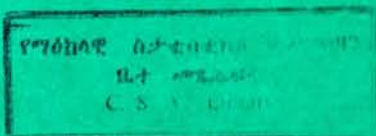


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**AGRICULTURAL SAMPLE SURVEY**

**1997/98 (1990 E.C.)**

**VOLUME V**

**REPORT ON**

**AREA AND PRODUCTION OF  
BELG SEASON CROPS**

**FOR**

**PRIVATE PEASANT HOLDINGS**

**ADDIS ABABA  
DECEMBER 1998**

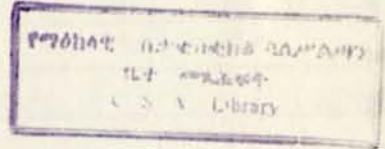
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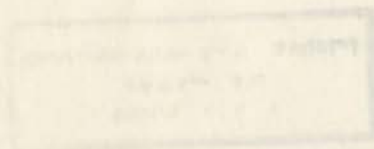
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AGRICULTURAL SAMPLE SURVEY

1978 (199 E.C.)



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## **PART I. INTRODUCTION AND OBJECTIVE OF THE SURVEY**

### **1. INTRODUCTION**

Agriculture plays a major role in the economy of Ethiopia. It accounts for about 55 percent of the GDP, 80 percent of the employment and 60 percent of the exports. Hence, the collection of reliable, comprehensive and timely statistical information in this sector is considered essential for the formulation, planning and assessment of agricultural development plans. The seriously inadequate supply of reliable statistical data will adversely affect the ability of planners and policy makers in their decision-making process.

The Central Statistical Authority (CSA) has been conducting the Agricultural Sample Survey (AgSS) on an annual basis since the 1980/81 (1973 E.C.) crop seasons to provide the essential statistical data needed by decision-makers in Ethiopia. This Belg Season Report is Volume V of the series of reports that constitutes the published estimates derived from the AgSS data collection. The contents of this report include: objectives of the survey, coverage and content of the survey, sample design; field organization, training of field staff; and method of data collection; and survey summary results on area, production and yield of major Belg Season crops for 1997/98 (1990 E.C.).

It should be noted that the 1997/98 (1990 E.C.) Agricultural Sample Survey was designed in such a way that it allows more precise inference not only at the national and regional levels, but also at zonal level.

## **2. OBJECTIVES OF THE SURVEY**

The general objective of the Survey is to collect basic quantitative information on Ethiopia's agriculture. This information is essential for economic development planning and socio-economic policy formulation.

In a micro-perspective, the objectives of this Survey are to estimate the total cultivated land; total production and yield per hectare of major crops for both the Meher and Belg Seasons. Data on area under different land uses; and quantity and cost of agricultural inputs by type for both seasons is also collected. From the sample, the number of livestock and poultry by type, purpose, sex and age; and, number of beehives in the private peasant holdings are estimated at the national, regional and zonal levels.

## PART II. SURVEY METHODOLOGY, DATA COLLECTION AND PROCESSING

### 1. SCOPE COVERAGE AND CONTENT OF THE SURVEY

The 1997/98(1990 E.C.) annual AgSS covers only the **sedentary rural** agricultural population in all regions of the country. A total of 56 zones and 409 weredas were covered in the survey. The areal coverage of the survey is given in Table A.

A total of 1,380 enumeration areas were selected to be covered in the Survey in all regions. However, during the data collection stage the survey succeeded to cover only 1,330 enumeration areas (EAS) for Belg Season Survey. In each EA a sample of 25 agricultural households, were selected resulting to a total of 29,046 households, out of which 12,207 households have practiced Belg Season crop production.

**TABLE A. AREAL COVERAGE OF THE 1997/98 (1990 E.C.) AGRICULTURAL  
SAMPLE SURVEY**

REGION	NUMBER OF ZONES			NUMBER OF WEREDAS	
	TOTAL	SAMPLED FOR THE SURVEY	NOT COVERED BY THE SURVEY	SAMPLED FOR THE SURVEY	ACTUAL NUMBER OF WEREDAS COVERED BY THE SURVEY
TIGRAY <sup>1</sup>	5	4	-	34	31
AFAR <sup>2</sup>	5	3	2	8	7
AMHARA	11	10	1	93	92
OROMIA	12	12	-	174	171
SOMALIE <sup>3</sup>	9	3	6	9	9
BENSHANGUL- GUMUZ	3	3	-	20	15
S.N.N.P.R	14	14	-	74	72
GAMBELA	4	3	1	5	5
HARARI	1	1	-	1	1
A. ABABA <sup>4</sup>	6	2	4	5	5
DIRE DAWA	1	1	-	1	1
<b>TOTAL</b>	<b>70</b>	<b>56</b>	<b>14</b>	<b>424</b>	<b>409</b>

**Notes**

- 1 - In Tigray Region, four out of five zones have rural settled population. In the remaining one zone the entire population is urban residents.
- 2 - Afar Region has a total of five zones, however only three zones have significant rural sedentary population.
- 3 - Somalie Region has a total of nine zones, however only three zones have significant rural sudentary population.
- 4 - Addis Ababa has a total of six zones, however, only two zones have rural settled population. In the remaining four zones the entire population is urban residents.

---

S.N.N.P.R = Southern Nations, Nationalities and Peoples Region

## **2. BASIC CONCEPTS AND DEFINITIONS**

The definitions of concepts and terminology used for the collection of all AgSS questionnaire data are as follows:

**Enumeration Area (EA)**: An Enumeration Area in rural parts of the Country is a locality that is less than or equal to a farmer's association area and usually it consists of 150-200 households.

**Households**: A household may be either;

- a) a one person household, that is a person who makes provision for his own food or other essentials for living without combining with any other person to form part of a multi person household or
- b) a multi person household, that is, a group of two or more persons who live together and make common provision for food or other essentials for living. The persons in the group may pool their incomes and have a common budget to greater or lesser extent. They may be related or unrelated persons, or a combination of both.

**Agricultural Households**: A household is considered an agricultural household when at least one member of the household is engaged in growing crops and/or breeding and raising livestock in private or in partnership with others.

**Holder**: A holder is a person who exercises management control over the operations of the agricultural holding and takes the major decision regarding the utilization of the available resources. He has technical and economic responsibility for the holding. He may operate the

holding directly as an owner or as a manager.

Under conditions of traditional agricultural holding the holder may be regarded as the person, who with or without help of others, operates land or raises livestock in his own right, i.e. the person who decides on what, when, where and how to grow crops or raise livestock and has right to determine the utilization of the products.

**Holding:** A holding is all the land and livestock kept which is used wholly or partly for agricultural production and is operated as one technical unit by one person alone, or with others, without regard to title, legal form, size or location.

**Parcel:** A parcel of holding is any piece of land entirely surrounded by land, water road, forest,...etc. which is not part of the holding. It may consist one or more cadastral units, plots or field adjacent to each other.

**Field:** A field is defined as any plot of land which is a parcel or part of a parcel under the same crop.

**Belg season crops:** are defined as any crops that are harvested during the months of March (Megabit) to August (Nehase).

**Meher season crops:** are those crops that are harvested during September (Meskerem) to February (Yekatit) are considered as main (Meher) season crops.

### 3. SAMPLE DESIGN.

A two-stage stratified sample design is used for the 1997/98 (1990 E.C.) Annual Agricultural Sample Survey. All regions except Harari, Addis Ababa, Dire Dawa and Gambella are broken into zones and treated as strata/reporting levels for survey summarization purposes, but for the four mentioned regions, the reporting levels are the regions themselves. The sample design first-stage consists of primary sampling units (PSUs) in all strata which are enumeration areas (EAs). The second-stage sampling units are agricultural households selected as the secondary level sampling units. The survey questionnaires are administered to all agricultural holders in the sampled agricultural households.

Based on cost and field enumeration considerations, a fixed number of sample EAs were allocated to each stratum/ reporting level taking into consideration the desired precision of the estimates and number of households per stratum. The overall sample number of EAs in a stratum was proportionately allocated to zones/special weredas within stratum based on their number of households. From within each Zone/Special Wereda sample EAs were selected with probability proportional to size, size being the total number of households identified for EAs as obtained from the 1994 Population Census. From each sample EA, 25 agricultural households were sampled systematically without replacement from a newly enumerated list of agricultural households.

Information was collected from all twenty-five households except for crop-cutting data which is collected from only the last 15 agricultural households, starting from the 11<sup>th</sup> selected agricultural households. Data is collected on separate questionnaires from each holder within these twenty-five sampled households.

The estimation formulation procedures for totals and ratios of the agricultural variables estimated and the measure of precision for area and production are presented in the *Appendix I and III.*

#### **4. FIELD ORGANIZATION.**

CSA branch statistical office heads, field supervisors and enumerators, other support staff and drivers were all involved in the conduct of the AgSS area and production survey data collection effort. To accomplish the data collection all field enumerators were equipped with the necessary survey equipment (i.e compass, protractor, ruler, measuring tape, balance scale, poles, ropes, sample bags,... etc.) at the completion of training. To assist with the field work and data collection activities all available four- wheel drive vehicles were used ifor supervision and collection of completed questionnaires.

#### **5. TRAINING OF FIELD STAFF**

The field staff training program was carried out in two stages. The first stage consisted of trainees from the head office, Branch Statistical Office heads and some of the field supervisors being given training for one week at CSA's headquarters complex in Addis Ababa. Many of those trained in the first stage conducted similar training for field supervisors and enumerators for 10 days in all of CSA's 15 branch offices which are distributed around the country. During the second - stage training, the field staff were given detailed classroom instruction on the objectives and uses of the AgSS, concepts and definitions of terms used, the method of area measurement, method of crop cutting, as well as correct interviewing procedures,...etc. The enumerators' training also included a field practice to reinforce the concepts discussed in the classroom with regard to field measurement and crop cutting data collection.

## 6. METHOD OF DATA COLLECTION.

The information on area and production of major Belg Season crops, agricultural practices (uses of fertilizer, pesticide, improved seed and irrigation) were subjectively collected by interviewing the holders of sampled households. Appendix II illustrates the total number of EAs and households reporting 1997/98 (1990 E.C) Belg crop production by region.

A major characteristic of Ethiopian agriculture is the two well-known crop production seasons referred to as the Meher (or main) and Belg Seasons. The generally accepted definition of the Meher season is that of the long rainy season, which normally occurs from June to September. The Belg Season most often refers to a small but timely rainy season, which normally occurs from February to May but in limited areas of the country. Generally, the Meher Season rainy period provides ideal growing conditions for the longer maturing crops. Planting and harvest of Meher crops can extend to December or January in some area. Most of the time holders rely on short maturing crops for planting during the Belg rainy period and harvest of these crops is in June or July.

A point of contention arises with respect to the pure definition of the Belg crop. Belg cropping practices are heterogeneous across different portions of the country. The nature of the sowing period also overlaps with some of the Meher Season crops. Consequently, the report on Belg Season crops in the past faced a problem of a clearly defined growing period. It is important not to overlook or miss agricultural practices performed all year round due to use of irrigation or soil moisture from sufficiently dried areas that from time-to-time are swampy or marshy. To help clarify the two-crop season, the following definition has been in use since 1987/88:

**Belg Season crops** were defined as any crops that are harvested during the months of March to August, while those crops that are harvested during September to February are considered Meher (or main) season crops.

This report consists of estimates of area, production and yield per hectare of major Belg Season crops for the year 1997/98 (1990 E.C). The data collection period for obtaining the area, production and agricultural practices of the Belg season crops ranged from Genbot 15 - 30, 1990E.C. (i.e. from May 23- June 7,1998). Differing from Meher Season objective crop-cutting methodology, the Belg production estimation uses subjectively obtained data based on face-to-face interviewing of the holder by the enumerator. Subjective data on local units require conversion to an equivalent metric units using the conversion factors available for local units at Woreda level prepared by CSA's Natural Resources and Agricultural Statistics Department (NASD). The conversion factors came from experimentally derived data using actual holder cropped area and production data associated with each local unit.

## **7. DATA PROCESSING**

### **a. EDITING, CODING AND VERIFICATION**

To insure the quality of the collected survey data an editing, coding, and verification instruction manual was written, and thirty - four editors, coders and verifiers were trained for two days to edit, code and verify the data using the forementioned manual as a reference and teaching aid.

The enumerator completed questionnaires were edited, coded, and later verified by supervisors on a 100 % basis before the questionnaires were sent to the data processing unit for data entry. The editing, coding and verification of all questionnaires was completed in twelve days.

**b. DATA ENTRY, CLEANING AND TABULATION.**

Before starting data entry professional staff of Agricultural Statistics Department of Central Statistical Authority prepared edit specifications for use on personal computers utilizing the Integrated Microcomputer Processing System (IMPS) software for data consistency checking purposes.

