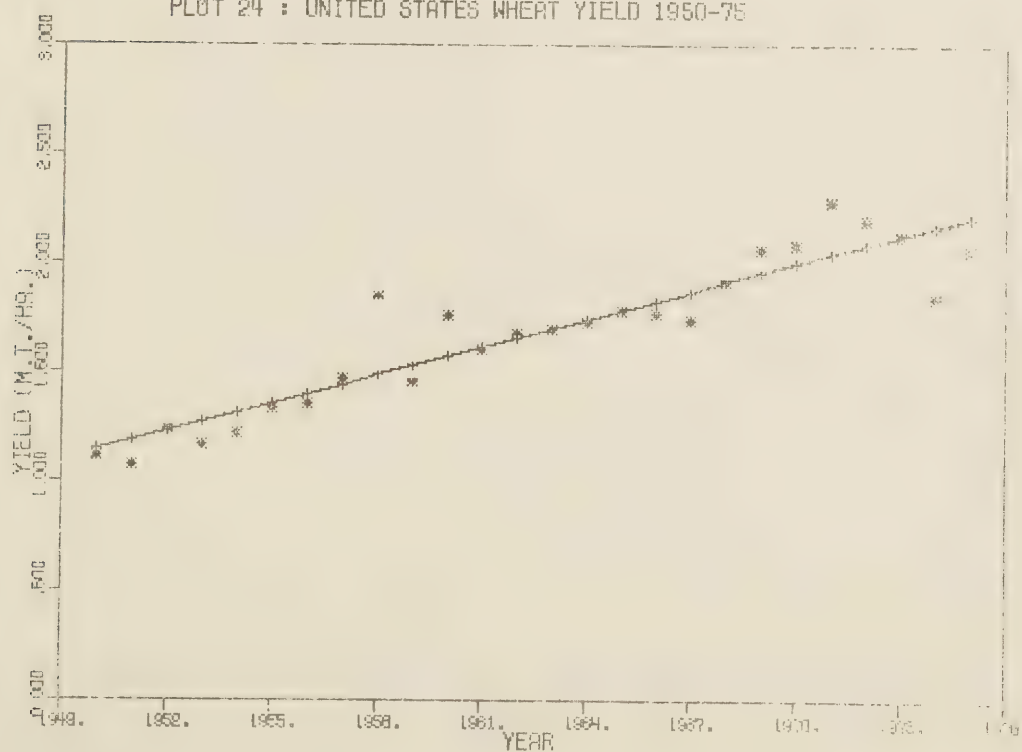
PLOT 22 : WORLD CEREALS YIELD 1950-75



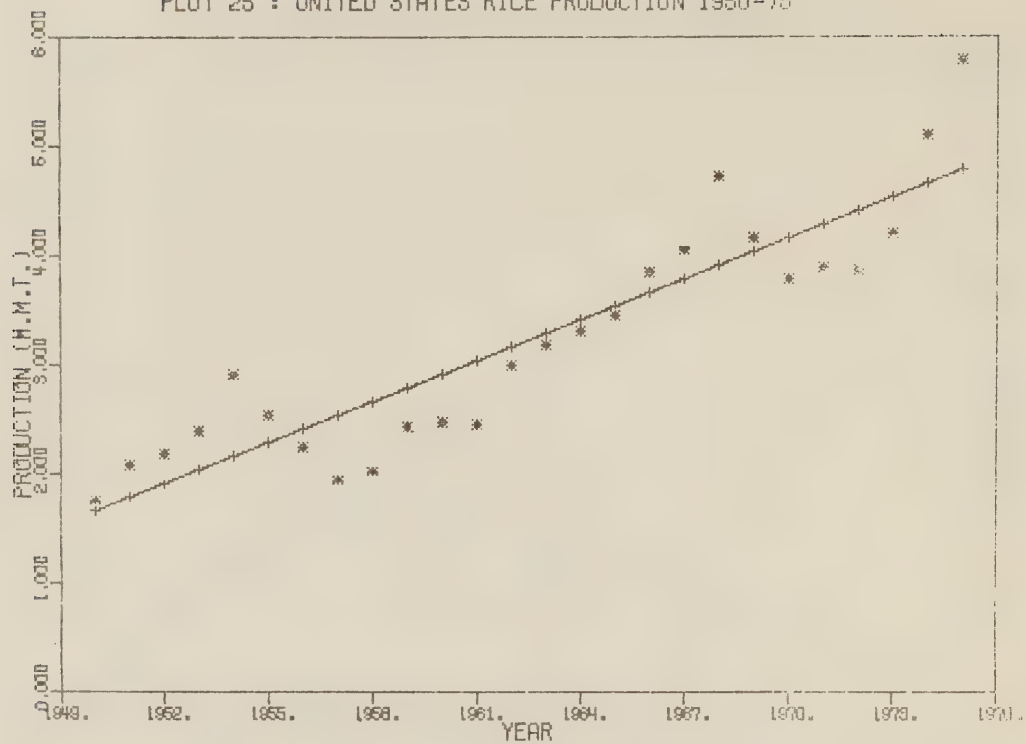
PLOT 23 : UNITED STATES WHEAT PRODUCTION 1950-75



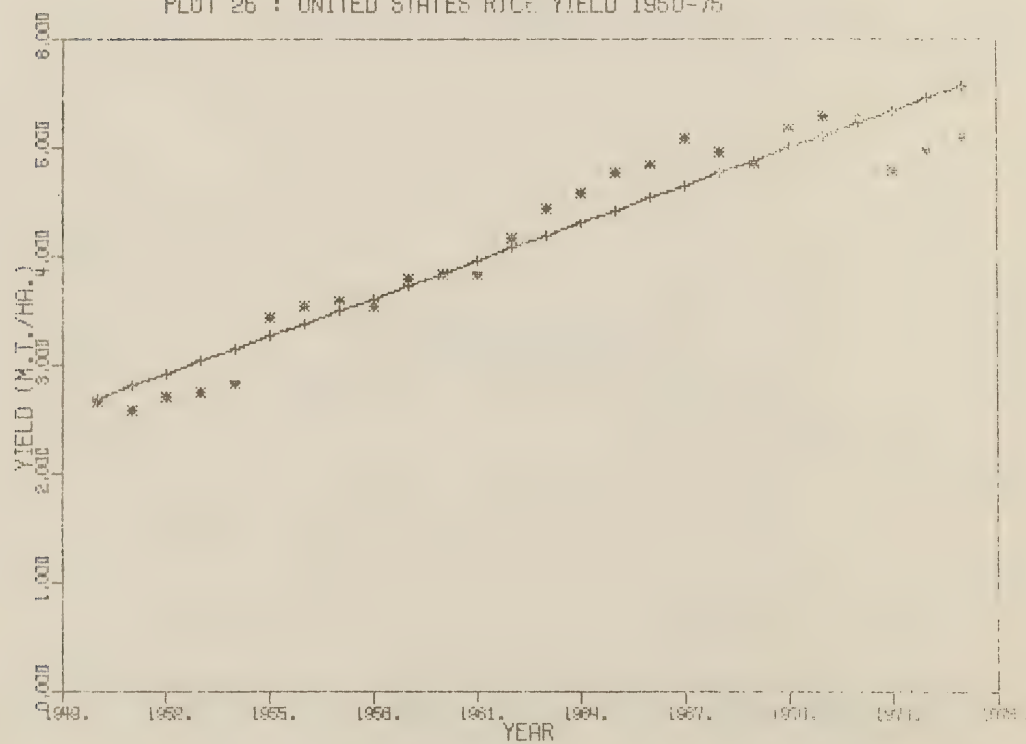
PLOT 24 : UNITED STATES WHEAT YIELD 1950-75



PLOT 25 : UNITED STATES RICE PRODUCTION 1950-75



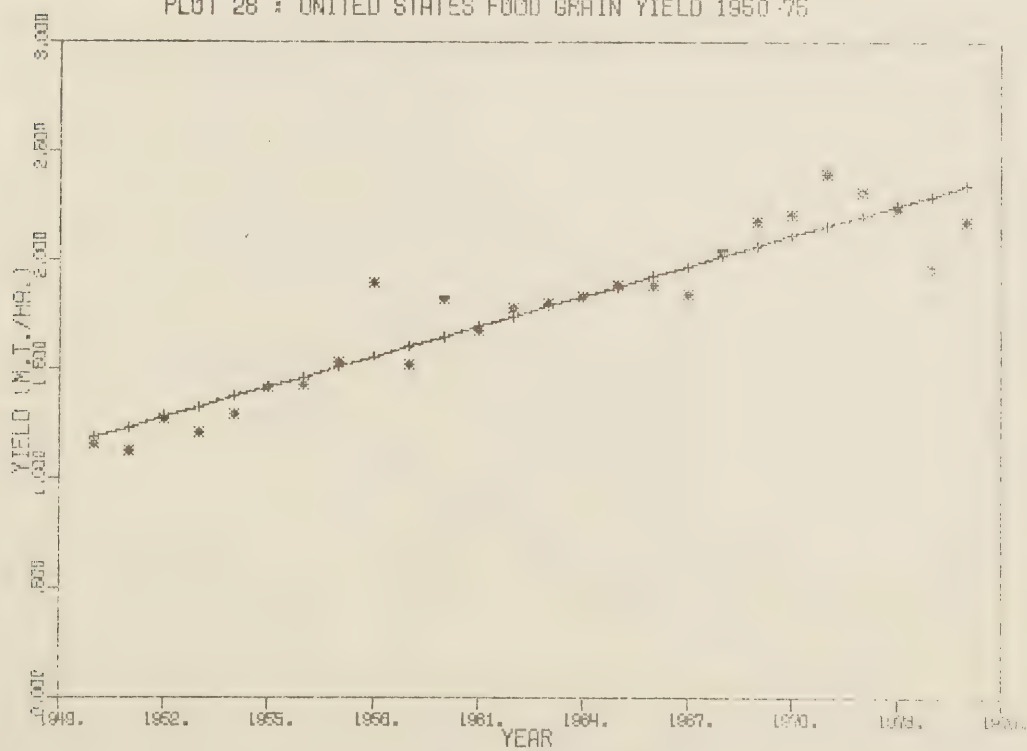
PLOT 26 : UNITED STATES RICE YIELD 1950-75



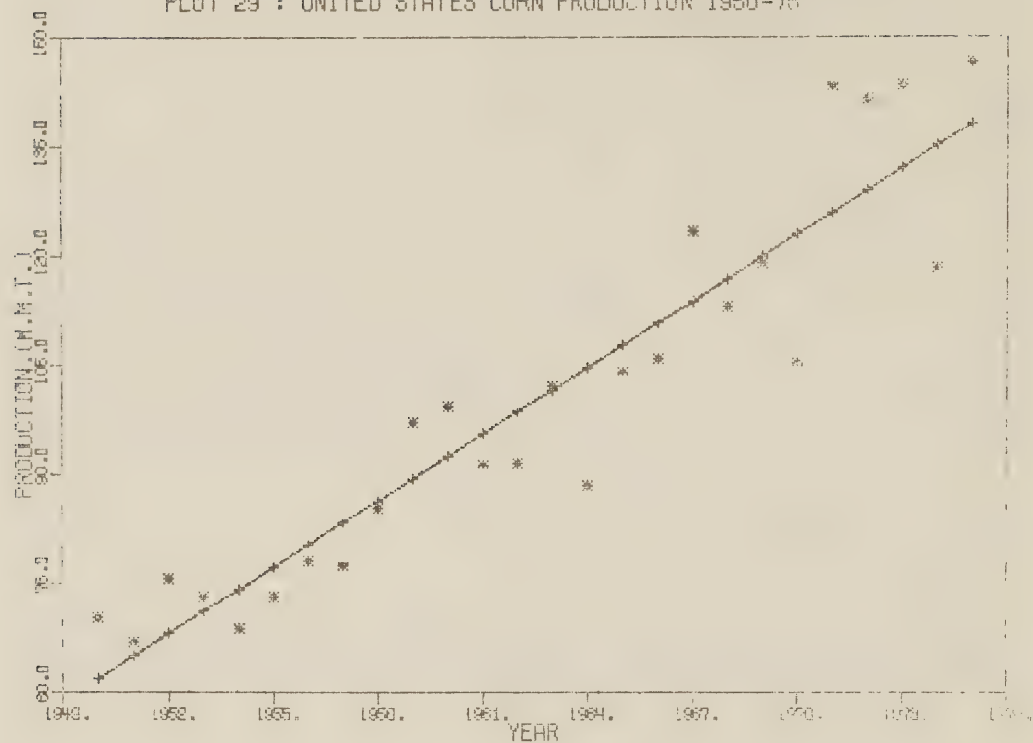
PLOT 27 : UNITED STATES FOOD GRAIN PRODUCTION 1950-75



PLOT 28 : UNITED STATES FOOD GRAIN YIELD 1950-75



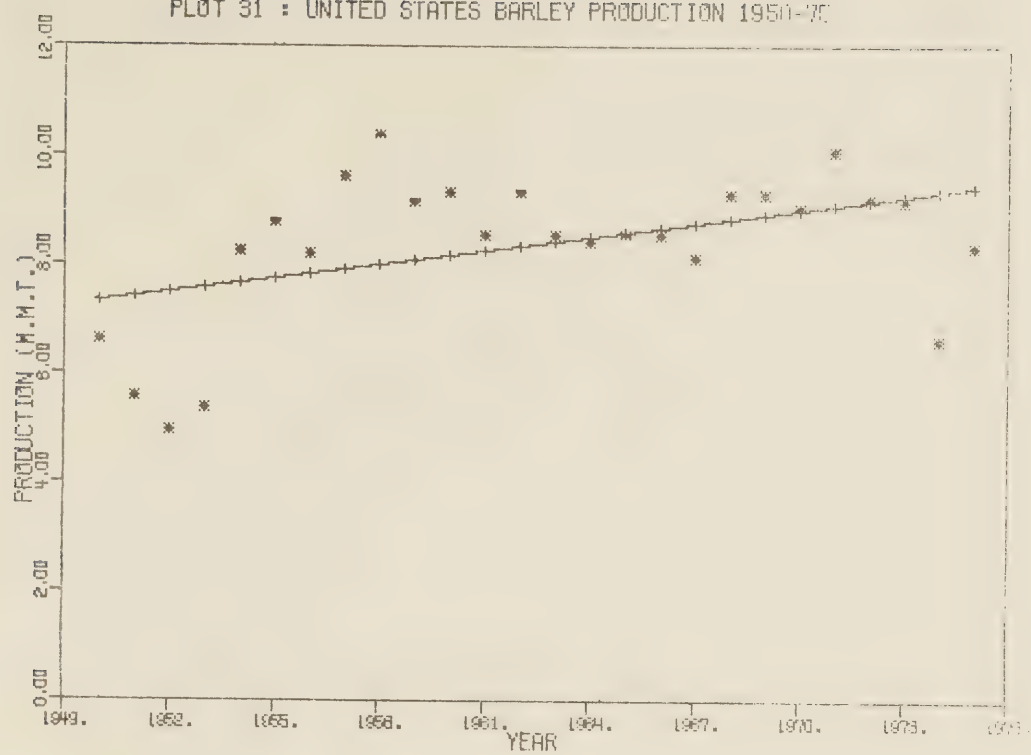
PLOT 29 : UNITED STATES CORN PRODUCTION 1950-75