The Data on the coded questionnaires were then entered into the IMPS software on personal computers. The data was then checked and cleaned using the edit specifications prepared earlier for this purpose. Thirty- three data encoders were involved in this total process and it took fourteen days to complete the job.

Finally, tabulation was done on personal computers to produce results as indicated in the tabulation plan.

Category	1987-88	1988-89	1989-90	1990-91
Wheat	1.0	1.0	1.0	1.0
Barley	0.7	0.7	0.7	0.7
Other Cereals	1.0	1.0	1.0	1.0
Total	2.7	2.7	2.7	2.7

## PART III. SUMMARY OF THE SURVEY RESULTS

### **1. Results of 1997/98 (1990 E.C) Both Seasons (Meher and Belg)**

In this section of the report, summary Tables B – D present the estimates of area and production of major crops for both growing seasons (Meher and Belg). More details, starting with Table 1 focus entirely on the Belg season crops for 1997/98 (1990 E.C) for private peasant holdings and make comparison to the corresponding 1996/97 Belg crops. The results are given at the country, regional and zonal levels. Discussion of the major survey findings for the Belg crop is presented below.

The **total area and production** of major crops in both seasons, was estimated to be **7.68 million hectares** and **81.04 million quintals** with mean yield of **10.55 quintals per hectare**.

Out of the above mentioned totals **0.83 (10.7 %) million hectares** and **7.41 (9.1 %) million quintals** was the contribution of **Belg**. (For the details see Figs 1 and 2, and Summary Tables B and C).

Out of the total output of major crops (both Meher and Belg seasons) of 1997/98(1990 E.C), **area under cereals** accounted for **6.31 million hectares (82.15 %)** with a **production of 71.98 million quintals (88.82 %)**. About **0.96 million hectares (12.46 %)** with a **production of 7.19 million quintals (8.87 %)** was accounted for by **pulses**, and **0.41 million hectares ( 5.39 %)** with a **production of 1.87 million quintals (2.30 %)** was accounted for by **other crops (mainly oilseeds)** (for details see summary Table B ).

SUMMARY TABLE B. TOTAL AREA AND PRODUCTION OF MAJOR CROPS  
FOR PRIVATE PEASANT HOLDINGS IN ETHIOPIA  
BOTH SEASONS, 1997/98 (1990 E.C.)

TYPE OF CROP	AREA IN MILLION HECTARES					
	MEHER	%	BELG	%	BOTH	%
CEREALS	5.60	81.79	0.71	86.34	6.31	82.26
PULSES	0.84	12.23	0.11	13.12	0.95	12.35
OTHERS	0.41	5.99	0.004	0.53	0.41	5.40
TOTAL	6.85	100	0.82	100	7.67	100

TYPE OF CROP	PRODUCTION IN MILLION QUINTALS					
	MEHER	%	BELG	%	BOTH	%
CEREALS	64.99	88.27	6.99	94.41	71.98	88.82
PULSES	6.80	9.24	0.39	5.23	7.19	8.87
OTHERS	1.84	2.49	0.03	0.36	1.87	2.30
TOTAL	73.63	100	7.41	100.00	81.04	100.00

SUMMARY TABLE C. TOTAL AREA, PRODUCTION AND PERCENT CHANGE  
OF MAJOR CROPS FOR PRIVATE PEASANT  
HOLDINGS IN ETHIOPIA, BOTH SEASONS  
1996/97 (1989 E.C.) AND 1997/98 (1990 E.C.)

TYPE OF CROP	BOTH SEASONS					
	AREA IN MILLION HECTARES			PRODUCTION IN MILLION QUINTALS		
	1996/97 (1989 E.C.)	1997/98 (1990 E.C.)	% age CHANGE	1996/97 (1989 E.C.)	1997/98 (1990 E.C.)	% age CHANGE
CEREALS	7.44	6.31	-15.16	93.59	71.98	-23.09
PULSES	1.02	0.96	-6.12	8.61	7.19	-16.47
OTHERS	0.49	0.41	-15.51	2.16	1.87	-13.57
TOTAL	8.94	7.68	-14.10	104.37	81.04	-22.35

SUMMARY TABLE D. TOTAL AREA, PRODUCTION AND PERCENT CHANGE  
OF MAJOR CROPS FOR PRIVATE PEASANT  
HOLDINGS IN ETHIOPIA, BELG SEASON  
1996/97 (1989 E.C.) AND 1997/98 (1990 E.C.)

TYPE OF CROP	BELG SEASON					
	AREA IN MILLION HECTARES			PRODUCTION IN MILLION QUINTALS		
	1996/97 (1989 E.C.)	1997/98 (1990 E.C.)	% age CHANGE	1996/97 (1989 E.C.)	1997/98 (1990 E.C.)	% age CHANGE
CEREALS	0.75	0.71	-5.12	7.30	6.99	-4.22
PULSES	0.11	0.11	2.86	0.58	0.39	-33.06
OTHERS	0.01	0.004	-34.43	0.03	0.03	-14.04
TOTAL	0.87	0.82	-5.29	7.91	7.41	-6.32

## 2. Comparison of 1996/97 and 1997/98 of Both Seasons (Meher and Belg).

### Area and Production of Major Crops

The survey results indicates that the 1997/98 (1990 E.C.) Belg season crop production was not satisfactory when compared to the previous year. This was due to the fact that, this year belg rains were irregular and deficient, hampering normal belg agricultural activities and consequently affecting the seasonal crop production.

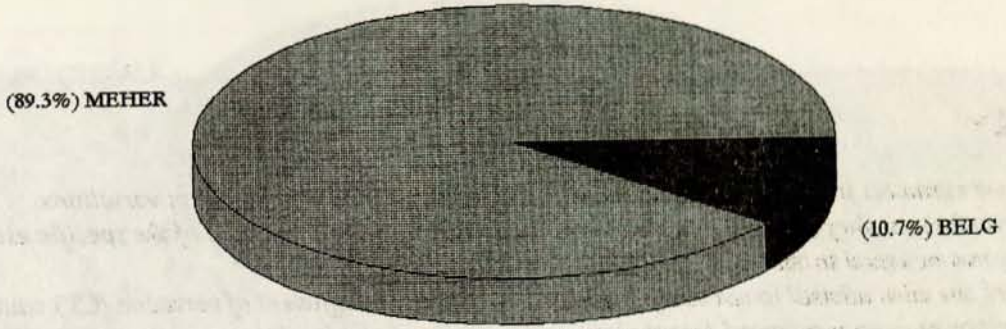
Comparison of the total area and production of 1996/97 (1989 E.C) and 1997/98(1990 E.C) was made for both seasons and belg season separately, in summary Table C and D, respectively. The 1997/98(1990 E.C.) both seasons' total outputs of the major crops have **decreased by 14.1 % in area**, and by **22.35 % for production** as compared to the previous year. The 1997/98 (1990 E.C.) total area for major belg season crops have decreased by **4.14 %** and by **6.32 %** for production when compared to last year's estimate (for details refer summary Table D).

Comparison of the total area and production of 1996/97 (1989 E.C.) and 1997/98(1990 E.C.) was made for belg reporting regions, and is presented in Table 1.

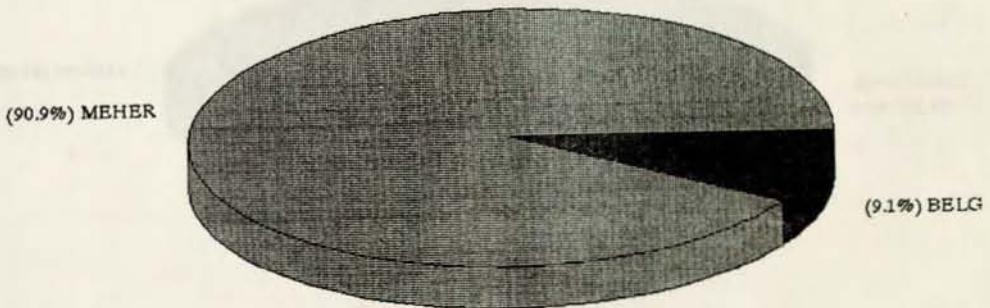
The decrease in area under crops ranges from **16.31 %** for Tigray region to **78.31 %** for Somali region and crop production from **9.2 %** for Oromiya to **94.12 %** for Addis Ababa region . However, the decrease of both area and production of belg season crops is mainly due to the poor performance of the 1997/98(1990 E.C.) belg season rainfall.

CROP	1996/97 (1989 E.C.)		1997/98 (1990 E.C.)		CHANGE (%)
	Area (Million Hectares)	Production (Million Tons)	Area (Million Hectares)	Production (Million Tons)	
CEREALS	0.78	0.78	0.71	0.71	-9.2
PULSES	0.11	0.11	0.11	0.11	0.0
OTHERS	0.01	0.01	0.04	0.04	300.0
TOTAL	0.90	0.90	0.86	0.86	-4.4

**FIG 1. ESTIMATES OF TOTAL AREA UNDER MAJOR CROPS FOR PRIVATE PEASANT HOLDINGS IN ETHIOPIA, BOTH SEASONS 1997/98(1990 E.C.)**



**FIG 2. ESTIMATES OF TOTAL PRODUCTION UNDER MAJOR CROPS FOR PRIVATE PEASANT HOLDINGS IN ETHIOPIA, BOTH SEASONS 1997/98(1990 E.C.)**



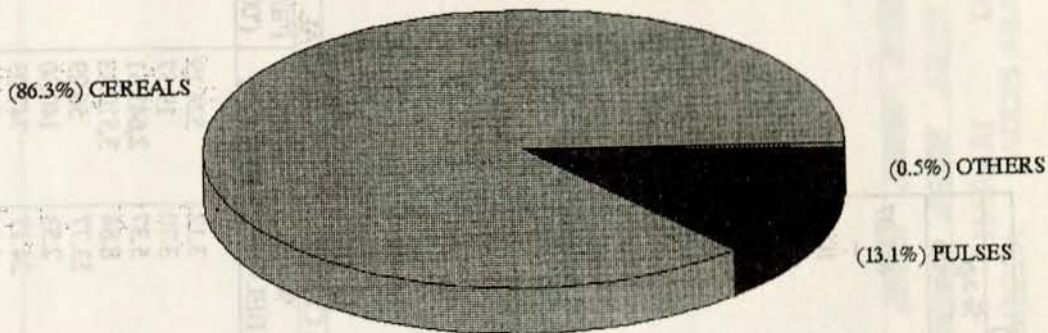
### 3. Results of 1997/98 (1990 E.C) Belg Season crops

The share of belg cereal crops was significant in 1997/98 for belg season cultivated both in area and production. The highest area and production were reported for **maize** and **barley**. (For the details see Tables 3 and Fig. 6 ).

#### NOTES:-

1. *Some estimates in all reporting levels are excluded due to high coefficient of variations. Nevertheless, they are incorporated in the total estimates. Hence the sum of the specific estimates may not be equal to the total estimates.*
2. *Users are also advised to use those estimates with 30-50% coefficient of variation (CV) cautiously*
3. *Eventhough area is reported for some crops in some reporting leveles, no production data is available such cases are designated by Not Stated(NS). On the other hand, in all tables" - " labeled for data not available totally.*

**FIG 3. ESTIMATES OF TOTAL AREA UNDER MAJOR BELG SEASON CROPS FOR PRIVATE PEASANT HOLDINGS IN ETHIOPIA, 1997/98(1990 E.C.)**



**FIG 4. ESTIMATES OF TOTAL PRODUCTION UNDER MAJOR BELG SEASON CROPS FOR PRIVATE PEASANT HOLDINGS IN ETHIOPIA, 1997/98(1990 E.C.)**

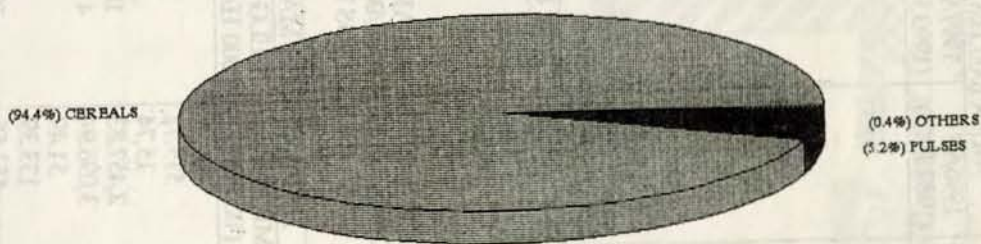


TABLE1. ESTIMATES OF TOTAL AREA, PRODUCTION AND PERCENT CHANGES  
OF BELG SEASON CROPS FOR PRIVATE PEASANT HOLDINGS  
IN ETHIOPIA BY REGION

Region	AREA (000'HA)			PRODUCTION (000'QT)		
	1996/97 (1989 E.C.)	1997/98 (1990 E.C.)	% age Change	1996/97 (1989 E.C.)	1997/98 (1990 E.C.)	% age Change
Tigray	12.51	10.47	-16.31	19.47	148.18	661.07
Afar	-	3.83	-	-	4.40	-
Amhara	126.94	185.78	46.35	1,114.51	1,236.57	10.95
Oromiya	406.22	413.39	1.77	4,025.26	3,655.11	-9.20
Somali	22.13	4.80	-78.31	185.14	80.93	-56.29
Benshangul	17.88	6.91	-61.35	59.03	39.42	-33.22
S.N.N.P	273.43	195.45	-28.52	2,491.00	2,222.59	-10.78
Gambela	1.61	1.24	-22.98	19.84	11.35	-42.79
Harari	0.28	0.89	217.86	0.26	1.15	342.31
Addis Ababa	0.02	0.09	350.00	0.17	0.01	-94.12
DireDawa	0.30	0.38	26.67	0.95	0.84	-11.58
TOTAL	861.32	823.23	-4.42	7,915.63	7,400.55	-6.51

TABLE2. ESTIMATES OF TOTAL AREA, PRODUCTION AND PERCENT SHARE  
OF BELG FOR 1997/98(1990 E.C.) FOR PRIVATE PEASANT  
HOLDINGS IN ETHIOPIA, BY REGION

Region	AREA UNDER MAJOR CROPS			PRODUCTION OF MAJOR CROPS			TOTAL	
	MEHER (000 HA)	BELG (000 HA)	% BELG	MEHER (000 QT)	BELG (000 QT)	% BELG	AREA (000 HA)	PRODUCT. (000 QT)
Tigray	513.72	10.47	2.00	4,599.81	148.18	3.12	524.19	4,747.99
Afar	15.74	3.83	19.57	114.44	4.40	3.70	19.57	118.84
Amhara	2,457.83	185.78	7.03	21,788.61	1,236.57	5.37	2,643.61	23,025.18
Oromiya	3,096.94	413.39	11.78	37,703.02	3,655.11	8.84	3,510.33	41,358.13
Somali	51.49	4.80	8.53	506.71	80.93	13.77	56.29	587.64
Benshangul	133.39	6.91	4.93	1,520.80	39.42	2.53	140.30	1,560.22
S.N.N.P	551.58	195.45	26.16	6,973.06	2,222.59	24.17	747.03	9,195.65
Gambela	12.81	1.24	8.83	262.66	11.35	4.14	14.05	274.01
Harari	4.44	0.89	16.70	32.96	1.15	3.37	5.33	34.11
Addis Ababa	7.01	0.09	1.27	90.93	0.01	0.01	7.10	90.94
DireDawa	4.55	0.38	7.71	33.72	0.84	2.43	4.93	34.56
TOTAL	6,849.50	823.23	10.73	73,626.72	7,400.55	9.13	7,672.73	81,027.27

FIG 5. ESTIMATES OF TOTAL AREA AND PRODUCTION UNDER MAJOR BELG SEASON CROPS FOR PRIVATE PEASANT HOLDINGS IN ETHIOPIA, BY REGION, 1997/98(1990 E.C.)

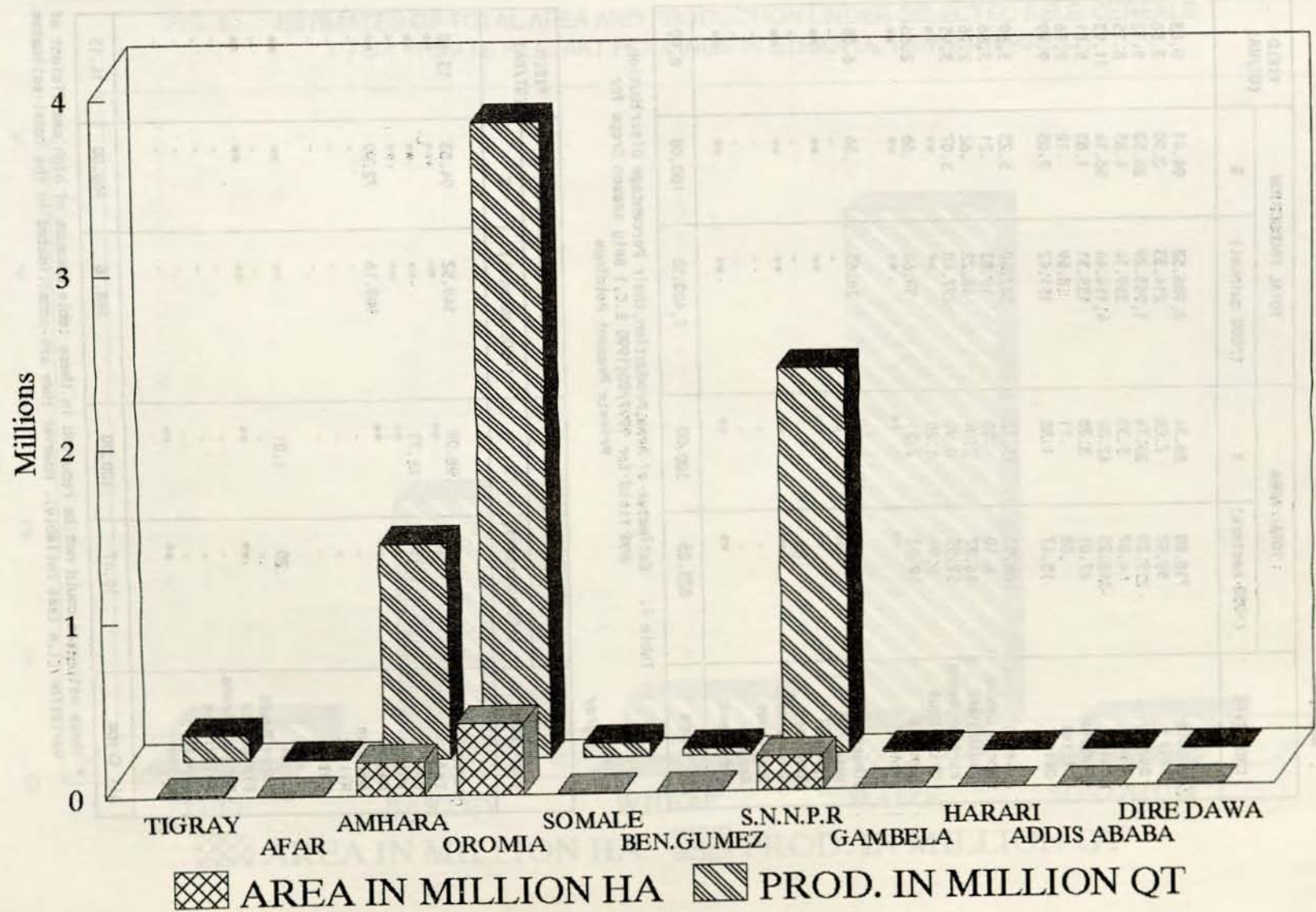


Table 3. Estimates of Area, Production, their Percentage Distribution and Yield for 1997/98(1990 E.C.) Belg season Crops for Private Peasant Holdings

CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	710.80	86.34	6,986.52	94.41	9.83
Teff	59.92	7.28	214.33	2.90	3.58
Barley	215.20	26.14	1,963.29	26.53	9.12
Wheat	44.07	5.35	359.14	4.85	8.15
Maize	348.25	42.30	4,154.44	56.14	11.93
Sorghum	27.01	3.28	135.31	1.83	5.01
Millet	.88	.11	8.59	.12	9.76
Oats	15.47	1.88	151.42	2.05	9.79
Pulses	108.03	13.12	387.40	5.23	3.59
Horse Beans	4.10	.50	15.83	.21	3.86
Field Peas	16.77	2.04	46.22	.62	2.76
Haricot Beans	57.55	6.99	227.48	3.07	3.95
Chick Peas	9.91	1.20	**	**	**
Lentils	19.02	2.31	50.60	.68	2.66
Vetch	**	**	**	**	**
Others	4.40	.53	26.63	.36	6.05
Neug	**	**	-	-	-
Linseed	**	**	**	**	**
Rapeseed	.02	-	-	-	-
Ground Nuts	**	**	**	**	**
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	**	**	**	**	**
All Crops	823.23	100.00	7,400.55	100.00	8.99

Table 4. Estimates of Area, Production, their Percentage Distribution and Yield for 1997/98(1990 E.C.) Belg season Crops for Private Peasant Holdings

CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	10.27	98.09	140.52	94.83	13.68
Teff	**	**	**	**	**
Barley	1.75	16.71	**	**	**
Wheat	**	**	**	**	**
Maize	**	**	108.16	72.99	**
Sorghum	-	-	-	-	-
Millet	-	-	-	-	-
Oats	-	-	-	-	-
Pulses	.20	1.91	**	**	**
Horse Beans	-	-	-	-	-
Field Peas	**	**	**	**	**
Haricot Beans	-	-	-	-	-
Chick Peas	-	-	-	-	-
Lentils	-	-	-	-	-
Vetch	**	**	-	-	-
All Crops	10.47	100.00	148.18	100.00	14.15

\* These estimates could not be reported in these table because of high coefficient of variation (i.e less reliable). However they are consolidated in the total estimates.

FIG 6. ESTIMATES OF TOTAL AREA AND PRODUCTION UNDER SELECTED BELG CEREALS FOR PRIVATE PEASANT HOLDINGS IN ETHIOPIA, 1997/98(1990 E.C.)

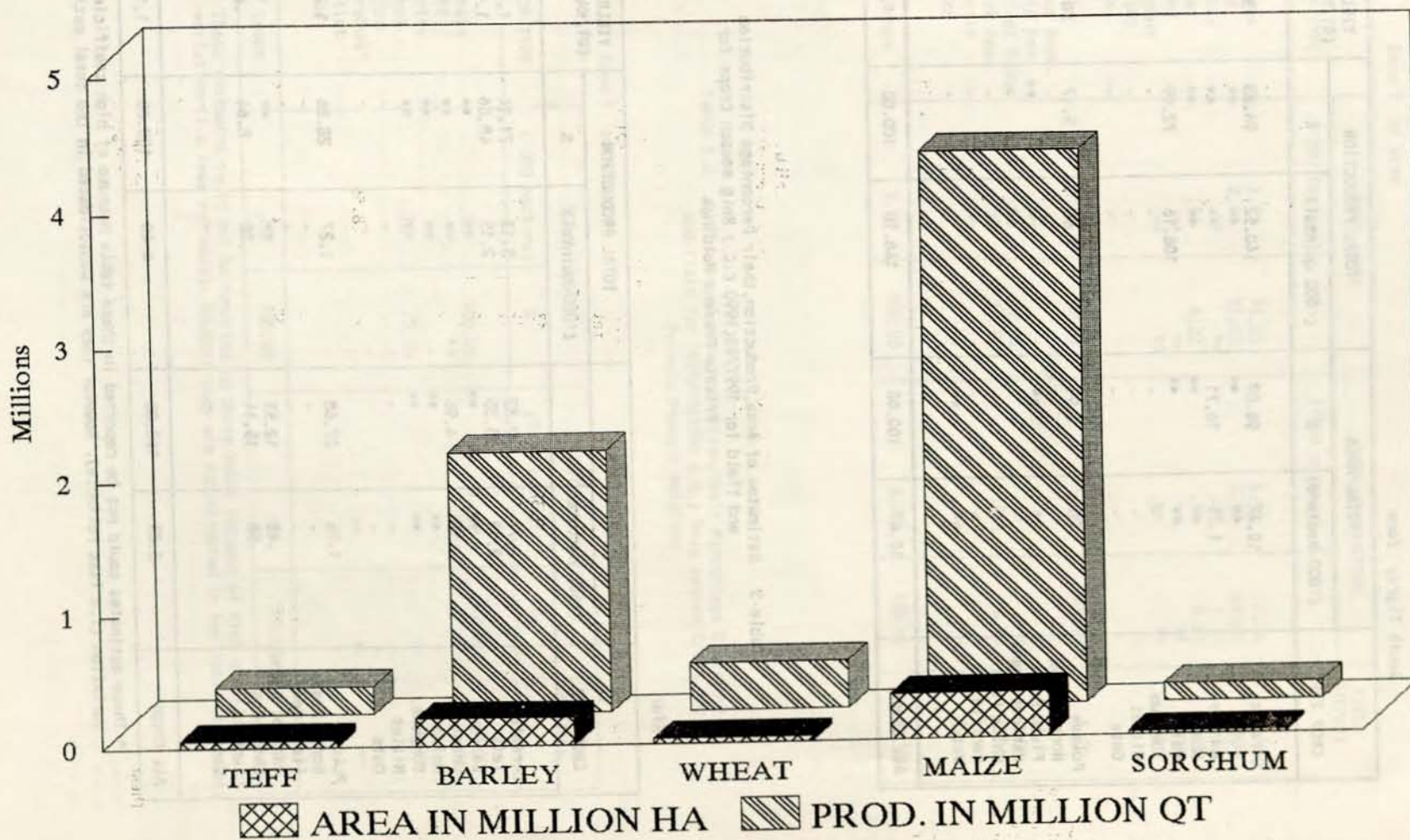


Table 4.1 Estimates of Area, Production, their Percentage Distribution and Yield for 1997/98(1990 E.C.) Belg season Crops for Private Peasant Holdings