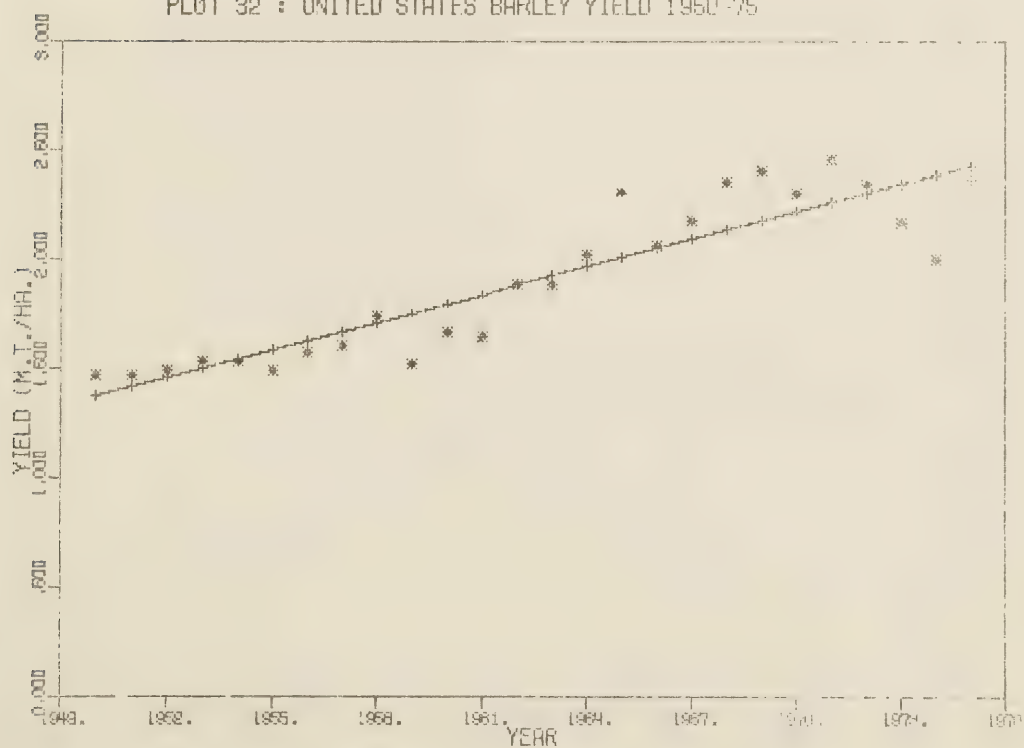
PLOT 30 : UNITED STATES CORN YIELD 1950-75



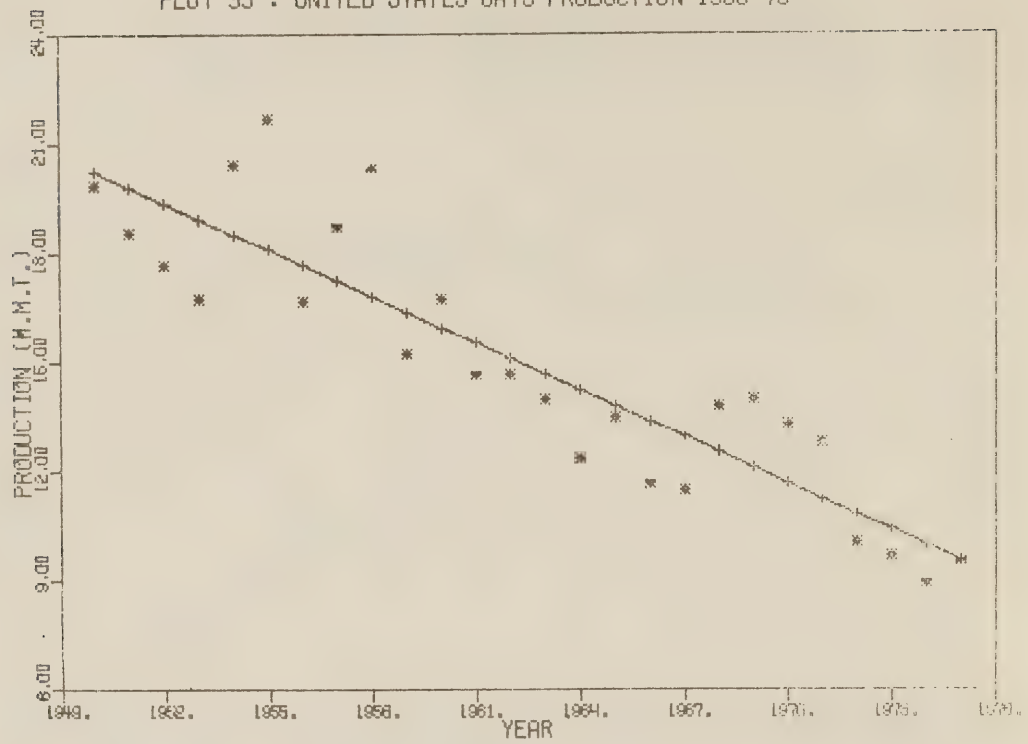
PLOT 31 : UNITED STATES BARLEY PRODUCTION 1950-75



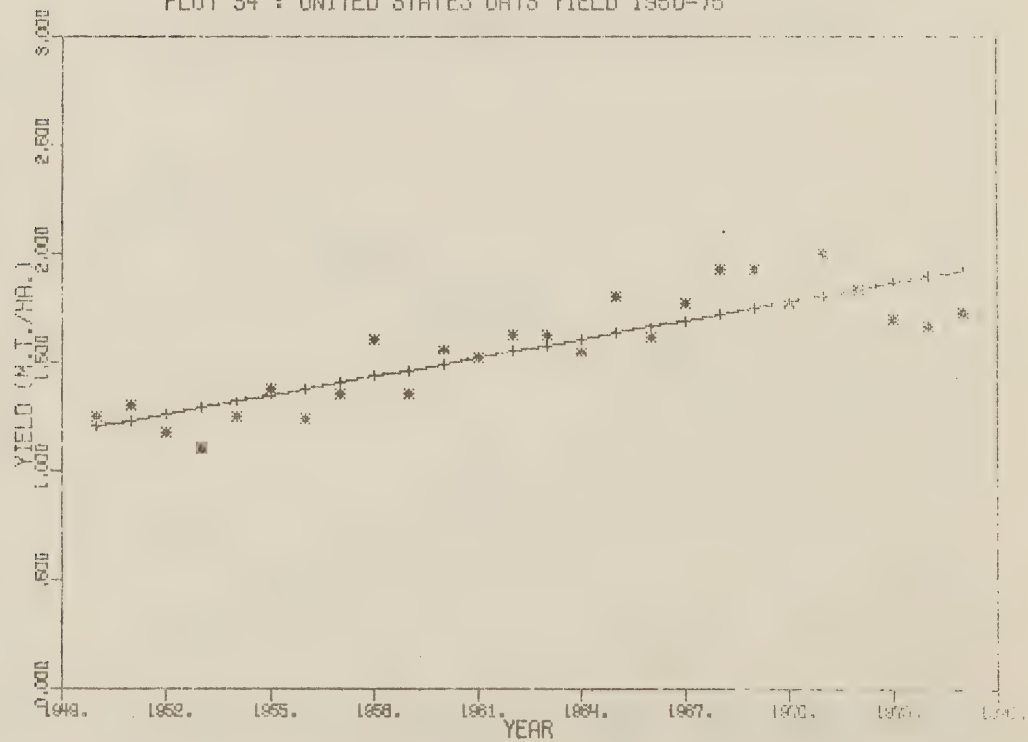
PLOT 32 : UNITED STATES BARLEY YIELD 1950-75



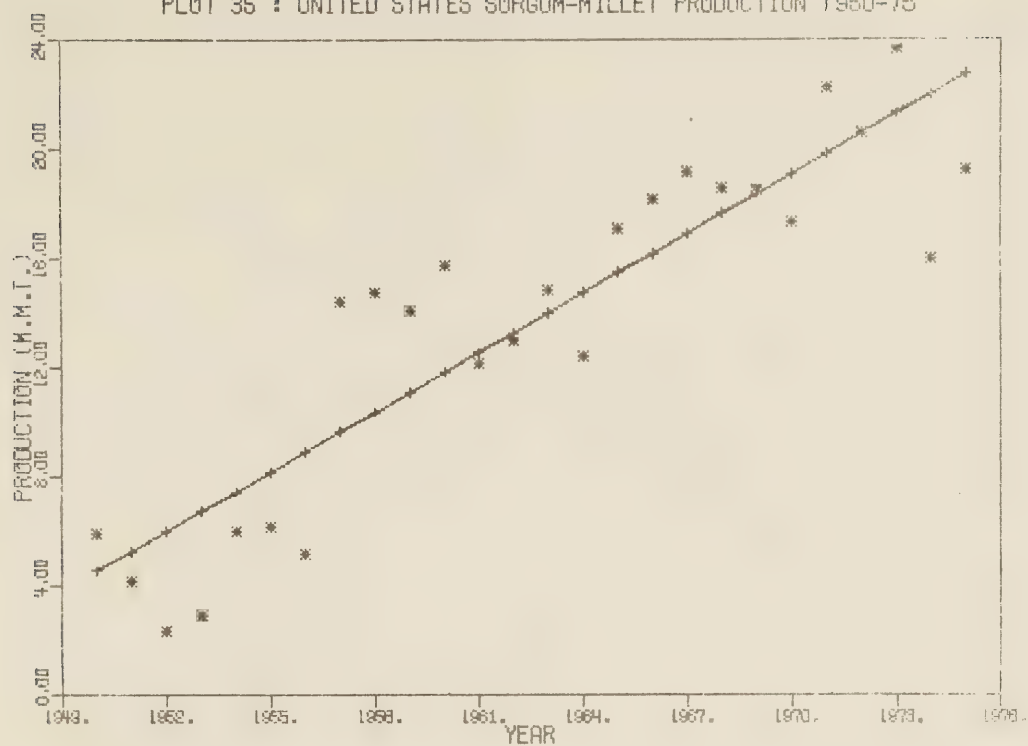
PLOT 33 : UNITED STATES OATS PRODUCTION 1950-75



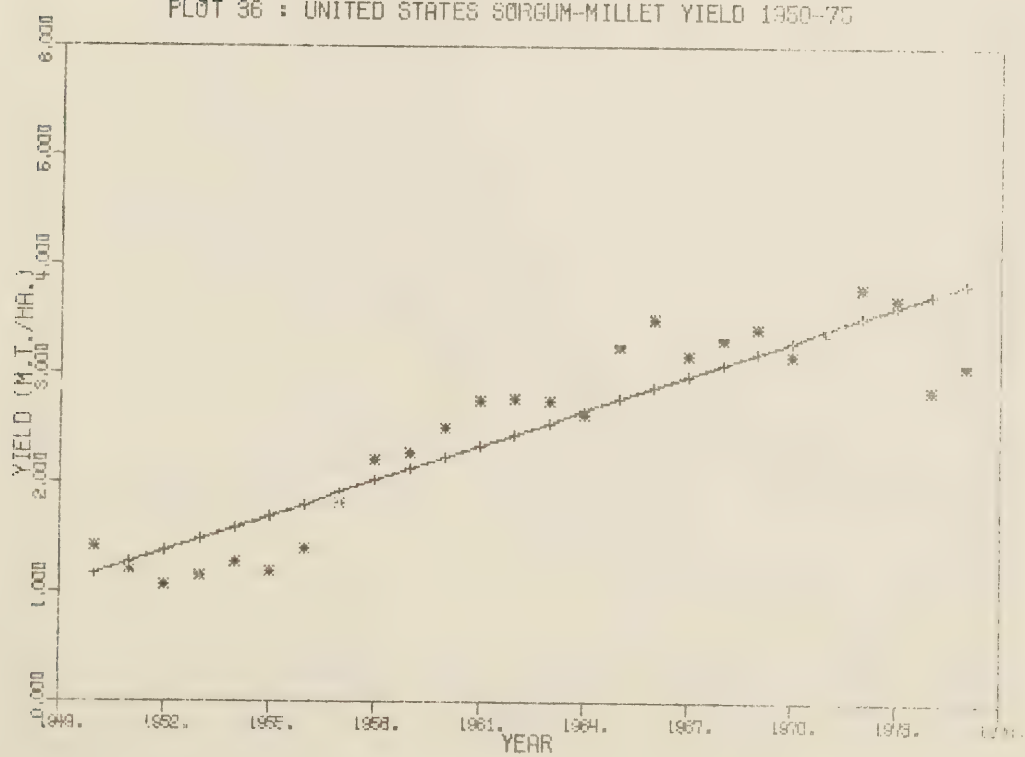
PLOT 34 : UNITED STATES OATS YIELD 1950-75