South Tigray Zone

CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	10.27	98.09	140.52	94.83	13.68
Teff	**	**	**	**	**
Barley	1.75	16.71	**	**	**
Wheat	**	**	**	**	**
Maize	**	**	108.16	72.99	**
Sorghum	-	-	-	-	-
Millet	-	-	-	-	-
Oats	-	-	-	-	-
Pulses	.20	1.91	7.66	5.17	38.30
Horse Beans	-	-	-	-	-
Field Peas	**	**	**	**	**
Haricot Beans	-	-	-	-	-
Chick Peas	-	-	-	-	-
Lentils	-	-	-	-	-
Vetch	**	**	-	-	**
All Crops	10.47	100.00	148.18	100.00	14.15

Table 5 Estimates of Area, Production, their Percentage Distribution and Yield for 1997/98(1990 E.C.) Belg season Crops for Private Peasant Holdings

Afar

CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	2.77	72.32	3.13	71.14	1.13
Teff	2.12	55.35	2.15	48.86	1.01
Barley	**	**	**	**	**
Wheat	.19	4.96	**	**	**
Maize	**	**	**	**	**
Sorghum	**	**	**	**	**
Millet	-	-	-	-	-
Oats	-	-	-	-	-
Pulses	1.06	27.68	1.27	28.86	1.20
Horse Beans	-	-	-	-	-
Field Peas	-	-	-	-	-
Haricot Beans	.48	12.53	**	**	**
Chick Peas	.58	15.14	.38	8.64	.66
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
All Crops	3.83	100.00	4.40	100.00	1.15

\* These estimates could not be reported in these table because of high coefficient of variation (i.e less reliable). However they are consolidated in the total estimates.

Table 5.1 Estimates of Area, Production, their Percentage Distribution and Yield for 1997/98(1990 E.C.) Belg season Crops for Private Peasant Holdings

Zone 3 of Afar

CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	2.73	72.03	3.00	70.26	1.10
Teff	2.11	55.67	2.12	49.65	1.00
Barley	**	**	.05	1.17	**
Wheat	.16	4.22	.12	2.81	.75
Maize	**	**	**	**	**
Sorghum	**	**	**	**	**
Millet	-	-	-	-	-
Oats	-	-	-	-	-
Pulses	1.06	27.97	1.27	29.74	1.20
Horse Beans	-	-	-	-	-
Field Peas	-	-	-	-	-
Haricot Beans	.48	12.66	**	**	**
Chick Peas	.58	15.30	.38	8.90	.66
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
All Crops	3.79	100.00	4.27	100.00	1.13

Table 5.2 Estimates of Area, Production, their Percentage Distribution and Yield for 1997/98(1990 E.C.) Belg season Crops for Private Peasant Holdings

Zone 5 of Afar

CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	.04	100.00	.12	100.00	3.00
Teff	**	**	**	**	**
Barley	-	-	-	-	-
Wheat	.03	75.00	**	**	**
Maize	-	-	-	-	-
Sorghum	-	-	-	-	-
Millet	-	-	**	**	**
Oats	-	-	-	-	-
All Crops	.04	100.00	.12	100.00	3.00

\* These estimates could not be reported in these table because of high coefficient of variation (i.e less reliable). However they are consolidated in the total estimates.

Table 6. Estimates of Area, Production, their Percentage Distribution and Yield for 1997/98(1990 E.C.) Belg season Crops for Private Peasant Holdings

Amhara

CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	154.27	83.04	1,112.01	89.93	7.21
Teff	37.55	20.21	112.58	9.10	3.00
Barley	82.24	44.27	761.51	61.58	9.26
Wheat	8.80	4.74	42.80	3.46	4.86
Maize	15.57	8.38	139.36	11.27	8.95
Sorghum	**	**	**	**	**
Millet	-	-	-	-	-
Oats	4.93	2.65	41.72	3.37	8.46
Pulses	31.42	16.91	124.49	10.07	3.96
Horse Beans	-	-	-	-	-
Field Peas	8.12	4.37	17.52	1.42	2.16
Haricot Beans	**	**	**	**	**
Chick Peas	7.28	3.92	**	**	**
Lentils	10.25	5.52	43.45	3.51	4.24
Vetch	**	**	**	**	**
Others	.10	.05	.07	.01	.70
Neug	**	**	-	-	-
Linseed	**	**	**	**	**
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	-	-	-	-	-
All Crops	185.78	100.00	1,236.57	100.00	6.66

Table 6.1 Estimates of Area, Production, their Percentage Distribution and Yield for 1997/98(1990 E.C.) Belg season Crops for Private Peasant Holdings

North Gonder Zone

CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	1.95	100.00	22.04	100.00	11.30
Teff	-	-	-	-	-
Barley	**	**	**	**	**
Wheat	-	-	-	-	-
Maize	-	-	-	-	-
Sorghum	-	-	-	-	-
Millet	-	-	-	-	-
Oats	-	-	-	-	-
All Crops	1.95	100.00	22.04	100.00	11.30

\* These estimates could not be reported in these table because of high coefficient of variation (i.e less reliable). However they are consolidated in the total estimates.

Table 6.2 Estimates of Area, Production, their Percentage Distribution and Yield for 1997/98(1990 E.C.) Belg season Crops for Private Peasant Holdings

South Gonder Zone					
CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	4.77	100.00	37.72	100.00	7.91
Teff	**	**	**	**	**
Barley	**	**	**	**	**
Wheat	**	**	-	-	-
Maize	**	**	**	**	**
Sorghum	-	-	-	-	-
Millet	-	-	-	-	-
Oats	-	-	-	-	-
All Crops	4.77	100.00	37.72	100.00	7.91

Table 6.3 Estimates of Area, Production, their Percentage Distribution and Yield for 1997/98(1990 E.C.) Belg season Crops for Private Peasant Holdings

North Wolo Zone					
CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	37.48	87.88	328.68	92.76	8.77
Teff	7.68	18.01	16.02	4.52	2.09
Barley	25.01	58.64	**	**	**
Wheat	**	**	**	**	**
Maize	**	**	**	**	**
Sorghum	-	-	-	-	-
Millet	-	-	-	-	-
Oats	**	**	**	**	**
Pulses	5.13	12.03	25.64	7.24	5.00
Horse Beans	-	-	-	-	-
Field Peas	**	**	**	**	**
Haricot Beans	-	-	-	-	-
Chick Peas	**	**	**	**	**
Lentils	**	**	**	**	**
Vetch	-	-	-	-	-
Others	.03	.07	-	-	-
Neug	**	**	-	-	**
Linseed	**	**	-	-	**
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	-	-	-	-	-
All Crops	42.65	100.00	354.32	100.00	8.31

\* These estimates could not be reported in these table because of high coefficient of variation (i.e less reliable). However they are consolidated in the total estimates.

Table 6.4 Estimates of Area, Production, their Percentage Distribution and Yield for 1997/98(1990 E.C.) Belg season Crops for Private Peasant Holdings

South Wolo Zone

CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	50.60	83.09	384.62	85.16	7.60
Teff	15.32	25.16	34.33	7.60	2.24
Barley	27.65	45.40	281.55	62.34	10.18
Wheat	1.32	2.17	**	**	**
Maize	2.96	4.86	13.09	2.90	4.42
Sorghum	**	**	**	**	**
Millet	-	-	-	-	-
Oats	3.22	5.29	32.65	7.23	10.14
Pulses	10.23	16.80	66.98	14.83	6.55
Horse Beans	-	-	-	-	-
Field Peas	**	**	**	**	**
Haricot Beans	**	**	**	**	**
Chick Peas	**	**	**	**	**
Lentils	2.14	3.51	**	**	**
Vetch	**	**	**	**	**
Others	.06	.10	.07	.02	1.17
Neug	-	-	-	-	-
Linseed	**	**	**	**	**
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	-	-	-	-	-
All Crops	60.90	100.00	451.67	100.00	7.42

Table 6.5 Estimates of Area, Production, their Percentage Distribution and Yield for 1997/98(1990 E.C.) Belg season Crops for Private Peasant Holdings

North Shewa Zone

CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	45.62	80.53	268.94	94.37	5.90
Teff	9.63	17.00	53.12	18.64	5.52
Barley	**	**	**	**	**
Wheat	5.54	9.78	**	**	**
Maize	**	**	**	**	**
Sorghum	**	**	**	**	**
Millet	-	-	-	-	-
Oats	**	**	-	-	**
Pulses	11.03	19.47	16.03	5.63	1.45
Horse Beans	-	-	-	-	-
Field Peas	**	**	**	**	**
Haricot Beans	**	**	**	**	**
Chick Peas	**	**	**	**	**
Lentils	**	**	**	**	**
Vetch	**	**	**	**	**
All Crops	56.65	100.00	284.97	100.00	5.03

\* These estimates could not be reported in these table because of high coefficient of variation (i.e less reliable). However they are consolidated in the total estimates.

Table 6.6 Estimates of Area, Production, their Percentage Distribution and Yield for 1997/98(1990 E.C.) Belg season Crops for Private Peasant Holdings

East Gojam Zone

CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	.03	.77	.08	.51	2.67
Teff	-	-	-	-	-
Barley	-	-	-	-	-
Wheat	-	-	-	-	-
Maize	**	**	**	**	**
Sorghum	-	-	-	-	-
Millet	-	-	-	-	-
Oats	-	-	-	-	-
Pulses	3.86	99.23	15.59	99.49	4.04
Horse Beans	-	-	-	-	-
Field Peas	-	-	-	-	-
Haricot Beans	**	**	**	**	**
Chick Peas	-	-	-	-	-
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
All Crops	3.89	100.00	15.67	100.00	4.03

Table 6.7 Estimates of Area, Production, their Percentage Distribution and Yield for 1997/98(1990 E.C.) Belg season Crops for Private Peasant Holdings

West Gojam Zone

CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	3.03	100.00	24.05	100.00	7.94
Teff	-	-	-	-	-
Barley	**	**	**	**	**
Wheat	-	-	-	-	-
Maize	**	**	**	**	**
Sorghum	-	-	-	-	-
Millet	-	-	-	-	-
Oats	-	-	-	-	-
All Crops	3.03	100.00	24.05	100.00	7.94

\* These estimates could not be reported in these table because of high coefficient of variation (i.e less reliable). However they are consolidated in the total estimates.

Table 6.8 Estimates of Area, Production, their Percentage Distribution and Yield for 1997/98(1990 E.C.) Belg season Crops for Private Peasant Holdings

Agewawia Zone

CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	.76	100.00	6.33	100.00	8.33
Teff	-	-	-	-	-
Barley	**	**	-	-	**
Wheat	**	**	**	**	**
Maize	**	**	**	**	**
Sorghum	-	-	-	-	-
Millet	-	-	-	-	-
Oats	**	**	-	-	-
All Crops	.76	100.00	6.33	100.00	8.33

Table 6.9 Estimates of Area, Production, their Percentage Distribution and Yield for 1997/98(1990 E.C.) Belg season Crops for Private Peasant Holdings

Oromia Zone of Amhara

CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	10.03	89.63	39.55	99.40	3.94
Teff	4.43	39.59	5.83	14.65	1.32
Barley	.23	2.06	.28	.70	1.22
Wheat	**	**	1.18	2.97	**
Maize	4.57	40.84	25.85	64.97	5.66
Sorghum	-	-	-	-	-
Millet	-	-	-	-	-
Oats	**	**	6.41	16.11	**
Pulses	1.16	10.37	.25	.63	.22
Horse Beans	-	-	-	-	-
Field Peas	-	-	-	-	-
Haricot Beans	**	**	.07	.18	**
Chick Peas	1.16	10.37	.17	.43	.15
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
All Crops	11.19	100.00	39.79	100.00	3.56

\* These estimates could not be reported in these table because of high coefficient of variation (i.e less reliable). However they are consolidated in the total estimates.

Table 7 Estimates of Area, Production, their Percentage Distribution and Yield for 1997/98(1990 E.C.) Belg season Crops for Private Peasant Holdings

Oromia

CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	361.08	87.35	3,494.76	95.61	9.68
Teff	12.87	3.11	62.02	1.70	4.82
Barley	121.70	29.44	1,100.92	30.12	9.05
Wheat	33.72	8.16	312.30	8.54	9.26
Maize	175.45	42.44	1,871.76	51.21	10.67
Sorghum	**	**	**	**	**
Millet	**	**	**	**	**
Oats	10.54	2.55	109.70	3.00	10.41
Pulses	48.40	11.71	145.18	3.97	3.00
Horse Beans	3.46	.84	15.41	.42	4.45
Field Peas	8.36	2.02	**	**	**
Haricot Beans	26.22	6.34	94.08	2.57	3.59
Chick Peas	**	**	**	**	**
Lentils	**	**	**	**	**
Vetch	**	**	**	**	**
Others	3.92	.95	15.18	.42	3.87
Neug	-	-	-	-	-
Linseed	**	**	**	**	**
Rapeseed	-	-	-	-	-
Ground Nuts	**	**	**	**	**
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	**	**	**	**	**
All Crops	413.39	100.00	3,655.11	100.00	8.84

Table 7.1 Estimates of Area, Production, their Percentage Distribution and Yield for 1997/98(1990 E.C.) Belg season Crops for Private Peasant Holdings

West Welega Zone

CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	23.08	69.88	195.76	76.97	8.48
Teff	-	-	-	-	-
Barley	4.34	13.14	21.53	8.47	4.96
Wheat	-	-	-	-	-
Maize	18.73	56.71	174.23	68.51	9.30
Sorghum	-	-	-	-	-
Millet	-	-	-	-	-
Oats	-	-	-	-	-
Pulses	9.95	30.12	58.56	23.03	5.89
Horse Beans	**	**	**	**	**
Field Peas	-	-	-	-	-
Haricot Beans	8.17	24.74	50.16	19.72	6.14
Chick Peas	-	-	-	-	-
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
All Crops	33.03	100.00	254.32	100.00	7.70

\* These estimates could not be reported in these table because of high coefficient of variation (i.e less reliable). However they are consolidated in the total estimates.

Table 7.2 Estimates of Area, Production, their Percentage Distribution and Yield for 1997/98(1990 E.C.) Belg season Crops for Private Peasant Holdings

East Welega Zone					
CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	3.62	98.91	56.32	99.21	15.56
Teff	-	-	-	-	-
Barley	**	**	11.99	21.12	**
Wheat	-	-	-	-	-
Maize	**	**	44.33	78.09	**
Sorghum	-	-	-	-	-
Millet	-	-	-	-	-
Oats	-	-	-	-	-
Pulses	.05	1.37	.46	.81	9.20
Horse Beans	-	-	-	-	-
Field Peas	-	-	-	-	-
Haricot Beans	**	**	**	**	**
Chick Peas	-	-	-	-	-
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
All Crops	3.66	100.00	56.77	100.00	15.51

Table 7.3 Estimates of Area, Production, their Percentage Distribution and Yield for 1997/98(1990 E.C.) Belg season Crops for Private Peasant Holdings

Illibabor Zone					
CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	6.38	54.07	56.16	89.16	8.80
Teff	-	-	-	-	-
Barley	.57	4.83	3.61	5.73	6.33
Wheat	-	-	-	-	-
Maize	5.80	49.15	52.55	83.43	9.06
Sorghum	-	-	-	-	-
Millet	-	-	-	-	-
Oats	-	-	-	-	-
Pulses	5.42	45.93	6.82	10.83	1.26
Horse Beans	**	**	**	**	**
Field Peas	-	-	-	-	-
Haricot Beans	**	**	6.78	10.76	**
Chick Peas	-	-	-	-	-
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
All Crops	11.80	100.00	62.99	100.00	5.34

\* These estimates could not be reported in these table because of high coefficient of variation (i.e less reliable). However they are consolidated in the total estimates.

Table 7.4 Estimates of Area, Production, their Percentage Distribution and Yield for 1997/98(1990 E.C.) Belg season Crops for Private Peasant Holdings

Jimma Zone

CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	48.98	96.70	736.67	99.11	15.04
Teff	**	**	**	**	**
Barley	**	**	**	**	**
Wheat	-	-	-	-	-
Maize	45.92	90.66	682.01	91.76	14.85
Sorghum	-	-	-	-	-
Millet	-	-	-	-	-
Oats	-	-	-	-	-
Pulses	1.67	3.30	6.61	.89	3.96
Horse Beans	-	-	-	-	-
Field Peas	-	-	-	-	-
Haricot Beans	**	**	**	**	**
Chick Peas	-	-	-	-	-
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
All Crops	50.65	100.00	743.28	100.00	14.67

Table 7.5 Estimates of Area, Production, their Percentage Distribution and Yield for 1997/98(1990 E.C.) Belg season Crops for Private Peasant Holdings

West Shewa Zone

CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	17.02	98.95	118.33	99.75	6.95
Teff	-	-	-	-	-
Barley	**	**	**	**	**
Wheat	-	-	-	-	-
Maize	**	**	**	**	**
Sorghum	-	-	-	-	-
Millet	-	-	-	-	-
Oats	-	-	-	-	-
Pulses	.18	1.05	.30	.25	1.67
Horse Beans	-	-	-	-	-
Field Peas	-	-	-	-	-
Haricot Beans	**	**	.30	.25	**
Chick Peas	-	-	-	-	-
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
All Crops	17.20	100.00	118.63	100.00	6.90

\* These estimates could not be reported in these table because of high coefficient of variation (i.e less reliable). However they are consolidated in the total estimates.

Table 7.6 Estimates of Area, Production, their Percentage Distribution and Yield for 1997/98(1990 E.C.) Belg season Crops for Private Peasant Holdings

North Shewa Zone

CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	31.45	72.08	41.50	80.74	1.32
Teff	-	-	-	-	-
Barley	29.50	67.61	**	**	**
Wheat	**	**	**	**	**
Maize	-	-	-	-	-
Sorghum	-	-	-	-	-
Millet	-	-	-	-	-
Oats	**	**	**	**	**
Pulses	12.12	27.78	9.91	19.28	.82
Horse Beans	**	**	**	**	**
Field Peas	**	**	**	**	**
Haricot Beans	-	-	-	-	-
Chick Peas	**	**	**	**	**
Lentils	**	**	**	**	**
Vetch	**	**	**	**	**
Others	.06	.14	-	-	-
Neug	-	-	-	-	-
Linseed	-	-	-	-	-
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	**	**	-	-	-
All Crops	43.63	100.00	51.40	100.00	1.18

Table 7.7 Estimates of Area, Production, their Percentage Distribution and Yield for 1997/98(1990 E.C.) Belg season Crops for Private Peasant Holdings

East Shewa Zone

CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	1.08	76.60	3.97	65.84	3.68
Teff	**	**	**	**	**
Barley	**	**	**	**	**
Wheat	**	**	-	-	-
Maize	**	**	**	**	**
Sorghum	-	-	-	-	-
Millet	-	-	-	-	-
Oats	-	-	-	-	-
Pulses	.33	23.40	2.05	34.00	6.21
Horse Beans	-	-	-	-	-
Field Peas	-	-	-	-	-
Haricot Beans	**	**	**	**	**
Chick Peas	-	-	-	-	-
Lentils	**	**	-	-	-
Vetch	**	**	-	-	-
All Crops	1.41	100.00	6.03	100.00	4.28

\* These estimates could not be reported in these table because of high coefficient of variation (i.e less reliable). However they are consolidated in the total estimates.

Table 7.8 Estimates of Area, Production, their Percentage Distribution and Yield for 1997/98(1990 E.C.) Belg season Crops for Private Peasant Holdings  
Arsi Zone

CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	30.20	90.85	425.11	98.01	14.08
Teff	-	-	-	-	-
Barley	25.01	75.24	374.79	86.40	14.99
Wheat	**	**	19.68	4.54	9.15
Maize	**	**	**	**	**
Sorghum	-	-	-	-	-
Millet	-	-	-	-	-
Oats	**	**	**	**	**
Pulses	3.04	9.15	8.65	1.99	2.85
Horse Beans	**	**	**	**	**
Field Peas	**	**	**	**	**
Haricot Beans	-	-	-	-	-
Chick Peas	-	-	-	-	-
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
All Crops	33.24	100.00	433.76	100.00	13.05

Table 7.9 Estimates of Area, Production, their Percentage Distribution and Yield for 1997/98(1990 E.C.) Belg season Crops for Private Peasant Holdings  
West Harerge Zone

CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	22.45	95.33	240.79	96.91	10.73
Teff	**	**	**	**	**
Barley	5.57	23.65	94.99	38.23	17.05
Wheat	**	**	**	**	**
Maize	16.53	70.19	141.17	56.82	8.54
Sorghum	**	**	**	**	**
Millet	**	**	**	**	**
Oats	.27	1.15	3.82	1.54	14.15
Pulses	.80	3.40	4.09	1.65	5.11
Horse Beans	-	-	-	-	-
Field Peas	-	-	-	-	-
Haricot Beans	.78	3.31	**	**	**
Chick Peas	-	-	-	-	-
Lentils	**	**	**	**	**
Vetch	-	-	-	-	-
Others	.29	1.23	3.59	1.44	12.38
Neug	-	-	-	-	-
Linseed	-	-	-	-	-
Rapeseed	-	-	-	-	-
Ground Nuts	**	**	**	**	**
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	-	-	-	-	-
All Crops	23.55	100.00	248.47	100.00	10.55

\* These estimates could not be reported in these table because of high coefficient of variation (i.e less reliable). However they are consolidated in the total estimates.

Table 7.10 Estimates of Area, Production, their Percentage Distribution and Yield for 1997/98(1990 E.C.) Belg season Crops for Private Peasant Holdings

East Harerge Zone

CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	16.98	74.47	280.30	96.14	16.51
Teff	-	-	-	-	-
Barley	5.21	22.85	58.96	20.22	11.32
Wheat	**	**	**	**	**
Maize	**	**	**	**	**
Sorghum	-	-	-	-	-
Millet	**	**	**	**	**
Oats	**	**	**	**	**
Pulses	5.82	25.53	11.24	3.86	1.93
Horse Beans	**	**	**	**	**
Field Peas	**	**	**	**	**
Haricot Beans	5.58	24.47	**	**	**
Chick Peas	-	-	-	-	-
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
All Crops	22.80	100.00	291.54	100.00	12.79

Table 7.11 Estimates of Area, Production, their Percentage Distribution and Yield for 1997/98(1990 E.C.) Belg season Crops for Private Peasant Holdings

Bale Zone

CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	105.74	91.91	978.80	96.47	9.26
Teff	11.94	10.38	57.92	5.71	4.85
Barley	39.58	34.40	379.28	37.38	9.58
Wheat	28.87	25.09	280.50	27.65	9.72
Maize	14.34	12.46	139.97	13.79	9.76
Sorghum	**	**	**	**	**
Millet	**	**	**	**	**
Oats	9.31	8.09	104.62	10.31	11.24
Pulses	5.75	5.00	24.26	2.39	4.22
Horse Beans	**	**	**	**	**
Field Peas	1.98	1.72	9.44	.93	4.77
Haricot Beans	**	**	**	**	**
Chick Peas	**	**	**	**	**
Lentils	**	**	**	**	**
Vetch	**	**	-	-	-
Others	3.56	3.09	11.59	1.14	3.26
Neug	-	-	-	-	-
Linseed	**	**	**	**	**
Rapeseed	-	-	-	-	-
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	**	**	**	**	**
All Crops	115.05	100.00	1,014.65	100.00	8.82

\* These estimates could not be reported in these table because of high coefficient of variation (i.e less reliable). However they are consolidated in the total estimates.



Table 8 Estimates of Area, Production, their Percentage Distribution and Yield for 1997/98(1990 E.C.) Belg season Crops for Private Peasant Holdings

Somale

CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	4.45	92.71	69.55	85.94	15.63
Teff	-	-	-	-	-
Barley	**	**	**	**	**
Wheat	**	**	-	-	**
Maize	4.24	88.33	69.33	85.67	16.35
Sorghum	**	**	-	-	**
Millet	-	-	-	-	-
Oats	-	-	-	-	-
Pulses	-	-	-	-	-
Horse Beans	-	-	-	-	-
Field Peas	-	-	-	-	-
Haricot Beans	-	-	-	-	-
Chick Peas	-	-	-	-	-
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
Others	.34	7.08	11.38	14.06	33.47
Neug	-	-	-	-	-
Linseed	-	-	-	-	-
Rapeseed	-	-	-	-	-
Ground Nuts	**	**	**	**	**
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	-	-	-	-	-
All Crops	4.80	100.00	80.93	100.00	16.86

Table 8.1 Estimates of Area, Production, their Percentage Distribution and Yield for 1997/98(1990 E.C.) Belg season Crops for Private Peasant Holdings

Shinele Zone

CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	.01	100.00	.01	100.00	1.00
Teff	-	-	-	-	-
Barley	-	-	-	-	-
Wheat	-	-	-	-	-
Maize	**	**	**	**	1.00
Sorghum	-	-	-	-	-
Millet	-	-	-	-	-
Oats	-	-	-	-	-
All Crops	.01	100.00	.01	100.00	1.00

\* These estimates could not be reported in these table because of high coefficient of variation (i.e less reliable). However they are consolidated in the total estimates.