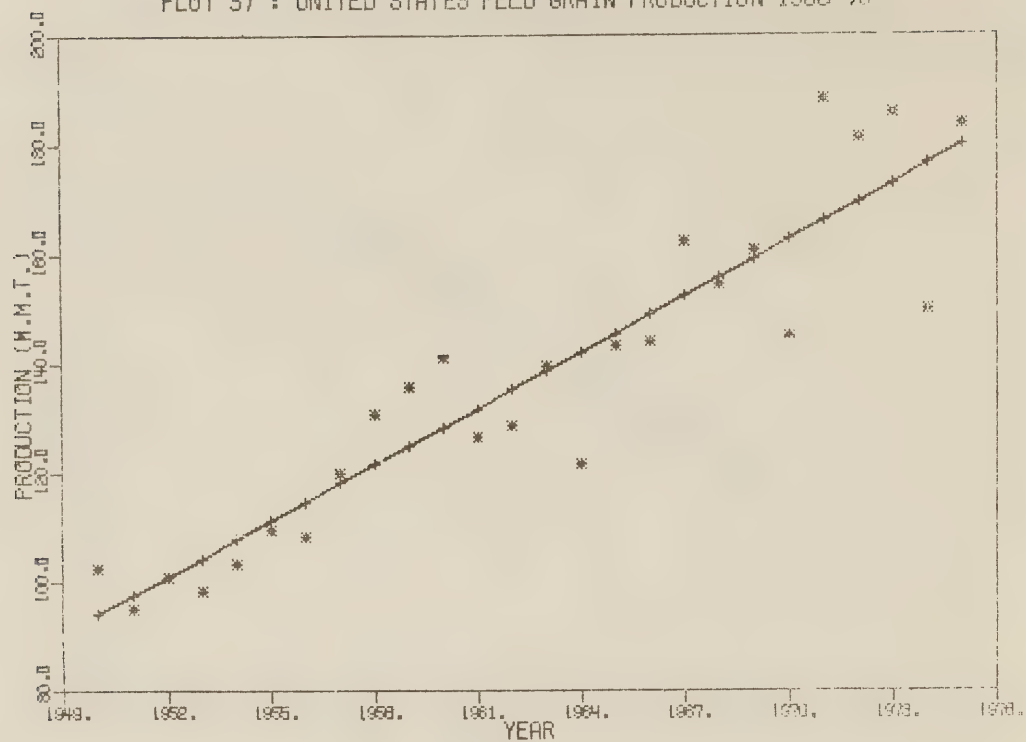
PLOT 35 : UNITED STATES SORGUM-MILLET PRODUCTION 1950-75



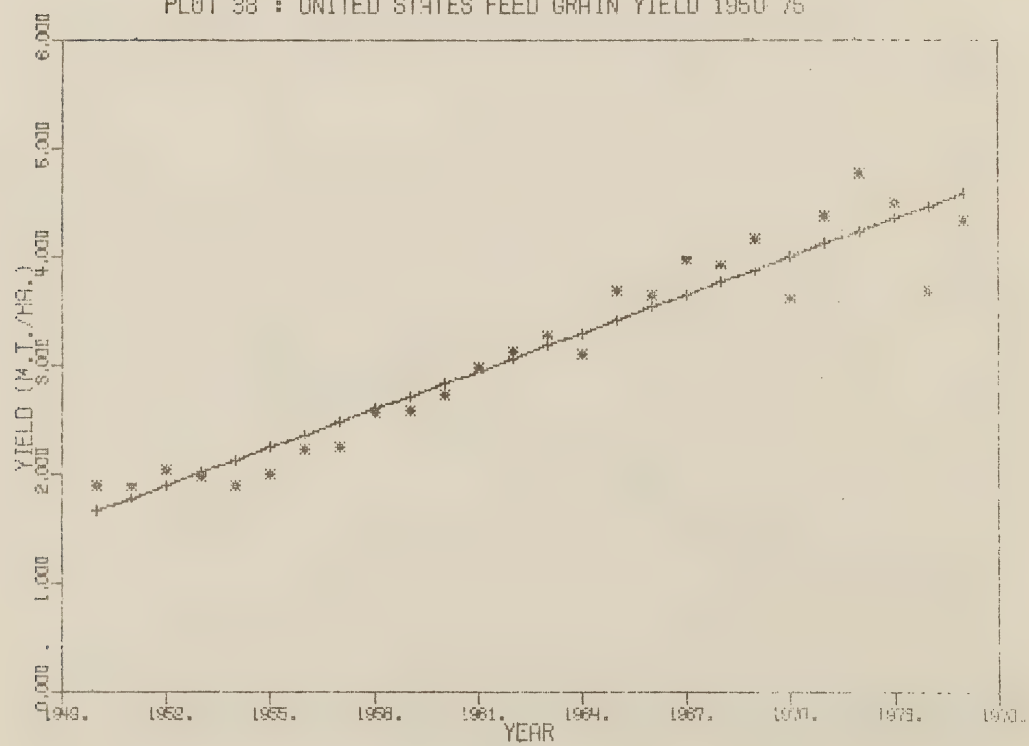
PLOT 36 : UNITED STATES SORGUM-MILLET YIELD 1950-75



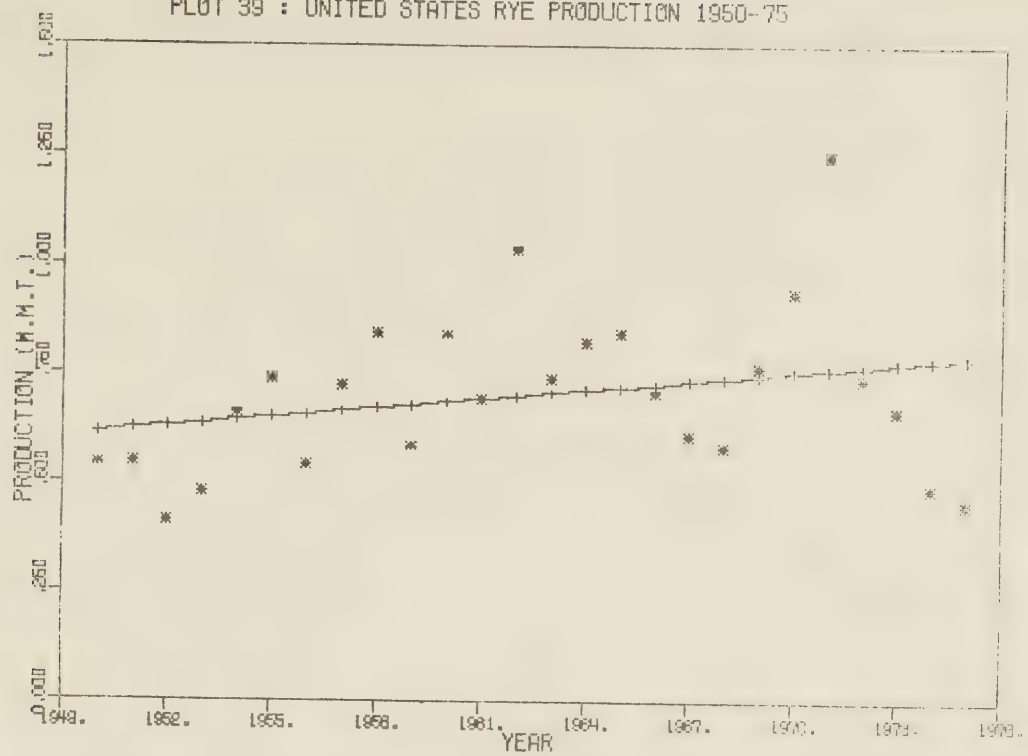
PLOT 37 : UNITED STATES FEED GRAIN PRODUCTION 1950-75



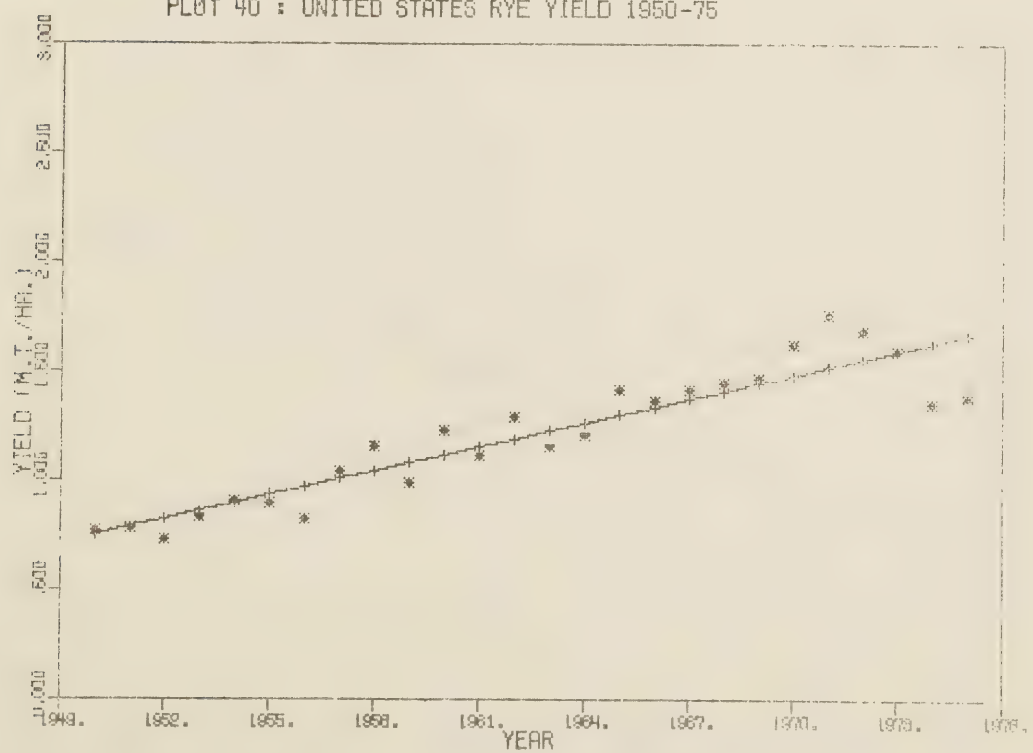
PLOT 38 : UNITED STATES FEED GRAIN YIELD 1950-75



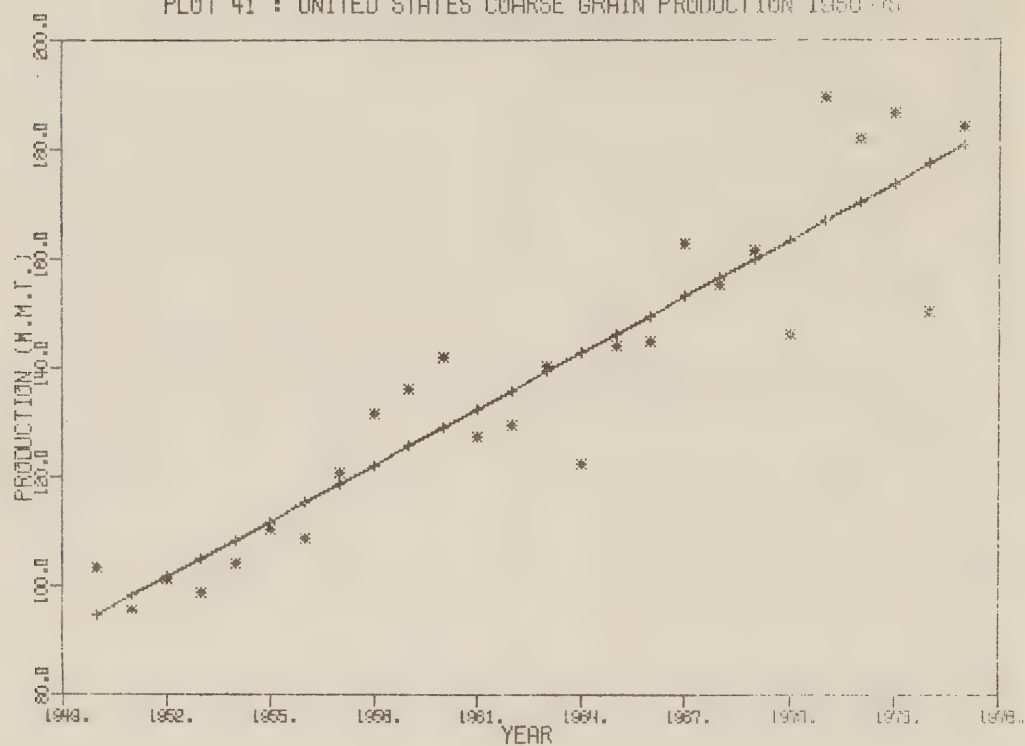
PLOT 39 : UNITED STATES RYE PRODUCTION 1950-75



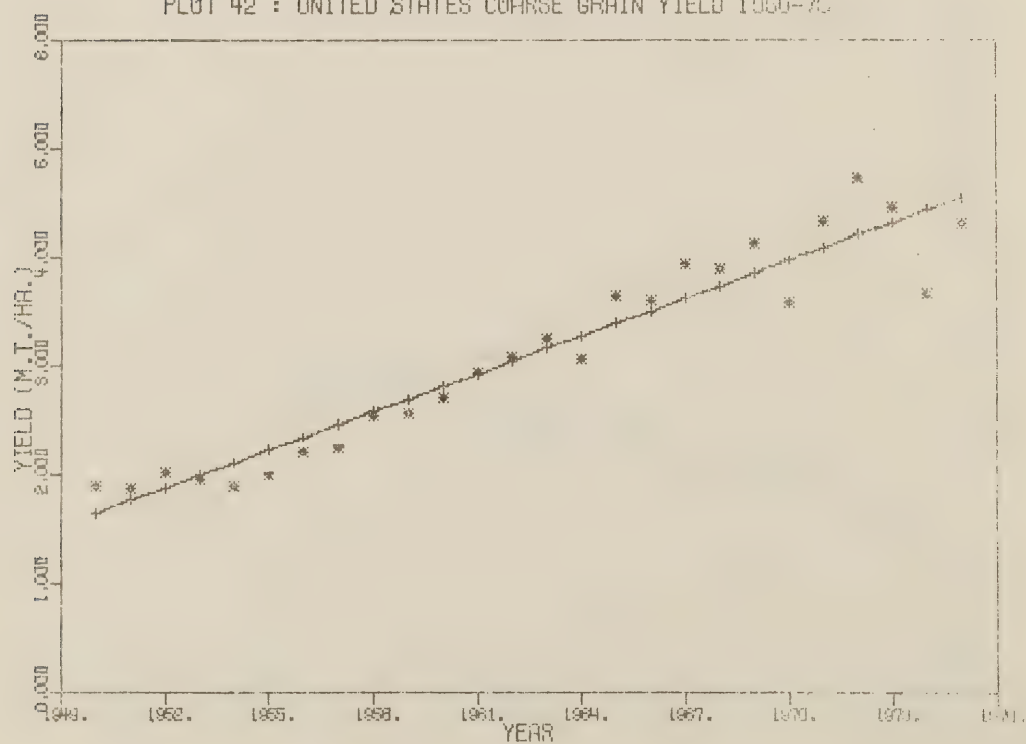
PLOT 40 : UNITED STATES RYE YIELD 1950-75