Table 8.2 Estimates of Area, Production, their Percentage Distribution and Yield for 1997/98(1990 E.C.) Belg season Crops for Private Peasant Holdings

Jijiga Zone

CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	4.30	92.67	68.44	85.74	15.92
Teff	-	-	-	-	-
Barley	**	**	**	**	**
Wheat	**	**	-	-	-
Maize	4.08	87.93	68.22	85.47	16.72
Sorghum	**	**	-	-	-
Millet	-	-	-	-	-
Oats	-	-	-	-	-
Pulses	-	-	-	-	-
Horse Beans	-	-	-	-	-
Field Peas	-	-	-	-	-
Haricot Beans	-	-	-	-	-
Chick Peas	-	-	-	-	-
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
Others	.34	7.33	11.38	14.26	33.47
Neug	-	-	-	-	-
Linseed	-	-	-	-	-
Rapeseed	-	-	-	-	-
Ground Nuts	**	**	**	**	**
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	-	-	-	-	-
All Crops	4.64	100.00	79.82	100.00	17.20

Table 8.3 Estimates of Area, Production, their Percentage Distribution and Yield for 1997/98(1990 E.C.) Belg season Crops for Private Peasant Holdings

Moyale Zone

CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	.15	100.00	1.10	100.00	7.33
Teff	-	-	-	-	-
Barley	-	-	-	-	-
Wheat	-	-	-	-	-
Maize	**	**	1.10	100.00	**
Sorghum	-	-	-	-	-
Millet	-	-	-	-	-
Oats	-	-	-	-	-
All Crops	.15	100.00	1.10	100.00	7.33

\* These estimates could not be reported in these table because of high coefficient of variation (i.e less reliable). However they are consolidated in the total estimates.

Table 9 Estimates of Area, Production, their Percentage Distribution and Yield for 1997/98(1990 E.C.) Belg season Crops for Private Peasant Holdings

Benshangul-Gumuz

CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	.28	4.05	1.54	3.91	5.50
Teff	-	-	-	-	-
Barley	-	-	-	-	-
Wheat	-	-	-	-	-
Maize	.28	4.05	1.54	3.91	5.50
Sorghum	-	-	-	-	-
Millet	-	-	-	-	-
Oats	-	-	-	-	-
Pulses	6.62	95.80	37.89	96.12	5.72
Horse Beans	-	-	-	-	-
Field Peas	-	-	-	-	-
Haricot Beans	6.62	95.80	**	**	**
Chick Peas	-	-	-	-	-
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
All Crops	6.91	100.00	39.42	100.00	5.70

Table 9.1 Estimates of Area, Production, their Percentage Distribution and Yield for 1997/98(1990 E.C.) Belg season Crops for Private Peasant Holdings

Metekel Zone

CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	.11	100.00	.82	100.00	7.45
Teff	-	-	-	-	-
Barley	-	-	-	-	-
Wheat	-	-	-	-	-
Maize	**	**	**	**	**
Sorghum	-	-	-	-	-
Millet	-	-	-	-	-
Oats	-	-	-	-	-
All Crops	.11	100.00	.82	100.00	7.45

\* These estimates could not be reported in these table because of high coefficient of variation (i.e less reliable). However they are consolidated in the total estimates.

Table 9.2 Estimates of Area, Production, their Percentage Distribution and Yield for 1997/98(1990 E.C.) Belg season Crops for Private Peasant Holdings

Asosa Zone						
CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)	
	('000 hectare)	%	('000 quintal)	%		
Cereals	.15	3.46	.71	2.12	4.73	
Teff	-	-	-	-	-	
Barley	-	-	-	-	-	
Wheat	-	-	-	-	-	
Maize	**	**	**	**	**	
Sorghum	-	-	-	-	-	
Millet	-	-	-	-	-	
Oats	-	-	-	-	-	
Pulses	4.19	96.54	32.74	97.88	7.81	
Horse Beans	-	-	-	-	-	
Field Peas	-	-	-	-	-	
Haricot Beans	4.19	96.54	**	**	**	
Chick Peas	-	-	-	-	-	
Lentils	-	-	-	-	-	
Vetch	-	-	-	-	-	
All Crops	4.34	100.00	33.45	100.00	7.71	

Table 9.3 Estimates of Area, Production, their Percentage Distribution and Yield for 1997/98(1990 E.C.) Belg season Crops for Private Peasant Holdings

Kemeshi Zone						
CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)	
	('000 hectare)	%	('000 quintal)	%		
Cereals	.02	.82	-	-	-	
Teff	-	-	-	-	-	
Barley	-	-	-	-	-	
Wheat	-	-	-	-	-	
Maize	**	**	-	-	**	
Sorghum	-	-	-	-	-	
Millet	-	-	-	-	-	
Oats	-	-	-	-	-	
Pulses	2.44	99.59	5.15	100.00	2.11	
Horse Beans	-	-	-	-	-	
Field Peas	-	-	-	-	-	
Haricot Beans	**	**	**	**	**	
Chick Peas	-	-	-	-	-	
Lentils	-	-	-	-	-	
Vetch	-	-	-	-	-	
All Crops	2.45	100.00	5.15	100.00	2.10	

\* These estimates could not be reported in these table because of high coefficient of variation (i.e less reliable). However they are consolidated in the total estimates.

Table 10 Estimates of Area, Production, their Percentage Distribution and Yield for 1997/98(1990 E.C.) Belg season Crops for Private Peasant Holdings

(S.N.N.P.R)

CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	175.95	90.02	2,152.79	96.86	12.24
Teff	6.12	3.13	26.05	1.17	4.26
Barley	9.18	4.70	80.14	3.61	8.73
Wheat	1.21	.62	3.45	.16	2.85
Maize	143.83	73.59	1,951.85	87.82	13.57
Sorghum	14.96	7.65	86.73	3.90	5.80
Millet	.65	.33	**	**	**
Oats	-	-	-	-	-
Pulses	19.46	9.96	69.79	3.14	3.59
Horse Beans	**	**	**	**	**
Field Peas	**	**	**	**	**
Haricot Beans	17.88	9.15	68.57	3.09	3.84
Chick Peas	**	**	**	**	**
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
Others	.05	.03	-	-	-
Neug	**	**	-	-	**
Linseed	-	-	-	-	-
Rapeseed	**	**	-	-	**
Ground Nuts	-	-	-	-	-
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	-	-	-	-	-
All Crops	195.45	100.00	2,222.59	100.00	11.37

Table 10.1 Estimates of Area, Production, their Percentage Distribution and Yield for 1997/98(1990 E.C.) Belg season Crops for Private Peasant Holdings

Gurage Zone

CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	1.43	100.00	16.44	100.00	11.50
Teff	**	**	**	**	**
Barley	**	**	**	**	**
Wheat	-	-	-	-	-
Maize	**	**	**	**	**
Sorghum	-	-	-	-	-
Millet	-	-	-	-	-
Oats	-	-	-	-	-
All Crops	1.43	100.00	16.44	100.00	11.50

\* These estimates could not be reported in these table because of high coefficient of variation (i.e less reliable). However they are consolidated in the total estimates.

Table 10.2 Estimates of Area, Production, their Percentage Distribution and Yield for 1997/98(1990 E.C.) Belg season Crops for Private Peasant Holdings

Hadiya Zone

CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	16.66	91.79	136.93	97.47	8.22
Teff	**	**	**	**	**
Barley	1.54	8.48	18.00	12.81	11.69
Wheat	-	-	-	-	-
Maize	14.86	81.87	118.62	84.44	7.98
Sorghum	**	**	**	**	**
Millet	**	**	**	**	**
Oats	-	-	-	-	-
Pulses	1.50	8.26	3.55	2.53	2.37
Horse Beans	-	-	-	-	-
Field Peas	-	-	-	-	-
Haricot Beans	1.27	7.00	**	**	**
Chick Peas	**	**	-	-	**
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
All Crops	18.15	100.00	140.48	100.00	7.74

Table 10.3 Estimates of Area, Production, their Percentage Distribution and Yield for 1997/98(1990 E.C.) Belg season Crops for Private Peasant Holdings

Kembata Alaba Tembaro Zone

CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	5.89	85.74	88.28	93.30	14.99
Teff	**	**	**	**	**
Barley	**	**	**	**	**
Wheat	**	**	**	**	**
Maize	5.48	79.77	83.98	88.76	15.32
Sorghum	-	-	-	-	-
Millet	-	-	-	-	-
Oats	-	-	-	-	-
Pulses	.98	14.26	6.35	6.71	6.48
Horse Beans	-	-	-	-	-
Field Peas	-	-	-	-	-
Haricot Beans	.98	14.26	6.35	6.71	6.48
Chick Peas	-	-	-	-	-
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
All Crops	6.87	100.00	94.62	100.00	13.77

\* These estimates could not be reported in these table because of high coefficient of variation (i.e less reliable). However they are consolidated in the total estimates.

Table 10.4 Estimates of Area, Production, their Percentage Distribution and Yield for 1997/98(1990 E.C.) Belg season Crops for Private Peasant Holdings

Sidama Zone

CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	16.41	91.73	211.03	95.94	12.86
Teff	-	-	-	-	-
Barley	-	-	-	-	-
Wheat	-	-	-	-	-
Maize	16.41	91.73	211.03	95.94	12.86
Sorghum	-	-	-	-	-
Millet	-	-	-	-	-
Oats	-	-	-	-	-
Pulses	1.48	8.27	8.94	4.06	6.04
Horse Beans	-	-	-	-	-
Field Peas	-	-	-	-	-
Haricot Beans	1.48	8.27	8.94	4.06	6.04
Chick Peas	-	-	-	-	-
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
All Crops	17.89	100.00	219.97	100.00	12.30

Table 10.5 Estimates of Area, Production, their Percentage Distribution and Yield for 1997/98(1990 E.C.) Belg season Crops for Private Peasant Holdings

Gedio Zone

CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	1.19	93.70	24.57	98.83	20.65
Teff	**	**	**	**	**
Barley	**	**	**	**	**
Wheat	-	-	-	-	-
Maize	1.13	88.98	**	**	**
Sorghum	-	-	-	-	-
Millet	-	-	-	-	-
Oats	-	-	-	-	-
Pulses	.05	3.94	.29	1.17	5.80
Horse Beans	-	-	-	-	-
Field Peas	-	-	-	-	-
Haricot Beans	**	**	**	**	**
Chick Peas	-	-	-	-	-
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
Others	.02	1.57	-	-	-
Neug	-	-	-	-	-
Linseed	-	-	-	-	-
Rapeseed	**	**	-	-	-
Ground Nuts	-	-	-	-	**
Sunflower	-	-	-	-	-
Sesame	-	-	-	-	-
Fenugreek	-	-	-	-	-
All Crops	1.27	100.00	24.86	100.00	19.57

\* These estimates could not be reported in these table because of high coefficient of variation (i.e less reliable). However they are consolidated in the total estimates.

Table 10.6 Estimates of Area, Production, their Percentage Distribution and Yield for 1997/98(1990 E.C.) Belg season Crops for Private Peasant Holdings  
North Omo Zone

CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	53.20	83.22	633.09	95.96	11.90
Teff	**	**	**	**	**
Barley	**	**	**	**	**
Wheat	-	-	-	-	-
Maize	50.29	78.66	602.70	91.36	11.98
Sorghum	**	**	**	**	**
Millet	-	-	-	-	-
Oats	-	-	-	-	-
Pulses	10.73	16.78	26.62	4.04	2.48
Horse Beans	-	-	-	-	-
Field Peas	-	-	-	-	-
Haricot Beans	10.73	16.78	26.62	4.04	2.48
Chick Peas	-	-	-	-	-
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
All Crops	63.93	100.00	659.71	100.00	10.32

Table 10.7 Estimates of Area, Production, their Percentage Distribution and Yield for 1997/98(1990 E.C.) Belg season Crops for Private Peasant Holdings  
South Omo Zone

CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	12.43	98.65	262.87	96.79	21.15
Teff	**	**	**	**	**
Barley	**	**	**	**	**
Wheat	-	-	-	-	-
Maize	9.52	75.56	235.41	86.68	24.73
Sorghum	**	**	26.14	9.62	9.65
Millet	**	**	**	**	**
Oats	-	-	-	-	-
Pulses	.17	1.35	8.72	3.21	51.29
Horse Beans	-	-	-	-	-
Field Peas	**	**	-	-	-
Haricot Beans	.16	1.27	**	**	**
Chick Peas	-	-	-	-	-
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
All Crops	12.60	100.00	271.60	100.00	21.56

\* These estimates could not be reported in these table because of high coefficient of variation (i.e less reliable). However they are consolidated in the total estimates.