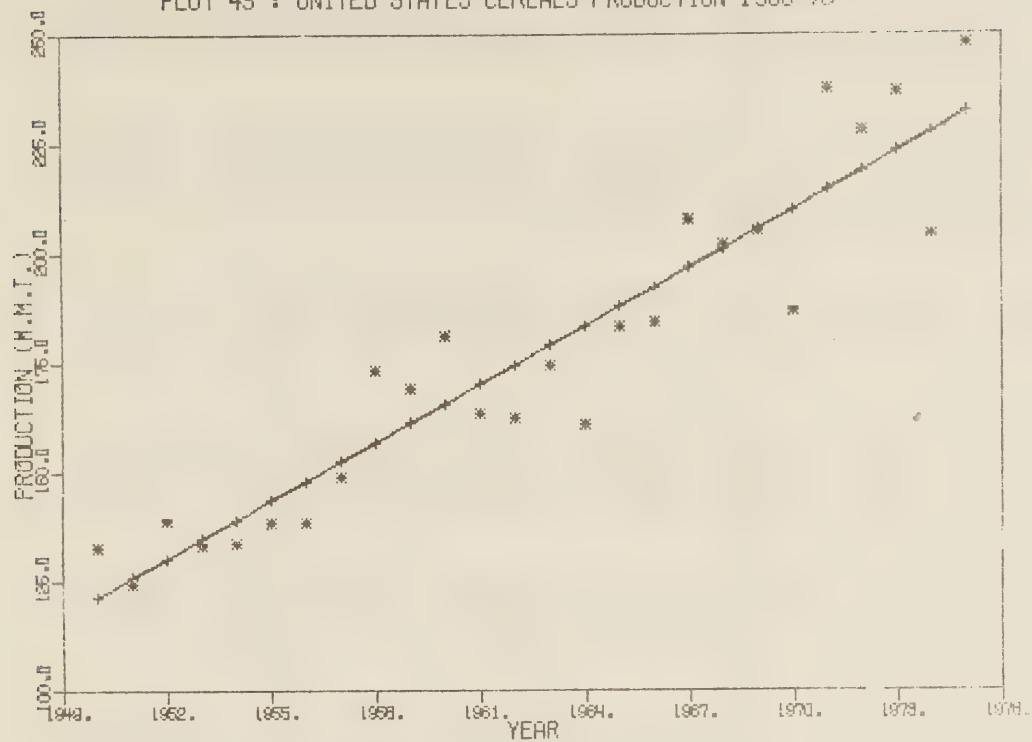
PLOT 41 : UNITED STATES COARSE GRAIN PRODUCTION 1950-76



PLOT 42 : UNITED STATES COARSE GRAIN YIELD 1950-76



PLOT 43 : UNITED STATES CEREALS PRODUCTION 1950-75



PLOT 44 : UNITED STATES CEREALS YIELD 1950-75

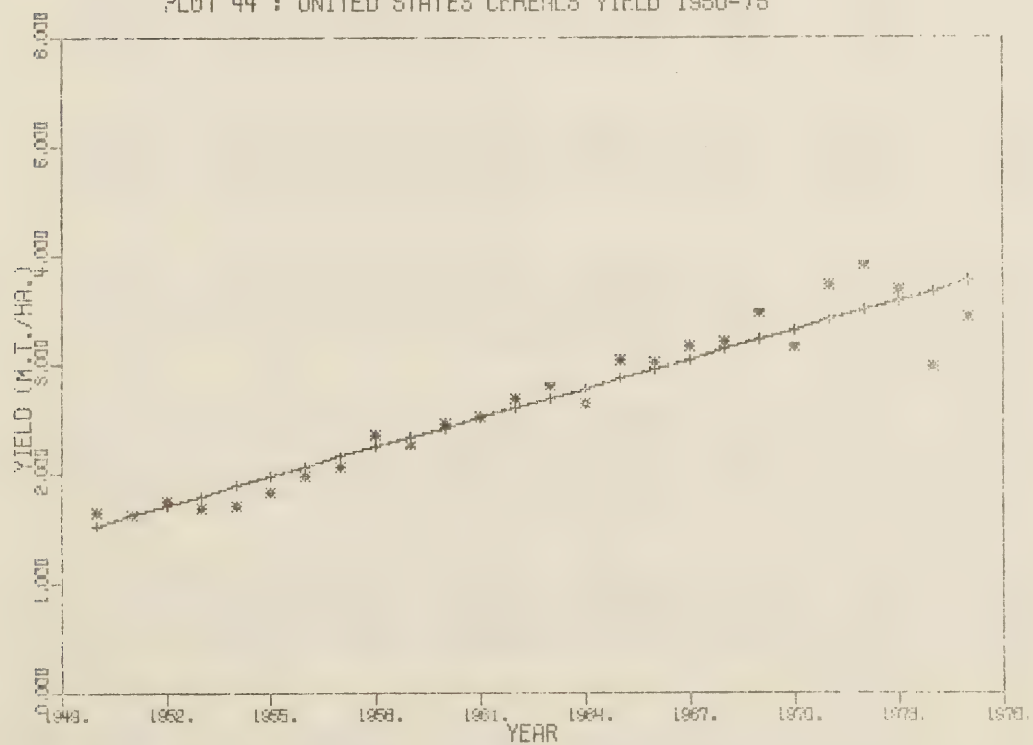


TABLE 15—WORLD - GRAIN PRODUCTION 1950-75 (M.M.T.)

YEAR	WHEAT	RICE	FOOD GRAIN	CORN	BARLEY	DATS	SORGUM/MIL	FEED GRAIN	RYE	COARSE GRN	CEREALS
1950	168.128	168.342	336.470	133.963	54.082	61.125	34.784	283.954	37.941	321.895	658.365
1951	172.503	173.750	346.253	138.575	55.920	62.598	32.692	289.785	39.047	328.832	675.085
1952	205.746	185.568	391.314	142.479	63.540	63.673	32.997	302.689	36.260	338.949	730.263
1953	204.162	201.177	405.339	149.180	65.454	57.732	38.121	310.487	33.196	343.683	749.022
1954	195.159	195.640	390.799	150.018	65.740	58.627	41.214	315.599	35.437	351.036	741.835
1955	207.082	211.359	418.441	165.685	70.781	63.468	39.145	339.079	36.923	376.002	794.443
1956	226.952	221.274	448.226	171.767	78.970	61.890	40.316	352.943	34.187	387.130	835.356
1957	221.501	217.036	438.537	170.957	73.010	58.558	48.802	351.327	35.424	386.751	825.288
1958	253.748	237.555	491.303	185.370	78.230	61.660	52.453	377.713	36.706	414.419	905.722
1959	243.522	228.900	472.422	192.614	75.051	55.417	50.275	373.357	38.678	412.035	884.457
1960	240.089	231.964	472.053	198.229	84.647	57.841	55.042	395.759	37.239	432.998	905.051
1961	266.773	239.136	465.909	202.561	77.350	49.876	51.208	380.995	35.474	416.469	882.378
1962	255.880	241.900	497.780	207.160	92.775	49.438	54.839	404.212	35.016	439.228	937.008
1963	237.909	253.065	490.974	218.985	95.722	46.497	55.303	416.507	30.368	446.875	937.849
1964	275.324	268.817	544.141	212.617	102.907	43.447	56.188	415.159	32.729	447.888	992.029
1965	264.277	260.578	524.855	224.679	98.579	45.639	55.755	424.652	35.427	460.079	984.934
1966	307.770	262.171	569.941	240.437	108.768	47.670	59.695	456.570	30.831	487.401	1057.342
1967	295.557	284.386	579.943	266.893	110.697	49.777	66.679	494.046	31.440	525.486	1195.429
1968	328.348	288.909	617.257	250.502	122.564	53.276	61.140	487.482	33.334	520.816	1138.073
1969	309.196	299.521	608.717	264.489	127.045	53.980	67.945	513.459	29.231	542.690	1151.407
1970	313.033	310.788	623.921	259.518	128.830	53.904	68.860	511.112	27.613	538.725	1162.546
1971	346.155	313.015	659.170	301.807	140.023	56.166	70.912	568.908	31.678	600.586	1259.756
1972	338.939	301.802	640.741	298.684	142.603	48.854	53.516	554.657	28.354	583.011	1223.752
1973	367.372	325.002	692.374	307.080	157.728	52.708	76.430	593.946	28.736	622.682	1315.056
1974	351.123	331.548	682.671	291.180	160.133	42.388	67.694	568.395	32.671	601.066	1283.737
1975	341.060	349.070	690.130	319.361	144.342	47.421	72.051	592.175	22.877	607.052	1297.192
MEAN	265.281	258.934	519.215	217.877	99.037	54.293	54.387	425.614	32.378	458.992	978.206
STD. DEV.	59.021	53.713	102.788	57.613	32.415	6.071	12.960	92.196	3.789	35.174	203.358

TABLE 16--WORLD LESS U.S.A. - GRAIN PRODUCTION 1950-75 (M.M.T.)

YEAR	WHEAT	RICE	FOOD GRAIN	CORN	BARLEY	OATS	SORGHUM/MTL	FEED GRAIN	RYE	COARSE GRN	CEREALS
1950	140.386	166.581	306.967	63.752	47.468	41.251	28.852	181.323	37.397	218.720	525.687
1951	145.610	171.659	317.259	71.797	50.320	44.053	28.555	194.725	38.500	233.225	550.494
1952	170.191	183.382	353.573	66.763	58.572	46.002	30.692	202.029	35.850	237.879	591.452
1953	172.236	198.780	371.016	75.979	60.082	40.993	35.182	212.236	32.716	244.952	615.968
1954	168.362	192.728	361.110	81.234	57.483	38.167	35.230	212.114	34.778	246.892	608.002
1955	181.579	208.823	390.402	92.708	62.005	41.754	32.982	229.449	36.184	265.633	656.035
1956	199.590	219.031	418.631	93.650	70.769	45.177	35.112	244.708	33.646	278.354	696.975
1957	195.490	215.089	410.579	93.601	63.370	39.835	34.387	231.193	34.700	265.893	676.472
1958	214.083	235.525	449.608	100.118	67.837	41.319	37.695	246.969	35.863	282.832	732.440
1959	213.102	226.467	439.569	95.465	65.902	40.176	36.166	237.709	38.092	275.801	715.370
1960	203.220	229.488	432.708	98.988	75.307	41.100	39.294	254.689	36.398	291.087	723.795
1961	193.234	236.678	429.912	111.172	68.806	35.211	39.010	254.199	34.780	288.979	718.891
1962	226.162	238.904	465.066	115.555	83.462	34.746	41.877	275.640	33.982	309.622	774.683
1963	206.698	249.878	456.576	116.892	87.169	32.483	40.433	276.977	29.627	306.604	763.180
1964	240.396	265.498	505.894	124.113	94.502	31.076	43.747	293.438	31.904	325.342	831.236
1965	228.472	257.118	485.590	120.461	90.021	32.147	38.668	281.297	34.581	315.878	801.468
1966	272.257	258.315	530.572	134.575	100.231	36.010	41.533	312.349	30.125	342.474	873.046
1967	254.527	280.332	534.859	143.434	102.560	38.255	47.432	331.741	30.832	362.573	897.432
1968	285.983	294.185	570.168	137.478	113.286	39.477	42.565	332.806	32.751	365.557	935.725
1969	269.933	295.352	565.285	145.432	117.747	39.960	49.404	352.543	28.464	381.007	946.292
1970	273.250	306.987	583.237	154.054	119.770	40.591	51.496	365.911	26.677	392.588	975.225
1971	302.126	309.125	611.251	158.516	129.929	43.374	48.667	380.486	30.426	410.912	1022.153
1972	296.893	297.927	594.820	157.115	133.383	39.810	42.960	373.268	27.513	400.881	995.701
1973	320.965	320.794	641.759	163.644	148.550	43.028	52.807	408.029	28.069	436.098	1077.867
1974	302.239	326.450	628.689	172.718	153.512	40.479	51.711	418.420	32.181	450.601	1079.290
1975	282.987	343.281	626.268	172.873	136.004	37.887	52.795	399.549	23.423	422.972	1049.240
MEAN	229.345	253.707	480.052	117.723	90.694	39.398	40.742	288.602	32.675	321.283	801.336
STD. DEV.	52.467	49.754	101.067	33.791	31.936	3.873	7.358	71.260	3.808	68.627	169.322

TABLE 17--UNITED STATES - GRAIN PRODUCTION 1950-75 (M.M.T.)

YEAR	WHEAT	RICE	FOOD GRAIN	CORN	BARLEY	DATS	SORGUM/MIL	FEED GRAIN	RYE	COARSE GRN	CEREALS
1950	27,742	1,761	29,503	70,211	6,614	19,874	5,932	102,631	.544	103,175	132,678
1951	26,893	2,091	28,984	66,778	5,600	18,545	4,137	95,060	.547	95,607	124,591
1952	35,555	2,196	37,741	75,716	4,963	17,671	2,305	100,660	.410	101,070	138,811
1953	31,926	2,397	34,323	73,201	5,372	16,739	2,939	98,251	.480	98,731	133,054
1954	26,777	2,912	29,689	68,784	8,257	20,460	5,984	103,485	.659	104,144	133,833
1955	25,503	2,536	28,039	72,977	8,776	21,714	6,163	109,630	.739	110,369	138,408
1956	27,362	2,243	29,605	78,117	8,201	16,713	5,204	108,235	.541	108,776	138,381
1957	26,011	1,947	27,958	77,356	9,640	18,723	14,415	120,134	.724	120,858	148,816
1958	38,665	2,030	41,695	85,252	10,393	20,341	14,758	130,744	.843	131,587	173,282
1959	30,420	2,433	32,853	97,149	9,149	15,241	14,109	135,648	.586	136,234	169,087
1960	36,869	2,476	39,345	99,241	9,340	16,741	15,748	141,070	.841	141,911	181,256
1961	33,539	2,458	35,997	91,389	8,544	14,665	12,198	126,796	.694	127,490	163,487
1962	29,718	2,996	32,714	91,605	9,313	14,692	12,962	128,572	1,034	129,606	162,320
1963	31,211	3,187	34,398	102,093	8,553	14,014	14,870	139,530	.741	140,271	174,669
1964	34,928	3,319	38,247	88,504	8,405	12,371	12,441	121,721	.825	122,546	160,793
1965	35,805	3,460	39,265	104,218	8,558	13,492	17,037	143,355	.846	144,201	183,466
1966	35,513	3,856	39,369	105,862	8,537	11,660	18,162	144,221	.706	144,927	184,296
1967	41,030	4,054	45,084	123,459	8,137	11,522	19,187	162,305	.608	162,913	207,997
1968	42,365	4,724	47,089	113,024	9,278	13,799	18,575	154,676	.583	155,259	202,348
1969	39,263	4,169	43,432	119,057	9,298	14,020	18,541	160,916	.767	161,683	205,115
1970	36,783	3,801	40,584	105,464	9,060	13,313	17,364	145,201	.936	146,137	186,721
1971	44,029	3,890	47,919	143,291	10,094	12,792	22,235	188,422	1,252	189,674	237,593
1972	42,046	3,875	45,921	141,569	9,220	10,044	20,556	181,389	.741	182,130	228,051
1973	48,407	4,203	50,615	143,436	9,173	9,680	23,623	185,917	.687	186,584	237,199
1974	43,884	5,028	53,982	118,462	6,521	8,909	15,983	149,375	.490	150,465	204,447
1975	58,073	5,789	63,862	146,488	8,338	9,534	19,566	183,626	.454	184,030	247,942
MEAN	35,935	3,227	39,162	100,104	8,363	14,895	13,644	137,007	.702	137,709	176,871
STD. DEV.	7,981	1,061	8,889	25,027	1,406	3,650	6,243	28,460	.190	28,527	36,205

TABLE 18--CANADA - GRAIN PRODUCTION 1950-75 (M.M.T.)