Table 10.8 Estimates of Area, Production, their Percentage Distribution and Yield for 1997/98(1990 E.C.) Belg season Crops for Private Peasant Holdings

Keficho-Shekicho Zone					
CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	27.38	95.40	410.30	99.25	14.99
Teff	**	**	**	**	**
Barley	3.04	10.59	18.61	4.50	6.12
Wheat	-	-	-	-	-
Maize	23.97	83.52	387.09	93.64	16.15
Sorghum	**	**	**	**	**
Millet	**	**	**	**	**
Oats	-	-	-	-	-
Pulses	1.31	4.56	3.10	.75	2.37
Horse Beans	**	**	**	**	**
Field Peas	**	**	-	-	**
Haricot Beans	.71	2.47	2.78	.67	3.92
Chick Peas	-	-	-	-	-
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
All Crops	28.70	100.00	413.40	100.00	14.40

Table 10.9 Estimates of Area, Production, their Percentage Distribution and Yield for 1997/98(1990 E.C.) Belg season Crops for Private Peasant Holdings

Bench-Maji Zone					
CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	8.48	99.88	130.63	99.95	15.40
Teff	-	-	-	-	-
Barley	**	**	**	**	**
Wheat	-	-	-	-	-
Maize	7.94	93.52	**	**	**
Sorghum	-	-	-	-	-
Millet	-	-	-	-	-
Oats	-	-	-	-	-
Pulses	.01	.12	.07	.05	7.00
Horse Beans	**	**	**	**	**
Field Peas	-	-	-	-	-
Haricot Beans	-	-	-	-	-
Chick Peas	-	-	-	-	-
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
All Crops	8.49	100.00	130.69	100.00	15.39

\* These estimates could not be reported in these table because of high coefficient of variation (i.e less reliable). However they are consolidated in the total estimates.

Table 10.10 Estimates of Area, Production, their Percentage Distribution and Yield for 1997/98(1990 E.C.) Belg season Crops for Private Peasant Holdings

Yem Special Wereda Zone						
CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)	
	('000 hectare)	%	('000 quintal)	%		
Cereals	.96	96.00	13.54	96.85	14.10	
Teff	-	-	-	-	-	
Barley	.66	66.00	6.82	48.78	10.33	
Wheat	-	-	-	-	-	
Maize	.31	31.00	**	**	**	
Sorghum	-	-	-	-	-	
Millet	-	-	-	-	-	
Oats	-	-	-	-	-	
Pulses	.04	4.00	.44	3.15	11.00	
Horse Beans	-	-	-	-	-	
Field Peas	-	-	-	-	-	
Haricot Beans	**	**	**	**	**	
Chick Peas	-	-	-	-	-	
Lentils	-	-	-	-	-	
Vetch	-	-	-	-	-	
All Crops	1.00	100.00	13.98	100.00	13.98	

Table 10.11 Estimates of Area, Production, their Percentage Distribution and Yield for 1997/98(1990 E.C.) Belg season Crops for Private Peasant Holdings

Amaro Special Wereda Zone						
CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)	
	('000 hectare)	%	('000 quintal)	%		
Cereals	3.95	86.24	54.79	97.96	13.87	
Teff	**	**	**	**	**	
Barley	**	**	.26	.46	**	
Wheat	**	**	**	**	**	
Maize	2.51	54.80	**	**	**	
Sorghum	**	**	**	**	**	
Millet	-	-	-	-	-	
Oats	-	-	-	-	-	
Pulses	.61	13.32	1.14	2.06	1.89	
Horse Beans	-	-	-	-	-	
Field Peas	-	-	-	-	-	
Haricot Beans	**	**	**	**	**	
Chick Peas	**	**	-	-	**	
Lentils	-	-	-	-	-	
Vetch	-	-	-	-	-	
Others	.02	.44	-	-	-	
Neug	**	**	-	-	**	
Linseed	-	-	-	-	-	
Rapeseed	-	-	-	-	-	
Ground Nuts	-	-	-	-	-	
Sunflower	-	-	-	-	-	
Sesame	-	-	-	-	-	
Fenugreek	-	-	-	-	-	
All Crops	4.58	100.00	55.93	100.00	12.21	

\* These estimates could not be reported in these table because of high coefficient of variation (i.e less reliable). However they are consolidated in the total estimates.

Table 10.12 Estimates of Area, Production, their Percentage Distribution and Yield for 1997/98(1990 E.C.) Belg season Crops for Private Peasant Holdings

Burji Special Wereda Zone

CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	5.80	93.55	32.63	94.91	5.63
Teff	2.98	48.06	15.20	44.21	5.10
Barley	.36	5.81	1.95	5.67	5.42
Wheat	.91	14.68	3.06	8.90	3.36
Maize	1.52	24.52	11.90	34.61	7.83
Sorghum	**	**	**	**	**
Millet	-	-	-	-	-
Oats	-	-	-	-	-
Pulses	.40	6.45	1.75	5.09	4.38
Horse Beans	**	**	**	**	**
Field Peas	**	**	**	**	**
Haricot Beans	.33	5.32	1.67	4.86	5.06
Chick Peas	**	**	**	**	**
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
All Crops	6.20	100.00	34.38	100.00	5.55

Table 10.13 Estimates of Area, Production, their Percentage Distribution and Yield for 1997/98(1990 E.C.) Belg season Crops for Private Peasant Holdings

Konso Special Wereda Zone

CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	19.29	90.27	61.55	88.79	3.19
Teff	**	**	1.65	2.38	**
Barley	**	**	**	**	**
Wheat	**	**	**	**	**
Maize	7.04	32.94	27.73	40.00	3.94
Sorghum	10.31	48.25	31.13	44.91	3.02
Millet	**	**	**	**	**
Oats	-	-	-	-	-
Pulses	2.09	9.78	7.77	11.21	3.72
Horse Beans	-	-	-	-	-
Field Peas	**	**	-	-	-
Haricot Beans	2.00	9.36	.21	.30	**
Chick Peas	**	**	**	**	**
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
All Crops	21.37	100.00	69.32	100.00	3.24

\* These estimates could not be reported in these table because of high coefficient of variation (i.e less reliable). However they are consolidated in the total estimates.

Table 10.14 Estimates of Area, Production, their Percentage Distribution and Yield for 1997/98(1990 E.C.) Belg season Crops for Private Peasant Holdings

Derashe Special Wereda Zone

CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	2.88	96.97	76.15	98.64	26.44
Teff	**	**	**	**	**
Barley	.10	3.37	.57	.74	5.70
Wheat	**	**	**	**	**
Maize	1.88	63.30	46.31	59.99	24.63
Sorghum	.67	22.56	27.11	35.12	40.46
Millet	-	-	-	-	-
Oats	-	-	-	-	-
Pulses	.09	3.03	1.05	1.36	11.67
Horse Beans	-	-	-	-	-
Field Peas	**	**	**	**	**
Haricot Beans	.03	1.01	**	**	**
Chick Peas	-	-	-	-	-
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
All Crops	2.97	100.00	77.20	100.00	25.99

Table 11 Estimates of Area, Production, their Percentage Distribution and Yield for 1997/98(1990 E.C.) Belg season Crops for Private Peasant Holdings

Gambela

CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	1.24	100.00	11.35	100.00	9.15
Teff	-	-	-	-	-
Barley	-	-	-	-	-
Wheat	-	-	-	-	-
Maize	1.22	98.39	11.08	97.62	9.08
Sorghum	**	**	**	**	**
Millet	-	-	-	-	-
Oats	-	-	-	-	-
All Crops	1.24	100.00	11.35	100.00	9.15

Table 12 Estimates of Area, Production, their Percentage Distribution and Yield for 1997/98(1990 E.C.) Belg season Crops for Private Peasant Holdings

Harari

CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	.02	2.25	.02	1.74	1.00
Teff	-	-	-	-	-
Barley	-	-	-	-	-
Wheat	-	-	-	-	-
Maize	.02	2.25	**	**	**
Sorghum	-	-	-	-	-
Millet	-	-	-	-	-
Oats	-	-	-	-	-
Pulses	.87	97.75	1.12	97.39	1.29
Horse Beans	-	-	-	-	-
Field Peas	-	-	-	-	-
Haricot Beans	.87	97.75	1.12	97.39	1.29
Chick Peas	-	-	-	-	-
Lentils	-	-	-	-	-
Vetch	-	-	-	-	-
All Crops	.89	100.00	1.15	100.00	1.29

\* These estimates could not be reported in these table because of high coefficient of variation (i.e less reliable). However they are consolidated in the total estimates.

Table 13 Estimates of Area, Production, their Percentage Distribution and Yield for 1997/98(1990 E.C.) Belg season Crops for Private Peasant Holdings

Addis Ababa

CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	.09	100.00	.01	100.00	.11
Teff	-	-	-	-	-
Barley	**	**	**	**	**
Wheat	-	-	-	-	-
Maize	-	-	-	-	-
Sorghum	-	-	-	-	-
Millet	-	-	-	-	-
Oats	-	-	-	-	-
All Crops	.09	100.00	.01	100.00	.11

Table 14 Estimates of Area, Production, their Percentage Distribution and Yield for 1997/98(1990 E.C.) Belg season Crops for Private Peasant Holdings

Dire Dawa

CROP TYPE	TOTAL AREA		TOTAL PRODUCTION		YIELD (QT/HA)
	('000 hectare)	%	('000 quintal)	%	
Cereals	.38	100.00	.84	100.00	2.21
Teff	-	-	-	-	-
Barley	-	-	-	-	-
Wheat	-	-	-	-	-
Maize	.32	84.21	.65	77.38	2.03
Sorghum	**	**	**	**	**
Millet	-	-	-	-	-
Oats	-	-	-	-	-
All Crops	.38	100.00	.84	100.00	2.21

\* These estimates could not be reported in these table because of high coefficient of variation (i.e less reliable). However they are consolidated in the total estimates.

ESTIMATION PROCEDURES OF TOTAL AND SAMPLING ERRORS

The following formulae are used to estimate total area of land under specific crop, level of production and yield of specific crop in a given stratum.

Note: - All information on Belg women's agricultural activities are collected using purposive methods, by interviewing each holder in the sample of agricultural households. Hence the data on the production of major Belg season crops were mostly reported in local units.

# APPENDIX I

## ESTIMATION PROCEDURES OF TOTAL AND SAMPLING ERRORS

1. For estimating total Area of land under specific crop

$$A = \sum_{i=1}^n a_i$$

in which

$$a_i = \frac{P_i}{Y_i} \times Y_i$$

## APPENDIX I

### ESTIMATION PROCEDURES OF TOTAL AND SAMPLING ERRORS.

The following formula are used to estimate total area of land under specific crop, level of production and yield of specific crop in a given stratum.

Note:- All information on belg season agricultural activities are collected using subjective methods, by interviewing each holder in the sampled 25 agricultural households. Hence the data on area and production for major belg season crops were mostly reported in local units. Therefore before applying the estimation procedures defined here below, the reported area and production of a specific crop in local units of each field has to be converted in to standard units using conversion equivalents.

#### *1. for Estimating total Area of land under specific crop*

$$\hat{A}_h = \sum_{i=1}^{n_h} w_{hi} a_{hi}$$

in which

$$w_{hi} = \frac{N_h M_{hi}}{n_h N_{hi} m_{hi}}$$

where

$h$  represents the stratum.

$n_h$  is the total number of EAs selected in the  $h^{\text{th}}$  stratum.

$N_h$  is the measure of size of the  $h^{\text{th}}$  stratum obtained from the sampling frame.

$N_{hi}$  is the measure of size of the  $i^{\text{th}}$  sample EA in the  $h^{\text{th}}$  stratum obtained from the sampling frame.

$M_{hi}$  is the total number of agricultural households of the  $i^{\text{th}}$  sample EA in the  $h^{\text{th}}$  stratum obtained from households listing of the survey.

$m_{hi}$  is number of sampled agricultural households of the  $i^{\text{th}}$  sample EA in the  $h^{\text{th}}$  stratum.

$a_{hi}$  is the sample total of area values in the  $i^{\text{th}}$  EA in the  $h^{\text{th}}$  stratum for the specific crop.

$A_h$  is estimate of total area under specific crop.

## 2. For Estimating production

$$\hat{P}_h = \sum_{i=1}^{n_h} w_{hi} p_{hi}$$

in which

$$w_{hi} = \frac{N_h M_{hi}}{n_h N_{hi} m_{hi}}$$

is the weight .

where

$\hat{p}_h$  is estimate of total production of a specific crop in the  $h^{\text{th}}$  stratum.

$p_{hi}$  is the sample total of production of a specific crop in the  $i^{\text{th}}$  EA in the  $h^{\text{th}}$  stratum.

## 3. Estimate of yield of a specific crop is given by

$$Y_h = \frac{P_h}{A_h}$$

## 4. Estimating Sampling Variance

Sampling variance of estimate of stratum total of area for a specific crop are estimated by the following formulas respectively.

$$\text{var}(\hat{A}_h) = \frac{n_h}{n_h - 1} \left[ \sum_{i=1}^{n_h} \hat{A}_{hi}^2 - \frac{\hat{A}_h^2}{n_h} \right]$$

In estimating the sampling variance by the above formula, selection of EAs within a stratum is assumed to be with replacement. By so doing the variance estimate may be slightly over estimated but it greatly simplify the estimation procedure. Further more the finite population correction (fpc) is ignored in the formula. This is due to the fact that its effect is negligible.