YEAR	WHEAT	RICE	FOOD GRAIN	CORN	BARLEY	DATS	SORGUM/MIL	FEED GRAIN	RYE	COARSE GRN	CEREALS
1950	12.696	0	12.696	.358	3.647	6.196	0	10.201	.330	10.531	23.227
1951	15.069	0	15.069	.404	5.344	7.617	0	13.365	.447	13.812	28.881
1952	19.105	0	19.105	.538	6.348	7.266	0	14.152	.610	14.762	33.867
1953	17.256	0	17.256	.586	5.707	6.384	0	12.677	.733	13.410	30.666
1954	9.035	0	9.035	.632	3.814	4.725	0	9.171	.325	9.496	18.531
1955	14.130	0	14.130	.903	5.467	6.160	0	12.530	.352	12.882	27.012
1956	15.596	0	15.596	.707	5.858	7.210	0	13.775	.214	13.989	29.585
1957	10.688	0	10.688	.750	4.703	4.887	0	10.340	.213	10.553	21.241
1958	10.834	0	10.834	.757	5.178	5.332	0	11.267	.196	11.463	22.297
1959	12.113	0	12.113	.785	4.695	5.308	0	10.788	.214	11.002	23.115
1960	14.108	0	14.108	.683	4.212	6.146	0	11.021	.260	11.281	25.389
1961	7.713	0	7.713	.742	2.452	4.379	0	7.573	.166	7.739	15.452
1962	15.392	0	15.392	.849	3.612	7.613	0	12.073	.306	12.379	27.771
1963	19.690	0	19.690	.919	4.817	6.876	0	12.612	.350	12.962	32.652
1964	16.349	0	16.349	1.342	3.668	5.352	0	10.362	.314	10.676	27.025
1965	17.674	0	17.674	1.511	4.753	6.169	0	12.433	.453	12.886	30.560
1966	22.516	0	22.516	1.685	6.559	5.778	0	14.022	.437	14.459	36.975
1967	16.137	0	16.137	1.883	5.506	4.654	0	12.043	.304	12.347	28.484
1968	17.689	0	17.689	2.076	7.099	5.501	0	14.676	.331	15.007	32.696
1969	18.267	0	18.267	1.883	8.084	5.473	0	15.440	.385	15.825	34.092
1970	9.024	0	9.024	2.634	8.889	5.445	0	16.968	.480	17.448	26.472
1971	14.412	0	14.412	2.946	13.099	5.606	0	21.651	.557	22.208	36.620
1972	14.514	0	14.514	2.528	11.285	4.630	0	18.443	.344	18.787	33.301
1973	16.458	0	16.458	2.803	10.224	5.041	0	18.068	.363	18.431	34.809
1974	13.295	0	13.295	2.577	8.802	3.929	0	15.308	.480	15.788	29.083
1975	16.806	0	16.806	3.623	9.520	4.467	0	17.610	.523	18.133	34.939
MEAN	14.868	0	14.868	1.426	5.282	5.698	0	13.406	.373	13.775	28.647
STD. DEV.	3.539	0	3.539	.938	2.638	1.021	0	3.227	.136	3.302	5.631

TABLE 19--EUROPE ECONOMIC COMMUNITY - GRAIN PRODUCTION 1950-75 (M.M.T.)

YEAR	WHEAT	RICE	FOOD GRAIN	CORN	BARLEY	OATS	SORGHUM/MIL	FEED GRAIN	RYE	COARSE GRN	CEREALS
1950	22,252	.750	23,002	2,346	7,313	11,435	.004	21,098	4,823	25,921	48,923
1951	20,736	.811	21,547	3,462	7,992	12,138	.007	23,599	4,641	28,240	49,787
1952	23,440	1,019	24,459	2,905	9,029	11,825	.005	23,764	4,868	28,632	53,091
1953	25,485	1,003	26,488	4,048	10,181	12,071	.004	26,304	4,933	31,237	57,725
1954	25,385	.921	26,306	3,949	9,692	11,307	.007	24,955	5,817	30,772	57,078
1955	27,667	.961	28,628	4,323	11,035	11,937	.012	27,307	4,964	32,271	60,899
1956	22,387	.762	23,149	5,175	15,145	12,493	.015	32,828	5,325	38,153	61,302
1957	28,126	.751	28,877	4,908	12,982	9,781	.012	27,883	5,384	33,067	61,944
1958	27,731	.878	28,609	5,359	13,291	9,553	.016	28,219	5,237	33,456	62,065
1959	29,448	.887	30,335	5,719	15,614	9,445	.015	30,793	5,333	36,126	66,461
1960	28,030	.725	28,755	6,648	17,412	9,418	.017	33,495	5,436	38,931	67,686
1961	26,695	.834	27,529	6,431	17,604	8,920	.036	32,991	3,916	36,907	64,436
1962	34,689	.793	35,482	5,173	20,753	9,267	.046	35,239	4,407	39,646	75,128
1963	28,424	.681	29,105	7,613	22,811	9,106	.091	39,621	4,458	44,079	73,184
1964	33,895	.746	34,641	6,127	23,842	8,387	.091	38,447	4,900	43,347	77,988
1965	35,453	.607	36,060	6,835	24,882	8,125	.113	39,955	3,940	43,895	79,955
1966	30,586	.721	31,307	7,971	26,003	8,343	.167	42,484	3,555	46,039	77,346
1967	35,981	.862	36,843	8,199	30,293	9,450	.174	48,116	4,058	52,174	89,017
1968	36,762	.722	37,484	9,660	29,451	8,857	.224	48,192	4,066	52,258	89,742
1969	35,703	.955	36,658	10,646	30,580	8,749	.223	50,198	3,691	53,889	90,547
1970	34,746	.907	35,653	12,827	27,218	7,551	.196	47,792	3,405	51,197	86,850
1971	40,134	.969	41,103	14,036	31,075	8,871	.244	54,226	3,853	58,079	99,182
1972	41,443	.803	42,246	13,968	33,641	8,311	.316	56,236	3,691	59,927	102,173
1973	41,369	1,106	42,475	16,308	34,412	7,772	.308	58,800	3,269	62,069	104,544
1974	45,321	1,044	46,365	14,472	34,831	8,018	.306	57,627	3,226	60,853	107,218
1975	38,075	1,007	39,032	13,975	32,341	7,553	.323	54,192	2,807	56,999	96,081
MEAN	31,537	.855	32,392	7,811	21,132	9,565	.114	38,622	4,385	43,006	75,398
STD. DEV.	6,709	.128	6,745	4,108	9,686	1,568	.117	11,991	.816	11,320	17,765

TABLE 20--OTHER WESTERN EUROPE -- GRAIN PRODUCTION 1950-75 (M.M.T.)

YEAR	WHEAT	RICE	FOOD GRAIN	CORN	BARLEY	OATS	SORGHUM/MIL	FEED GRAIN	RYE	COARSE GRN	CEREALS
1950	6.537	.387	6.924	1.372	2.561	2.732	.007	6.672	1.572	8.244	15.168
1951	7.098	.482	7.580	1.460	3.382	2.907	.007	7.756	1.489	9.245	16.825
1952	7.438	.540	7.978	1.491	3.525	2.969	.008	7.993	1.566	9.559	17.537
1953	7.104	.600	7.704	1.545	3.211	3.200	.006	7.962	1.541	9.503	17.207
1954	8.868	.641	9.509	1.598	3.763	3.000	.006	8.367	1.522	9.889	19.398
1955	7.661	.633	8.294	1.494	3.303	2.523	.004	7.324	1.437	8.761	17.055
1956	7.992	.587	8.579	1.580	3.533	3.114	.002	8.229	1.592	9.821	18.400
1957	9.213	.610	9.823	1.606	3.906	2.931	.002	8.445	1.519	9.964	19.787
1958	8.851	.584	9.435	1.724	3.957	3.036	.003	8.720	1.483	10.203	19.638
1959	9.063	.616	9.679	1.886	4.156	2.712	.002	8.756	1.567	10.323	20.002
1960	7.973	.567	8.540	1.983	4.203	3.486	.002	9.674	1.371	11.045	19.585
1961	7.744	.632	8.396	2.133	4.359	3.595	.005	10.092	1.292	11.394	19.780
1962	9.650	.634	10.284	1.932	4.687	3.057	.004	9.680	1.445	11.125	21.409
1963	8.969	.642	9.611	2.154	5.161	3.157	.008	10.480	1.232	11.712	21.323
1964	9.223	.686	9.909	2.279	5.150	3.278	.055	10.762	1.266	12.028	21.937
1965	9.963	.593	10.556	2.055	5.343	3.396	.046	10.840	1.302	12.142	22.698
1966	9.416	.609	10.025	2.288	5.836	3.156	.047	11.327	1.101	12.428	22.453
1967	11.341	.605	11.946	2.423	7.043	3.583	.051	13.100	1.324	14.424	26.370
1968	10.695	.613	11.308	2.788	8.003	3.944	.098	14.833	1.380	16.213	27.521
1969	9.539	.688	10.227	3.210	8.345	3.451	.145	15.151	1.316	16.467	26.694
1970	9.078	.676	9.754	3.607	8.366	4.117	.194	16.294	1.198	17.482	27.236
1971	11.027	.593	11.620	3.964	10.486	4.717	.177	18.344	1.387	20.731	32.351
1972	9.827	.584	10.411	3.924	9.971	4.076	.181	18.152	1.375	19.527	29.938
1973	9.394	.644	10.038	4.301	9.874	3.656	.166	17.997	1.292	19.289	29.327
1974	11.239	.599	11.838	3.972	11.921	4.321	.159	20.373	1.449	21.622	33.660
1975	10.354	.608	10.962	3.987	12.565	4.205	.150	20.907	1.195	22.093	33.055
MEAN	9.048	.603	9.651	2.414	6.023	3.297	.059	11.893	1.392	13.280	22.937
STD. DEV.	1.315	.062	1.343	.965	2.951	.553	.071	4.456	.136	4.387	5.461

TABLE 21---TOTAL DEVELOPED - GRAIN PRODUCTION 1950-75 (M.M.T.)

YEAR	WHEAT	RICE	FOOD GRAIN	CORN	BARLEY	DATS	SORGUM/MIL	FEED GRAIN	RYE	COARSE GRN	CEREALS
1950	76.471	15.034	91.595	77.530	22.705	40.968	6.323	147.526	7.299	154.825	246.330
1951	76.514	14.764	91.278	75.224	25.072	42.075	4.543	146.914	7.147	154.061	245.339
1952	93.055	16.207	109.262	82.870	26.930	40.785	2.702	153.287	7.485	160.772	270.034
1953	89.242	14.374	103.616	83.015	27.602	39.274	3.478	153.369	7.713	161.082	264.698
1954	76.903	15.944	92.847	79.114	28.890	40.376	6.414	154.794	8.341	163.135	255.982
1955	82.648	19.708	102.356	83.709	32.004	43.644	6.605	165.961	7.513	173.474	275.820
1956	79.273	17.305	96.578	89.574	36.264	40.474	5.631	171.943	7.690	179.633	276.211
1957	78.882	17.719	96.601	89.136	34.167	37.231	14.920	175.454	7.858	183.312	279.913
1958	94.941	18.591	113.532	97.045	36.422	40.182	15.215	188.864	7.788	196.652	310.184
1959	88.812	19.688	108.500	109.799	36.783	33.886	14.718	195.186	7.723	202.909	311.409
1960	96.966	19.969	116.935	113.125	39.106	37.483	16.345	206.059	7.935	213.994	330.929
1961	85.323	19.582	104.905	106.255	35.989	32.888	12.832	187.964	6.090	194.054	298.959
1962	100.351	20.818	121.169	105.864	41.113	36.160	13.543	196.680	7.211	203.891	325.060
1963	99.063	20.661	119.724	119.187	43.217	34.661	15.612	212.677	6.804	219.481	339.205
1964	107.010	20.623	127.633	102.805	43.563	30.328	13.128	190.424	7.336	197.760	325.393
1965	108.155	20.324	128.479	119.476	45.861	32.559	17.914	215.810	6.562	222.372	350.851
1966	112.594	21.299	133.893	123.131	49.589	31.114	18.935	222.769	5.822	228.591	362.484
1967	114.458	23.801	138.259	145.995	53.031	30.226	20.512	249.764	6.317	256.081	394.340
1968	125.016	24.341	149.357	133.132	56.754	34.065	19.425	243.376	6.384	249.760	399.117
1969	115.849	23.572	139.421	140.377	59.070	33.148	19.442	252.037	6.186	258.223	397.644
1970	99.678	21.492	121.170	130.947	56.660	32.279	18.711	238.597	6.048	244.645	365.815
1971	120.644	19.360	140.004	173.193	68.613	33.479	24.553	299.828	7.079	306.907	446.911
1972	116.839	20.365	137.204	171.826	66.537	28.008	22.827	289.198	6.167	296.365	432.569
1973	128.066	21.447	149.513	171.319	66.591	27.433	23.373	290.716	5.618	296.334	445.847
1974	132.172	22.515	154.667	150.838	65.255	26.239	18.229	260.561	5.668	266.229	420.916
1975	137.264	24.246	161.510	177.935	65.782	27.017	21.174	291.900	4.988	296.896	458.406
MEAN	101.392	19.760	121.151	117.400	44.753	34.869	14.581	211.603	6.876	218.473	339.630
STD. DEV.	18.533	2.824	20.913	32.532	14.573	5.047	6.708	48.663	.976	48.014	67.496

TABLE 22--U.S.S.R. - GRAIN PRODUCTION 1950-75 (M.M.T.)

YEAR	WHEAT	RICE	FOOD GRAIN	CORN	BARLEY	DATS	SORGUM/MIL	FEED GRAIN	RYE	COARSE GRN	CEREALS
1950	31,076	.202	31,278	6,644	6,354	13,005	1,705	27,703	19,016	45,724	77,002
1951	32,400	.200	32,600	4,000	5,200	13,000	1,600	23,800	19,400	43,200	75,800
1952	43,800	.200	44,000	5,000	8,700	14,300	2,000	30,000	15,500	45,500	89,500
1953	41,276	.222	41,498	3,697	7,875	10,074	2,681	24,327	14,600	38,927	80,425
1954	42,399	.222	42,621	3,699	7,764	10,799	3,013	25,275	15,700	40,975	83,596
1955	47,289	.246	47,535	11,574	10,350	11,827	2,956	36,707	16,531	53,238	100,773
1956	67,380	.250	67,630	9,861	12,903	13,218	4,556	40,538	14,100	54,638	122,268
1957	58,113	.211	58,324	4,621	8,480	12,729	1,559	27,389	14,500	41,889	100,213
1958	76,568	.216	76,784	10,226	12,957	13,407	2,880	39,470	15,777	55,247	132,031
1959	69,101	.214	69,315	5,653	10,150	13,463	1,299	30,565	17,000	47,565	116,880
1960	64,299	.186	64,485	9,823	16,021	11,999	3,230	41,073	16,357	57,430	121,915
1961	66,483	.247	66,730	17,113	13,338	8,900	2,887	42,238	16,716	58,954	125,684
1962	70,778	.272	71,050	15,474	19,549	5,691	2,783	43,497	17,024	60,521	131,571
1963	49,688	.376	50,064	11,143	19,804	3,965	1,835	36,747	11,878	48,625	98,689
1964	74,399	.471	74,870	13,849	28,597	5,519	3,485	51,450	13,619	65,069	139,939
1965	59,686	.583	60,269	8,030	20,304	6,186	2,205	36,725	16,228	52,953	113,222
1966	100,499	.712	101,211	8,416	27,879	9,199	3,101	48,595	13,146	61,741	162,952
1967	77,419	.895	78,314	9,163	24,662	11,581	3,218	48,624	12,986	61,610	139,924
1968	93,393	1.063	94,456	8,828	28,904	11,639	2,660	52,031	14,120	66,151	160,607
1969	79,917	1.107	81,024	11,954	32,652	13,070	3,289	60,965	10,945	71,910	152,934
1970	99,734	1.279	101,013	9,428	38,172	14,203	2,100	63,903	12,972	76,875	177,888
1971	98,760	1.429	100,189	8,597	34,571	14,650	2,043	59,861	12,787	72,648	172,837
1972	85,993	1.647	87,640	9,830	36,813	14,095	2,123	62,861	9,633	72,494	160,134
1973	109,784	1.765	111,549	13,216	35,044	17,516	4,416	90,192	10,759	100,951	212,500
1974	83,913	1.913	85,826	12,104	54,208	15,302	2,907	84,521	15,223	99,744	185,570
1975	65,000	2.000	67,000	6,000	37,000	13,000	1,000	57,000	9,000	66,000	133,000
MEAN	68,813	.697	69,511	9,152	22,240	11,628	2,597	45,618	14,404	60,022	129,533
STD. DEV.	21,777	.618	22,194	3,603	14,272	3,293	.873	17,432	2,583	15,967	36,394

TABLE 23--TOTAL CENTRALLY PLANNED - GRAIN PRODUCTION 1950-75 (M.M.T.)

YEAR	WHEAT	RICE	FOOD GRAIN	CORN	BARLEY	DATS	SORGUM/MIL	FEED GRAIN	RYE	COARSE GRN	CEREALS
1950	58.182	62.069	120.251	29.404	18.532	19.702	1.851	68.489	29.505	97.994	218.245
1951	65.318	67.726	133.044	32.331	18.259	19.371	1.745	71.706	31.174	102.880	235.924
1952	75.497	74.986	150.483	28.488	21.611	20.792	2.131	73.022	26.715	99.737	250.220
1953	75.358	77.783	153.141	32.083	21.634	16.637	2.835	73.189	24.090	97.279	250.420
1954	76.970	77.881	154.851	33.401	20.612	16.671	3.164	73.848	25.744	99.592	254.443
1955	84.756	85.998	170.754	47.337	24.328	19.367	3.142	93.174	28.048	121.222	291.976
1956	104.714	91.849	196.563	45.026	26.498	19.518	4.710	95.752	24.988	120.740	317.303
1957	98.239	95.811	194.050	44.881	23.158	19.493	1.715	89.247	26.180	115.427	309.477
1958	115.784	103.914	219.678	47.129	26.124	19.810	3.029	96.092	27.258	123.350	343.023
1959	111.177	91.073	202.250	40.133	22.897	19.796	1.432	84.258	29.165	113.423	315.673
1960	101.847	83.876	185.723	41.468	29.774	18.650	3.357	93.249	28.034	121.283	307.006
1961	99.332	89.241	188.573	50.400	27.289	15.544	3.005	96.238	28.239	124.477	313.050
1962	108.776	89.864	198.640	52.392	35.074	12.037	2.891	102.394	26.884	129.278	327.918
1963	89.754	92.136	181.890	50.646	35.530	10.118	1.936	98.230	22.067	120.297	302.187
1964	117.791	101.873	219.664	57.002	44.575	10.822	3.561	115.960	23.945	139.905	359.569
1965	106.756	106.757	213.513	50.137	36.991	11.783	2.294	101.205	27.790	128.995	342.508
1966	149.822	108.067	257.939	57.221	44.686	15.208	3.189	120.304	23.820	144.124	402.063
1967	129.898	112.488	242.386	58.147	41.636	18.071	3.318	121.172	23.818	144.990	387.376
1968	144.065	107.449	251.514	55.191	45.973	17.885	2.763	122.212	23.718	147.930	399.444
1969	131.818	111.084	242.902	62.485	50.439	19.677	3.386	135.987	21.795	157.782	400.684
1970	151.664	120.957	272.621	60.396	55.919	20.522	2.190	139.027	20.702	159.729	432.350
1971	157.553	127.140	284.693	60.852	54.466	21.465	2.127	138.910	23.399	162.309	447.002
1972	148.339	125.418	273.757	63.762	57.719	20.584	2.193	144.258	20.698	164.956	438.713
1973	171.503	128.830	306.333	68.391	76.847	24.025	4.489	173.752	21.778	195.530	495.863
1974	150.534	137.553	288.077	69.576	78.876	22.075	2.968	173.495	26.092	199.587	487.664
1975	128.099	139.521	267.620	70.361	60.830	19.190	1.075	151.456	17.861	169.317	436.937
MEAN	113.539	100.426	214.085	50.342	38.472	17.954	2.711	109.486	25.212	134.637	343.732
STD. DEV.	31.093	21.046	50.938	12.556	17.561	3.517	.872	30.650	3.169	28.595	78.420

TABLE 24--REST OF THE WORLD -- GRAIN PRODUCTION 1950-75 (M.M.T.)

YEAR	WHEAT	RICE	FOOD GRAIN	CORN	BARLEY	DATS	SORGHUM/MIL	FEED GRAIN	RYE	COARSE GRN	CEREALS
1950	33.475	91.239	124.714	27.029	12.845	1.455	26.610	67.939	1.137	69.076	193.790
1951	30.671	91.260	121.931	31.020	12.589	1.152	26.404	71.165	.726	71.891	193.822
1952	37.194	94.375	131.569	31.121	14.999	2.096	28.164	76.380	2.060	78.440	210.009
1953	39.562	109.020	148.582	34.082	16.218	1.821	31.808	83.929	1.393	85.322	233.904
1954	41.286	101.815	143.101	37.503	16.238	1.580	31.636	86.957	1.352	88.309	231.410
1955	39.678	105.653	145.331	34.640	14.449	1.457	29.398	79.944	1.362	81.306	226.637
1956	42.965	112.120	155.085	37.167	16.208	1.898	29.975	85.248	1.509	86.757	241.842
1957	44.380	103.506	147.886	36.940	15.685	1.834	32.167	86.626	1.386	88.012	235.898
1958	43.043	115.050	158.093	41.196	15.684	1.668	34.209	92.757	1.660	94.417	252.510
1959	43.533	118.139	161.672	42.682	15.371	1.735	34.125	93.913	1.790	95.703	257.375
1960	41.276	128.119	169.395	43.636	15.767	1.708	35.340	96.451	1.270	97.721	267.116
1961	42.118	130.313	172.431	45.906	14.072	1.444	35.371	96.793	1.145	97.938	270.369
1962	46.753	131.218	177.971	48.904	16.588	1.241	38.405	105.138	.921	106.059	284.030
1963	49.092	140.268	189.360	49.152	16.975	1.718	37.755	105.600	1.497	107.097	296.457
1964	50.523	146.321	196.844	52.810	14.769	1.697	39.499	108.775	1.448	110.223	307.067
1965	49.366	133.497	182.863	55.066	15.727	1.297	35.547	107.637	1.075	108.712	291.575
1966	45.304	132.805	178.109	60.085	14.493	1.348	37.571	113.497	1.189	114.686	292.795
1967	51.201	148.097	199.298	62.751	16.030	1.480	42.849	123.110	1.305	124.415	323.713
1968	59.267	157.119	216.386	61.779	19.837	1.326	38.932	121.894	1.232	123.126	339.512
1969	61.529	164.865	226.394	61.627	17.536	1.155	45.117	125.435	1.250	126.685	353.079
1970	61.691	168.339	230.030	68.175	16.251	1.103	47.959	133.488	.863	134.351	364.381
1971	67.958	166.515	234.473	67.772	16.944	1.222	44.232	130.170	1.200	131.370	365.843
1972	73.761	158.019	229.780	63.096	18.347	1.262	38.496	121.201	1.489	122.690	352.470
1973	67.803	174.725	242.528	67.370	14.290	1.250	46.568	129.478	1.340	130.818	373.345
1974	68.427	171.480	239.567	70.766	16.002	1.074	46.437	134.339	.911	135.250	375.157
1975	75.697	185.302	261.000	71.065	17.730	1.214	49.202	139.811	1.028	140.839	401.839
MEAN	50.290	133.738	184.028	50.123	15.832	1.471	37.094	104.526	1.290	105.816	289.844
STD. DEV.	12.656	28.325	40.390	14.115	1.592	.279	6.755	21.330	.292	21.238	61.307

TABLE 25---WORLD - GRAIN YIELDS 1950-75 (M.T./HA.)

YEAR	WHEAT	RICE	FOOD GRAIN	CORN	BARLEY	DATS	SORGHUM/MIL	FEED GRAIN	RYE	COARSE GRN	CEREALS
1950	.980	1.627	1.223	1.503	1.142	1.159	.565	1.132	.984	1.112	1.166
1951	.994	1.670	1.247	1.540	1.191	1.198	.536	1.158	1.037	1.142	1.194
1952	1.104	1.760	1.341	1.571	1.297	1.212	.513	1.183	.960	1.154	1.247
1953	1.077	1.840	1.357	1.600	1.273	1.143	.564	1.182	.964	1.156	1.257
1954	1.031	1.798	1.311	1.570	1.197	1.130	.595	1.162	1.016	1.145	1.227
1955	1.056	1.907	1.363	1.666	1.276	1.248	.546	1.222	1.114	1.211	1.286
1956	1.134	1.891	1.413	1.657	1.364	1.271	.587	1.266	1.051	1.243	1.329
1957	1.066	1.883	1.357	1.770	1.308	1.255	.689	1.302	1.110	1.281	1.321
1958	1.217	2.019	1.506	1.814	1.395	1.335	.733	1.369	1.150	1.346	1.429
1959	1.198	1.960	1.476	1.916	1.351	1.268	.719	1.385	1.249	1.371	1.425
1960	1.180	1.932	1.459	1.924	1.439	1.373	.749	1.426	1.276	1.412	1.436
1961	1.118	1.989	1.442	2.004	1.317	1.289	.711	1.408	1.228	1.391	1.417
1962	1.233	1.987	1.512	2.038	1.526	1.466	.750	1.501	1.228	1.475	1.494
1963	1.149	2.084	1.494	2.095	1.423	1.467	.746	1.500	1.152	1.470	1.483
1964	1.273	2.153	1.595	2.058	1.551	1.465	.760	1.519	1.154	1.485	1.543
1965	1.223	2.090	1.540	2.205	1.536	1.536	.740	1.566	1.306	1.542	1.541
1966	1.434	2.090	1.676	2.265	1.674	1.588	.805	1.659	1.278	1.628	1.653
1967	1.351	2.238	1.677	2.476	1.686	1.636	.845	1.747	1.384	1.720	1.697
1968	1.470	2.250	1.755	2.338	1.794	1.705	.804	1.724	1.489	1.707	1.733
1969	1.426	2.268	1.745	2.473	1.786	1.732	.861	1.782	1.530	1.767	1.795
1970	1.525	2.356	1.851	2.385	1.833	1.721	.879	1.770	1.469	1.751	1.803
1971	1.641	2.380	1.825	2.675	1.935	1.870	.913	1.942	1.684	1.926	1.926
1972	1.619	2.313	1.885	2.714	1.829	1.863	.861	1.901	1.659	1.888	1.887
1973	1.708	2.402	1.976	2.711	1.957	1.713	.966	1.955	1.860	1.951	1.964
1974	1.611	2.425	1.925	2.513	1.962	1.687	.883	1.874	1.858	1.873	1.900
1975	1.929	2.492	1.900	2.686	1.709	1.571	.882	1.849	1.598	1.835	1.869
MEAN	1.283	2.069	1.575	2.083	1.539	1.450	.739	1.519	1.287	1.499	1.588
STD. DEV.	.823	.243	.232	.409	.269	.222	.131	.275	.266	.278	.264

TABLE 26--WORLD LESS U.S.A. - GRAIN YIELDS 1950-75 (M.T./HA.)

YEAR	WHEAT	RICE	FOOD GRAIN	CORN	BARLEY	DATS	SORGHUM/MIL	FEED GRAIN	RYE	COARSE GRN	CEREALS
1950	.957	1.621	1.230	1.066	1.108	1.120	.502	.921	.988	.932	1.086
1951	.980	1.663	1.260	1.173	1.167	1.159	.496	.974	1.041	.985	1.127
1952	1.080	1.753	1.348	1.080	1.283	1.224	.499	.978	.963	.976	1.169
1953	1.063	1.833	1.372	1.176	1.254	1.161	.541	.997	.966	.993	1.191
1954	1.007	1.789	1.313	1.199	1.161	1.076	.546	.976	1.018	.982	1.155
1955	1.026	1.897	1.360	1.292	1.250	1.191	.496	1.030	1.120	1.041	1.210
1956	1.109	1.832	1.413	1.210	1.343	1.283	.541	1.063	1.055	1.062	1.248
1957	1.028	1.875	1.347	1.317	1.273	1.212	.547	1.067	1.112	1.073	1.224
1958	1.145	2.011	1.478	1.309	1.354	1.232	.581	1.098	1.150	1.104	1.307
1959	1.168	1.950	1.472	1.338	1.331	1.237	.568	1.096	1.254	1.115	1.310
1960	1.114	1.922	1.433	1.336	1.415	1.310	.585	1.128	1.277	1.144	1.301
1961	1.062	1.979	1.426	1.430	1.284	1.213	.577	1.115	1.231	1.128	1.289
1962	1.191	1.974	1.496	1.461	1.495	1.408	.612	1.209	1.226	1.211	1.367
1963	1.095	2.070	1.476	1.451	1.390	1.408	.588	1.178	1.152	1.176	1.338
1964	1.226	2.139	1.579	1.534	1.530	1.434	.632	1.254	1.153	1.244	1.428
1965	1.165	2.074	1.518	1.516	1.488	1.447	.552	1.211	1.304	1.221	1.385
1966	1.400	2.072	1.662	1.620	1.648	1.580	.602	1.326	1.276	1.321	1.509
1967	1.304	2.220	1.664	1.723	1.664	1.600	.652	1.371	1.383	1.372	1.532
1968	1.422	2.230	1.735	1.627	1.760	1.639	.604	1.367	1.490	1.378	1.575
1969	1.365	2.251	1.719	1.714	1.751	1.673	.673	1.413	1.532	1.422	1.585
1970	1.473	2.341	1.830	1.800	1.805	1.707	.707	1.472	1.464	1.471	1.666
1971	1.577	2.364	1.896	1.824	1.904	1.834	.984	1.522	1.601	1.533	1.734
1972	1.561	2.296	1.859	1.810	1.802	1.625	.628	1.471	1.659	1.483	1.687
1973	1.660	2.387	1.958	1.854	1.945	1.715	.726	1.555	1.867	1.572	1.781
1974	1.579	2.406	1.922	1.931	1.960	1.691	.728	1.593	1.869	1.610	1.778
1975	1.452	2.470	1.876	1.883	1.679	1.536	.700	1.464	1.542	1.468	1.687
MEAN	1.239	2.056	1.562	1.487	1.501	1.412	.599	1.235	1.299	1.281	1.412
STD. DEV.	.214	.239	.224	.268	.261	.224	.072	.207	.267	.209	.218

TABLE 27--UNITED STATES - GRAIN YIELDS 1950-75 (M.T./HA.)

YEAR	WHEAT	RICE	FOOD GRAIN	CORN	BARLEY	DATS	SORGHUM/MIL	FEED GRAIN	RYE	COARSE GRN	CEREALS
1950	1.113	2.660	1.153	2.396	1.465	1.249	1.417	1.904	.767	1.389	1.654
1951	1.074	2.588	1.121	2.318	1.468	1.301	1.196	1.888	.785	1.373	1.621
1952	1.235	2.705	1.275	2.622	1.491	1.180	1.070	2.040	.727	2.025	1.746
1953	1.163	2.743	1.212	2.557	1.529	1.102	1.154	1.970	.829	1.957	1.689
1954	1.217	2.822	1.289	2.475	1.526	1.247	1.262	1.904	.908	1.891	1.713
1955	1.333	3.432	1.411	2.634	1.493	1.375	1.181	2.008	.891	1.991	1.838
1956	1.359	3.532	1.425	2.975	1.577	1.239	1.396	2.224	.823	2.205	1.974
1957	1.469	3.592	1.532	3.031	1.602	1.358	1.810	2.254	1.042	2.239	2.060
1958	1.848	3.543	1.892	3.315	1.736	1.609	2.207	2.562	1.160	2.348	2.348
1959	1.453	3.790	1.523	3.330	1.521	1.357	2.253	2.576	.993	2.558	2.260
1960	1.756	3.839	1.818	3.434	1.666	1.556	2.494	2.735	1.231	2.715	2.452
1961	1.607	3.823	1.673	3.913	1.649	1.517	2.744	2.975	1.112	2.948	2.525
1962	1.681	4.173	1.778	4.062	1.884	1.622	2.768	3.118	1.289	3.083	2.686
1963	1.695	4.445	1.798	4.260	1.881	1.625	2.757	3.281	1.152	3.249	2.803
1964	1.734	4.591	1.833	3.950	2.021	1.547	2.618	3.096	1.203	3.064	2.642
1965	1.785	4.772	1.889	4.649	2.307	1.800	3.240	3.686	1.419	3.652	3.044
1966	1.769	4.844	1.886	4.589	2.058	1.612	3.503	3.639	1.368	3.609	3.020
1967	1.732	5.082	1.847	5.026	2.179	1.767	3.164	3.970	1.414	3.944	3.165
1968	1.912	4.962	2.037	4.989	2.356	1.926	3.305	3.928	1.447	3.903	3.217
1969	2.058	4.842	2.178	5.391	2.404	1.928	3.410	4.162	1.469	4.126	3.469
1970	2.086	5.178	2.210	4.544	2.302	1.765	3.162	3.614	1.622	3.585	3.158
1971	2.282	5.285	2.392	5.528	2.457	2.004	3.372	4.381	1.763	4.339	3.727
1972	2.197	5.265	2.311	6.092	2.347	1.835	3.800	4.767	1.688	4.732	3.908
1973	2.129	4.793	2.232	5.726	2.170	1.701	3.682	4.492	1.596	4.463	3.679
1974	1.871	4.909	1.957	4.479	2.003	1.667	2.846	3.684	1.350	3.663	2.978
1975	2.060	5.105	2.128	5.410	2.365	1.726	3.075	4.332	1.380	4.309	3.442
MEAN	1.677	4.130	1.763	3.988	1.902	1.562	2.496	3.123	1.209	3.098	2.647
STD. DEV.	.952	.920	.377	1.163	.357	.252	.900	.934	.335	.928	.735

TABLE 28--CANADA - GRAIN YIELDS 1950-75 (M.T./HA.)

YEAR	WHEAT	RICE	FOOD GRAIN	CORN	BARLEY	DATS	SORGUM/MIL	FEED GRAIN	RYE	COARSE GRN	CEREALS
1950	1.149	0	1.149	2.841	1.384	1.369	0	1.400	.716	1.359	1.235
1951	1.474	0	1.474	3.181	1.684	1.582	0	1.647	.980	1.611	1.537
1952	1.804	0	1.804	3.660	1.850	1.757	0	1.757	1.204	1.726	1.769
1953	1.616	0	1.616	3.617	1.583	1.598	0	1.633	1.204	1.602	1.610
1954	.874	0	.874	3.398	1.202	1.162	0	1.235	1.022	1.226	1.025
1955	1.541	0	1.541	3.909	1.366	1.389	0	1.446	1.166	1.436	1.489
1956	1.692	0	1.692	3.432	1.725	1.702	0	1.757	.968	1.736	1.712
1957	1.225	0	1.225	3.623	1.236	1.368	0	1.363	.968	1.352	1.285
1958	1.209	0	1.209	3.785	1.378	1.427	0	1.464	.942	1.450	1.322
1959	1.222	0	1.222	4.005	1.471	1.443	0	1.527	.991	1.511	1.344
1960	1.421	0	1.421	3.584	1.519	1.579	0	1.608	1.145	1.593	1.493
1961	.753	0	.753	4.580	1.096	1.267	0	1.293	.731	1.272	.946
1962	1.418	0	1.418	4.764	1.688	1.776	0	1.828	1.209	1.805	1.568
1963	1.765	0	1.765	4.121	1.927	1.820	0	1.940	1.232	1.910	1.820
1964	1.360	0	1.360	5.064	1.650	1.656	0	1.812	1.113	1.779	1.500
1965	1.543	0	1.543	5.003	1.919	1.823	0	2.017	1.402	1.987	1.704
1966	1.874	0	1.874	5.153	2.173	1.802	0	2.140	1.486	2.112	1.960
1967	1.324	0	1.324	5.304	1.675	1.559	0	1.817	1.097	1.788	1.492
1968	1.485	0	1.485	5.323	1.981	1.829	0	2.103	1.208	2.069	1.706
1969	1.808	0	1.808	4.707	2.135	1.853	0	2.162	1.122	2.115	1.939
1970	1.786	0	1.786	5.279	2.220	1.955	0	2.328	1.429	2.289	2.088
1971	1.835	0	1.835	5.159	2.315	2.028	0	2.408	1.439	2.368	2.125
1972	1.680	0	1.680	4.708	2.229	1.874	0	2.286	1.339	2.256	1.963
1973	1.670	0	1.670	5.289	2.113	1.859	0	2.336	1.418	2.211	1.918
1974	1.488	0	1.488	4.360	1.846	1.590	0	1.952	1.408	1.932	1.700
1975	1.773	0	1.773	5.724	2.131	1.859	0	2.344	1.634	2.315	2.018
MEAN	1.492	0	1.492	4.368	1.750	1.646	0	1.837	1.176	1.890	1.626
STD. DEV.	.294	0	.294	.810	.362	.226	0	.353	.228	.347	.313

TABLE 29--EUROPE ECONOMIC COMMUNITY - GRAIN YIELDS 1950-75 (M.T./HA.)

YEAR	WHEAT	RICE	FOOD GRAIN	CORN	BARLEY	OATS	SORGHUM/MIL	FEED GRAIN	RYE	COARSE GRN	CEREALS
1950	1.922	4.870	1.961	1.491	2.252	1.872	1.000	1.930	1.993	1.941	1.950
1951	1.831	4.661	1.874	2.130	2.330	2.063	1.167	2.156	2.073	2.142	2.017
1952	2.049	5.199	2.102	1.782	2.389	2.015	1.250	2.106	2.107	2.106	2.104
1953	2.214	5.144	2.263	2.444	2.519	2.102	1.000	2.299	2.136	2.271	2.263
1954	2.123	4.652	2.164	2.328	2.508	2.106	1.400	2.282	2.422	2.307	2.239
1955	2.329	5.085	2.373	2.544	2.679	2.232	1.500	2.444	2.202	2.403	2.389
1956	2.196	4.733	2.236	2.702	2.897	2.277	1.667	2.598	2.329	2.556	2.425
1957	2.303	4.908	2.335	2.724	2.714	2.114	1.714	2.468	2.394	2.455	2.398
1958	2.263	5.387	2.304	2.958	2.644	2.219	2.286	2.531	2.325	2.496	2.404
1959	2.500	5.280	2.540	3.005	2.852	2.235	1.875	2.652	2.466	2.623	2.584
1960	2.387	4.475	2.415	3.294	3.044	2.340	1.700	2.845	2.635	2.814	2.629
1961	2.410	5.346	2.451	2.950	2.784	2.277	2.400	2.653	2.104	2.581	2.524
1962	2.891	5.322	2.920	2.587	3.259	2.471	2.556	2.904	2.564	2.862	2.889
1963	2.588	4.697	2.616	3.650	3.200	2.570	3.138	3.099	2.627	3.043	2.858
1964	2.887	4.973	2.914	3.090	3.356	2.581	2.676	3.108	2.936	3.088	3.008
1965	2.992	3.891	3.003	3.552	3.328	2.617	2.756	3.185	2.420	3.097	3.054
1966	2.758	4.506	3.783	4.024	3.178	2.664	2.879	3.182	2.502	3.116	2.972
1967	3.324	5.041	3.351	3.955	3.618	2.997	2.451	3.520	3.028	3.476	3.423
1968	3.233	3.989	3.245	4.717	3.506	2.996	3.556	3.579	3.099	3.536	3.408
1969	3.208	5.000	3.238	4.700	3.553	3.051	3.656	3.638	3.099	3.595	3.441
1970	3.177	4.675	3.203	4.915	3.125	2.795	3.213	3.394	2.933	3.359	3.293
1971	3.603	4.969	3.627	5.204	3.651	3.293	4.000	3.884	3.330	3.841	3.749
1972	3.735	3.956	3.739	4.833	3.910	3.365	3.807	4.003	3.307	3.952	3.861
1973	3.820	5.343	3.849	5.523	3.875	3.356	4.278	4.134	3.353	4.084	3.985
1974	4.037	5.168	4.057	4.973	3.986	3.515	4.080	4.115	3.476	4.075	4.067
1975	3.634	5.164	3.662	4.666	3.568	3.297	3.549	3.753	3.264	3.725	3.699
MEAN	2.785	4.863	2.816	3.499	3.105	2.593	2.521	3.018	2.659	2.922	2.909
STD. DEV.	.641	.420	.632	1.151	.514	.495	1.035	.605	.466	.652	.642

TABLE 30--OTHER WESTERN EUROPE - GRAIN YIELDS 1950-75 (M.T./HA.)

YEAR	WHEAT	RICE	FOOD GRAIN	CORN	BARLEY	DATS	SORGHUM/MIL	FEED GRAIN	RYE	COARSE GRN	CEREALS
1950	1.005	4.074	1.049	1.172	1.113	1.178	1.000	1.151	1.075	1.135	1.094
1951	1.069	4.265	1.123	1.291	1.417	1.251	1.000	1.326	1.054	1.273	1.201
1952	1.106	4.500	1.166	1.254	1.403	1.284	1.000	1.327	1.095	1.283	1.227
1953	1.030	5.085	1.098	1.272	1.240	1.383	.857	1.300	1.108	1.264	1.184
1954	1.262	5.008	1.329	1.341	1.466	1.314	.857	1.383	1.082	1.326	1.328
1955	1.097	5.146	1.168	1.301	1.287	1.091	.800	1.214	1.086	1.191	1.180
1956	1.120	5.060	1.183	1.348	1.320	1.329	.667	1.329	1.176	1.301	1.243
1957	1.297	5.169	1.361	1.383	1.445	1.311	.667	1.384	1.174	1.347	1.354
1958	1.251	4.991	1.312	1.487	1.456	1.349	1.000	1.423	1.200	1.385	1.349
1959	1.256	5.091	1.319	1.608	1.557	1.207	1.000	1.438	1.227	1.401	1.360
1960	1.135	4.846	1.195	1.655	1.589	1.533	1.000	1.581	1.135	1.507	1.353
1961	1.172	5.388	1.248	1.750	1.632	1.617	.833	1.649	1.082	1.557	1.409
1962	1.251	5.328	1.416	1.629	1.730	1.434	.800	1.605	1.210	1.540	1.478
1963	1.297	5.395	1.366	1.727	1.700	1.516	.889	1.680	1.160	1.604	1.487
1964	1.316	5.402	1.389	1.877	1.847	1.622	2.200	1.779	1.190	1.691	1.540
1965	1.409	5.025	1.468	1.772	1.868	1.696	2.000	1.793	1.220	1.707	1.587
1966	1.412	5.486	1.479	1.984	1.902	1.643	1.567	1.835	1.137	1.740	1.613
1967	1.661	5.500	1.722	2.181	2.150	1.876	2.217	2.073	1.381	1.982	1.855
1968	1.649	5.330	1.713	2.357	2.146	2.033	2.800	2.153	1.532	2.082	1.913
1969	1.543	5.593	1.622	2.688	2.111	1.824	2.843	2.137	1.482	2.064	1.869
1970	1.503	5.541	1.583	2.863	2.000	2.150	3.959	2.138	1.424	2.119	1.890
1971	1.877	5.025	1.939	3.186	2.401	2.396	4.023	2.537	1.683	2.454	2.240
1972	1.702	4.949	1.774	3.175	2.176	2.136	3.935	2.336	1.653	2.270	2.069
1973	1.762	5.504	1.843	3.502	2.033	1.916	3.773	2.240	1.693	2.192	2.058
1974	2.032	5.254	2.097	3.360	2.335	2.259	4.184	2.473	1.892	2.424	2.298
1975	2.001	5.381	2.073	3.390	2.426	2.199	3.947	2.517	1.680	2.452	2.312
MEAN	1.397	5.128	1.463	2.021	1.763	1.636	1.916	1.764	1.301	1.703	1.596
STD. DEV.	.300	.879	.302	.776	.383	.380	1.303	.441	.246	.428	.378

TABLE 31--TOTAL DEVELOPED - GRAIN YIELDS 1950-75 (M.T./HA.)

YEAR	WHEAT	RICE	FOOD GRAIN	CORN	BARLEY	DATS	SORGUM/MIL	FEED GRAIN	RYE	COARSE GRN	CEREALS
1950	1.259	3.819	1.415	2.187	1.596	1.365	1.395	1.752	1.420	1.733	1.599
1951	1.288	3.578	1.437	2.161	1.752	1.467	1.183	1.799	1.459	1.780	1.635
1952	1.463	3.908	1.613	2.387	1.840	1.398	1.046	1.890	1.528	1.869	1.756
1953	1.425	3.410	1.550	2.378	1.782	1.375	1.143	1.870	1.548	1.852	1.720
1954	1.337	3.603	1.499	2.303	1.720	1.359	1.258	1.801	1.686	1.794	1.675
1955	1.556	4.595	1.783	2.402	1.741	1.467	1.188	1.874	1.567	1.858	1.830
1956	1.528	4.148	1.723	2.709	1.973	1.491	1.397	2.081	1.670	2.059	1.928
1957	1.537	4.351	1.744	2.761	1.784	1.437	1.792	2.048	1.729	2.032	1.922
1958	1.705	4.507	1.898	2.994	1.874	1.605	2.154	2.250	1.723	2.223	2.092
1959	1.569	4.644	1.783	3.032	1.908	1.457	2.219	2.286	1.777	2.262	2.068
1960	1.699	4.696	1.907	3.086	2.079	1.616	2.391	2.410	1.864	2.384	2.191
1961	1.500	4.618	1.716	3.414	1.982	1.541	2.584	2.487	1.529	2.439	2.125
1962	1.778	4.852	1.995	3.484	2.325	1.696	2.609	2.637	1.782	2.593	2.333
1963	1.759	4.833	1.975	3.726	2.328	1.712	2.536	2.764	1.804	2.719	2.400
1964	1.782	4.814	1.983	3.379	2.463	1.668	2.440	2.643	1.922	2.607	2.321
1965	1.820	4.750	2.017	3.955	2.551	1.792	2.983	2.982	1.751	2.922	2.509
1966	1.879	4.900	2.084	3.988	2.490	1.744	3.189	2.987	1.733	2.933	2.549
1967	1.780	5.445	2.014	4.452	2.626	1.819	2.913	3.258	1.991	3.208	2.656
1968	1.927	5.339	2.151	4.280	2.648	1.975	3.131	3.203	2.101	3.160	2.688
1969	1.989	5.253	2.223	4.615	2.666	1.946	3.214	3.331	2.008	3.279	2.811
1970	2.058	5.356	2.311	4.105	2.444	1.877	3.959	3.036	1.968	3.995	3.728
1971	2.252	5.119	2.441	4.956	2.693	2.132	3.193	3.577	2.182	3.525	3.093
1972	2.145	5.448	2.357	5.274	2.706	2.010	3.496	3.725	2.198	3.672	3.120
1973	2.172	5.546	2.379	5.122	2.672	1.901	3.395	3.631	2.177	3.576	3.060
1974	2.112	5.446	2.319	4.230	2.725	1.943	2.745	3.257	2.220	3.235	2.825
1975	2.143	5.666	2.364	4.887	2.671	1.979	2.907	3.561	2.127	3.521	3.003
MEAN	1.749	4.717	1.949	3.549	2.232	1.684	2.364	2.659	1.826	2.624	2.332
STD. DEV.	.292	.656	.310	.988	.397	.235	.804	.657	.245	.640	.492

TABLE 32--U.S.S.R. - GRAIN YIELDS 1950-75 (M.T./HA.)

YEAR	WHEAT	RICE	FOOD GRAIN	CORN	BARLEY	DATS	SORGUM/MIL	FEED GRAIN	RYE	COARSE GRN	CEREALS
1950	.807	1.453	.809	1.376	.742	.805	.453	.832	.764	.804	.806
1951	.753	1.471	.755	.985	.643	.745	.480	.723	.812	.761	.758
1952	.945	1.493	.947	1.286	1.015	.862	.570	.923	.823	.879	.823
1953	.854	1.820	.856	1.061	.820	.658	.657	.749	.732	.738	.795
1954	.859	1.632	.861	.862	.727	.680	.553	.696	.767	.722	.787
1955	.782	1.732	.784	1.874	1.050	.799	.385	.953	.866	.924	.852
1956	1.087	1.689	1.088	1.493	1.087	.878	.715	1.016	.767	.937	1.015
1957	.842	1.837	.843	1.419	.925	.907	.437	.912	.802	.871	.855
1958	1.149	2.038	1.150	2.323	1.339	.904	.772	1.209	.881	1.093	1.126
1959	1.097	2.229	1.099	1.594	1.054	.940	.481	1.012	.996	1.006	1.059
1960	1.065	1.958	1.066	1.931	1.321	.934	.854	1.214	1.007	1.147	1.103
1961	1.055	2.093	1.057	2.395	.997	.772	.760	1.178	1.001	1.122	1.087
1962	1.050	2.286	1.052	2.209	1.203	.819	.647	1.261	1.005	1.176	1.106
1963	.769	2.558	.773	1.593	.967	.690	.463	.988	.791	.931	.844
1964	1.096	2.466	1.100	2.708	1.319	.960	.982	1.426	.810	1.230	1.157
1965	.850	2.687	.856	2.528	1.029	.933	.678	1.120	1.012	1.085	.949
1966	1.437	2.871	1.442	2.606	1.437	1.284	.954	1.471	.968	1.324	1.393
1967	1.155	3.185	1.164	2.629	1.290	1.333	.846	1.385	1.046	1.297	1.219
1968	1.399	3.407	1.398	2.635	1.494	1.294	.872	1.497	1.151	1.407	1.402
1969	1.203	3.375	1.214	2.869	1.452	1.405	.974	1.550	1.185	1.481	1.326
1970	1.528	3.654	1.539	2.812	1.792	1.535	.780	1.746	1.295	1.649	1.585
1971	1.542	3.664	1.555	2.580	1.603	1.521	.852	1.621	1.345	1.564	1.552
1972	1.470	3.912	1.488	2.450	1.350	1.241	.779	1.386	1.181	1.354	1.424
1973	1.742	3.820	1.757	3.279	1.870	1.474	1.549	1.871	1.534	1.828	1.790
1974	1.406	3.865	1.426	3.060	1.744	1.323	.979	1.705	1.552	1.680	1.552
1975	1.046	4.000	1.072	2.000	1.136	1.083	.333	1.123	1.125	1.138	1.099
MEAN	1.115	2.578	1.121	2.098	1.208	1.030	.723	1.214	1.003	1.157	1.136
STD. DEV.	.278	.839	.282	.686	.330	.281	.259	.332	.240	.311	.290

TABLE 33--TOTAL CENTRALLY PLANNED - GRAIN YIELDS 1950-75 (M.T./HA.)

YEAR	WHEAT	RICE	FOOD GRAIN	CORN	BARLEY	DATS	SORGUM/MIL	FEED GRAIN	RYE	COARSE GRN	CEREALS
1950	.811	2.035	1.177	1.229	1.027	.879	.467	1.019	.925	.989	1.084
1951	.854	2.156	1.233	1.349	1.038	.867	.495	1.064	.973	1.034	1.138
1952	.926	2.313	1.321	1.177	1.192	.967	.575	1.081	.867	1.014	1.179
1953	.894	2.394	1.311	1.313	1.115	.818	.665	1.069	.863	1.010	1.175
1954	.891	2.330	1.292	1.291	1.012	.806	.562	1.018	.915	.989	1.154
1955	.868	2.510	1.295	1.609	1.240	.936	.399	1.217	1.049	1.174	1.242
1956	1.054	2.366	1.422	1.340	1.223	.988	.720	1.175	.961	1.123	1.291
1957	.917	2.532	1.339	1.607	1.215	1.026	.461	1.280	1.017	1.209	1.287
1958	1.116	2.738	1.550	1.557	1.373	1.015	.782	1.322	1.065	1.255	1.429
1959	1.137	2.598	1.523	1.618	1.244	1.048	.506	1.298	1.186	1.267	1.420
1960	1.049	2.282	1.388	1.566	1.372	1.075	.861	1.343	1.196	1.306	1.354
1961	1.018	2.448	1.407	1.761	1.172	.975	.769	1.341	1.202	1.307	1.365
1962	1.065	2.576	1.450	1.856	1.329	1.073	.657	1.458	1.147	1.380	1.421
1963	.907	2.721	1.370	1.778	1.159	1.014	.477	1.343	1.043	1.275	1.330
1964	1.133	2.885	1.577	2.145	1.397	1.108	.983	1.614	1.041	1.475	1.536
1965	1.013	3.013	1.517	2.023	1.245	1.135	.688	1.484	1.248	1.426	1.481
1966	1.429	3.015	1.833	2.295	1.529	1.379	.957	1.756	1.218	1.636	1.758
1967	1.273	3.138	1.758	2.301	1.443	1.432	.853	1.716	1.308	1.632	1.709
1968	1.404	3.011	1.818	2.194	1.582	1.394	.882	1.737	1.428	1.674	1.762
1969	1.293	3.026	1.752	2.383	1.554	1.501	.976	1.907	1.477	1.753	1.752
1970	1.517	3.229	1.984	2.388	1.785	1.560	.787	1.916	1.411	1.831	1.924
1971	1.587	3.338	2.073	2.407	1.717	1.611	.858	1.908	1.621	1.860	1.990
1972	1.579	3.208	2.058	2.444	1.534	1.372	.786	1.770	1.608	1.748	1.929
1973	1.742	3.221	2.169	2.591	1.932	1.565	1.543	2.053	1.884	2.032	2.113
1974	1.566	3.377	2.105	2.611	1.885	1.485	.979	2.008	1.855	1.987	2.055
1975	1.302	3.396	1.919	2.615	1.394	1.244	.351	1.701	1.507	1.678	1.818
MEAN	1.167	2.764	1.602	1.902	1.373	1.154	.732	1.481	1.231	1.426	1.527
STD. DEV.	.273	.412	.306	.482	.255	.255	.254	.327	.291	.325	.315

TABLE 34--REST OF THE WORLD - GRAIN YIELDS 1950-75 (M.T./HA.)

YEAR	WHEAT	RICE	FOOD GRAIN	CORN	BARLEY	DATS	SORGUM/MIL	FEED GRAIN	RYE	COARSE GRN	CEREALS
1950	.854	1.322	1.153	.909	.852	.999	.501	.684	.737	.684	.927
1951	.814	1.333	1.149	.993	.837	.943	.492	.704	.909	.706	.932
1952	.901	1.371	1.195	.979	.925	1.124	.491	.712	.997	.718	.957
1953	.930	1.502	1.290	1.006	.981	1.129	.528	.747	.896	.749	1.021
1954	.911	1.435	1.231	1.061	.914	1.060	.540	.768	.753	.768	1.001
1955	.874	1.462	1.235	.985	.826	.995	.505	.711	.852	.713	.978
1956	.879	1.514	1.262	1.005	.905	1.056	.516	.743	.781	.743	1.009
1957	.898	1.411	1.204	1.015	.892	1.049	.547	.756	.857	.758	.987
1958	.878	1.522	1.269	1.043	.889	1.028	.565	.777	.924	.779	1.027
1959	.889	1.524	1.278	1.081	.860	1.105	.565	.787	.877	.788	1.038
1960	.836	1.621	1.319	1.094	.861	1.074	.563	.787	.863	.788	1.058
1961	.870	1.638	1.348	1.110	.813	1.022	.560	.785	.811	.786	1.070
1962	.955	1.589	1.353	1.137	.993	1.045	.604	.845	.895	.845	1.105
1963	.947	1.684	1.401	1.115	.940	1.166	.591	.828	1.058	.831	1.123
1964	.967	1.716	1.431	1.141	.881	1.257	.608	.841	.945	.842	1.144
1965	.962	1.571	1.342	1.174	.952	1.107	.539	.824	.964	.825	1.088
1966	.909	1.557	1.318	1.194	.915	1.172	.579	.859	.988	.860	1.090
1967	.976	1.705	1.430	1.261	.965	1.240	.630	.908	.968	.909	1.172
1968	1.062	1.782	1.503	1.219	1.113	1.121	.584	.894	.920	.894	1.205
1969	1.086	1.815	1.535	1.225	1.062	1.144	.650	.914	.992	.915	1.235
1970	1.086	1.862	1.563	1.320	1.029	1.132	.632	.970	.819	.969	1.274
1971	1.170	1.858	1.587	1.288	1.118	1.214	.655	.955	1.061	.956	1.283
1972	1.210	1.780	1.546	1.228	1.165	1.215	.597	.914	1.056	.915	1.247
1973	1.176	1.911	1.627	1.261	.911	1.256	.678	.932	1.026	.933	1.291
1974	1.154	1.867	1.538	1.321	1.012	1.179	.694	.979	.943	.972	1.297
1975	1.248	1.956	1.680	1.279	1.090	1.093	.698	.969	.776	.967	1.335
MEAN	.979	1.627	1.378	1.132	.950	1.112	.584	.830	.913	.832	1.111
STD. DEV.	.127	.187	.156	.120	.097	.084	.064	.092	.096	.091	.125

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