### 5. Estimating Coefficient of Variation

Coefficient of Variation (CV) of estimate of stratum total area and production are given by:

$$CV(\hat{A}_h) = \frac{\sqrt{\text{var}(\hat{A}_h)}}{\hat{A}_h} \times 100\%$$

$$CV(\hat{P}_h) = \frac{\sqrt{\text{VAR}(\hat{A}_h)}}{\hat{P}_h} \times 100\%$$

Regional or National Estimates of the total Characteristic and Sampling variance are obtained by aggregating the respective stratum totals.

## APPENDIX II

### NUMBER OF HOUSEHOLDS REPORTING 1997/98(1990E.C.)BELG CROP PRODUCTION

APPENDIX II - NUMBER OF BELG AND FARMS REPORTING BELG CROP PRODUCTION

REGION	NYORUBA LEVEL	NUMBER OF NYORUBA SAMPLED	NUMBER OF HOUSEHOLDS REPORTING BELG CROP PRODUCTION	PERCENTAGE OF HOUSEHOLDS REPORTING BELG CROP PRODUCTION
TIGHAY	EAST TIGHAY	28	10	35.7
	CENTRAL TIGHAY	30	12	40.0
	EAST TIGHAY	30	15	50.0
	SOUTH TIGHAY	12	5	41.7
	TOTAL	100	42	42.0
KUMBI	KUMBI I	30	10	33.3
	KUMBI II	30	12	40.0
	KUMBI III	30	15	50.0
	TOTAL	90	37	41.1
	AMULARA	AMULARA I	30	10
AMULARA II		30	12	40.0
AMULARA III		30	15	50.0
AMULARA IV		30	18	60.0
AMULARA V		30	20	66.7
AMULARA VI		30	22	73.3
AMULARA VII		30	24	80.0
AMULARA VIII		30	26	86.7
AMULARA IX		30	28	93.3
AMULARA X		30	30	100.0
TOTAL	300	120	40.0	

APPENDIX II NUMBER OF EAs AND HOUSEHOLDS REPORTING 1997/98 (1990 E.C.)  
BELG CROP PRODUCTION.

REGION	REPORTING LEVEL	NUMBER OF EAs SAMPLED	NUMBER OF EAs COVERED	NUMBER OF EAs REPORTING BELG	NUMBER OF HOUSEHOLDS COVERED	NUMBER OF HOUSEHOLDS REPORTING BELG
TIGRAY	WEST TIGRAY	25	24	—	619	—
	CENTRAL TIGRAY	25	25	1	633	10
	EAST TIGRAY	25	24	—	615	—
	SOUTH TIGRAY	25	24	13	604	169
	TOTAL	100	97	14	2471	179
AFAR	ZONE 1	20	19	—	437	—
	ZONE 3	20	17	11	428	197
	ZONE 5	20	2	2	52	31
	TOTAL	60	38	13	917	228
AMHARA	NORTH GONDER	30	30	1	764	17
	SOUTH GONDER	30	30	4	748	48
	NORTH WOLO	30	30	16	765	304
	SOUTH WOLO	30	30	20	759	410
	NORTH SHOA	30	29	18	746	324
	EAST GOJAM	30	29	3	743	37
	WEST GOJAM	30	30	4	767	38
	WAGHAMRA	25	25	—	629	—
	AGEWAWI	25	25	4	635	35
	OROMIA ZONE	25	23	23	580	341
	TOTAL	285	281	93	7136	1554

REGION	REPORTING LEVEL	NUMBER OF EAs SAMPLED	NUMBER OF EAs COVERED	NUMBER OF EAs REPORTING BELG	NUMBER OF HOUSEHOLDS COVERED	NUMBER OF HOUSEHOLDS REPORTING BELG
OROMIYA	WEST WELLEGA	30	30	29	780	564
	EAST WELLEGA	30	30	19	771	235
	ILUBABOR	30	30	25	747	327
	JIMMA	30	29	25	731	427
	WEST SHOA	30	30	10	778	112
	NORTH SHOA	30	30	17	762	247
	EAST SHOA	30	28	5	729	50
	ARSI	30	30	20	799	340
	WEST HARARGE	30	30	27	749	379
	EAST HARARGE	30	30	22	745	295
	BALE	30	30	24	782	536
	BORENA	30	28	18	698	300
	<b>TOTAL</b>		<b>360</b>	<b>355</b>	<b>241</b>	<b>9071</b>
SOMALE	SHINILE	20	18	7	427	34
	JIJIGA	20	20	12	488	177
	MOYALE	20	18	17	454	362
	<b>TOTAL</b>	<b>60</b>	<b>56</b>	<b>36</b>	<b>1369</b>	<b>573</b>
BENSHANGULE - GUMEZ	METEKEL	25	25	4	624	32
	ASSOSA	25	25	22	682	351
	KEMASHI	25	25	8	620	84
	<b>TOTAL</b>	<b>75</b>	<b>75</b>	<b>34</b>	<b>1926</b>	<b>467</b>

REGION	REPORTING LEVEL	NUMBER OF EAs SAMPLED	NUMBER OF EAs COVERED	NUMBER OF EAs REPORTING BELG	NUMBER OF HOUSEHOLDS COVERED	NUMBER OF HOUSEHOLDS REPORTING BELG	
S.N.N.P.R.	GURAGE	30	30	7	759	38	
	HADIYA	30	29	22	734	368	
	KEMBATA,ALABA,TEMBARO	30	28	20	711	322	
	SIDAMA	30	30	21	759	290	
	GEDIO	30	30	14	756	88	
	NORTH OMO	30	29	28	740	603	
	SOUTH OMO	30	24	20	600	385	
	KEFICHO-SHEKICHO	30	30	30	745	602	
	BENCH-MAJI	25	24	24	587	459	
	YEM SPECIAL WEREDA	15	15	14	374	192	
	AMARO SPECIAL WEREDA	15	15	12	371	197	
	BURJI SPECIAL WEREDA	15	15	15	376	361	
	KONSO SPECIAL WEREDA	15	15	15	379	368	
	DERASHE SPECIAL WEREDA	15	14	14	352	324	
	<b>TOTAL</b>		<b>340</b>	<b>328</b>	<b>256</b>	<b>8243</b>	<b>4597</b>
	<b>GAMBELA</b>	<b>GAMBELA</b>	25	25	24	605	487
<b>HARARI</b>	<b>HARARI</b>	25	25	16	623	177	
<b>ADDIS ABABA</b>	<b>ADDIS ABABA</b>	25	25	2	639	20	
<b>DIRE DAWA</b>	<b>DIRE DAWA</b>	25	25	15	622	113	
	<b>GRAND TOTAL</b>	<b>1380</b>	<b>1330</b>	<b>744</b>	<b>29046</b>	<b>12207</b>	



APPENDIX III STANDARED ERROR AND COEFFICIENT OF VARIATION FOR ESTIMATE

ESTIMATES OF AREA, PRODUCTION, STANDARD ERROR AND COEFFICIENT OF VARIATIO:  
FOR MAJOR BELG SEASON CROPS, NATIONAL.

1997/98 (1990 E.C.)

TYPE OF CROP	AREA (000' HA)	S.E. (000' HA)	C.V. (%)	PRODUCTION (000' QT)	S.E. (000' QT)	C.V. (%)
TEFF	59.92	10.63	17.73	214.33	43.68	18.90
BARELY	215.20	24.55	11.41	1963.29	331.13	15.16
WHEAT	44.07	8.89	20.18	359.14	89.18	23.88
MAIZE	348.25	27.51	7.90	4154.44	513.84	10.28
SORGHUM	27.01	6.86	25.40	135.31	34.47	22.51
MILLET	0.88	0.30	34.66	8.59	4.48	49.96
OATS	15.47	2.98	19.26	151.42	34.72	22.67
HORSEBEANS	4.10	1.75	42.77	15.83	7.42	41.82
FIELDPEAS	16.77	4.60	27.43	46.22	28.30	37.67
HARICOTBEANS	57.55	7.69	13.37	227.48	39.50	14.92
CHICKPEAS	9.91	3.64	36.72	**	**	**
LENTILS	19.02	6.33	33.26	50.60	27.08	44.78
VECTH	**	**	**	**	**	**
NEUG	**	**	**	-	-	-
LINSEED	**	**	**	**	**	**
RAPESEED	**	**	**	-	-	-
GROUNDNUTS	**	**	**	**	**	**
SUNFLOWER	-	-	-	-	-	-
SEASAME	-	-	-	-	-	-
FENUGREEK	**	**	**	**	7.26	**

ESTIMATES OF AREA, PRODUCTION, STANDARD ERROR AND COEFFICIENT OF VARIATIO:  
FOR MAJOR BELG SEASON CROPS, TIGRAY REGION.

TYPE OF CROP	AREA (000' HA)	S.E. (000' HA)	C.V. (%)	PRODUCTION (000' QT)	S.E. (000' QT)	C.V. (%)
TEFF	**	**	**	**	**	**
BARELY	1.75	0.81	46.37	**	**	**
WHEAT	**	**	**	**	**	**
MAIZE	**	**	**	108.16	68.49	46.52
SORGHUM	-	-	-	-	-	-
MILLET	-	-	-	-	-	-
OATS	-	-	-	-	-	-
HORSEBEANS	-	-	-	**	**	**
FIELDPEAS	**	**	**	-	-	-
HARICOTBEANS	-	-	-	-	-	-
CHICKPEAS	-	-	-	-	-	-
LENTILS	-	-	-	-	-	-
VECTH	**	**	**	-	-	-
NEUG	-	-	-	-	-	-
LINSEED	-	-	-	-	-	-
RAPESEED	-	-	-	-	-	-
GROUNDNUTS	-	-	-	-	-	-
SUNFLOWER	-	-	-	-	-	-
SEASAME	-	-	-	-	-	-
FENUGREEK	-	-	-	-	-	-

Abbreviations.

S.E. = Standard Error

C.V. = Coefficient of Variation

- Insignificant or not available

ESTIMATES OF AREA, PRODUCTION, STANDARD ERROR AND COEFFICIENT OF VARIATION  
FOR MAJOR BELG SEASON CROPS, AFAR REGION.

TYPE OF CROP	AREA (000' HA)	S.E. (000' HA)	C.V. (%)	PRODUCTION (000' QT)	S.E. (000' QT)	C.V. (%)
TEFF	2.12	0.57	27.04	2.15	0.70	28.83
BARELY	**	**	**	**	**	**
WHEAT	0.19	0.08	43.06	**	**	**
MAIZE	**	**	**	**	**	**
SORGHUM	**	**	**	**	**	**
MILLET	-	-	-	-	-	-
OATS	-	-	-	-	-	-
HORSEBEANS	-	-	-	-	-	-
FIELDPEAS	-	-	-	-	-	-
HARICOTBEANS	0.48	0.19	40.76	**	**	**
CHICKPEAS	0.58	0.19	31.91	0.38	0.18	46.33
LENTILS	-	-	-	-	-	-
VECTH	-	-	-	-	-	-
NEUG	-	-	-	-	-	-
LINSEED	-	-	-	-	-	-
RAPESEED	-	-	-	-	-	-
GROUNDNUTS	-	-	-	-	-	-
SUNFLOWER	-	-	-	-	-	-
SEASAME	-	-	-	-	-	-
FENUGREEK	-	-	-	-	-	-

ESTIMATES OF AREA, PRODUCTION, STANDARD ERROR AND COEFFICIENT OF VARIATION  
FOR MAJOR BELG SEASON CROPS, AMHARA REGION.

TYPE OF CROP	AREA (000' HA)	S.E. (000' HA)	C.V. (%)	PRODUCTION (000' QT)	S.E. (000' QT)	C.V. (%)
TEFF	37.55	9.21	24.52	112.58	30.70	25.75
BARELY	82.24	18.50	22.50	761.51	247.87	31.18
WHEAT	8.80	2.47	28.09	42.80	15.78	35.97
MAIZE	15.57	3.50	22.47	139.36	59.62	42.06
SORGHUM	**	**	**	**	**	**
MILLET	-	-	-	-	-	-
OATS	4.93	1.51	30.65	41.72	13.15	30.49
HORSEBEANS	-	-	-	-	-	-
FILDPEAS	8.12	3.89	47.92	17.52	8.76	49.70
HARICOTBEANS	**	**	**	**	**	**
CHICKPEAS	7.28	3.41	46.83	**	**	**
LENTILS	10.25	4.25	41.46	43.45	26.58	49.85
VETCH	**	**	**	**	**	**
NEUG	**	**	**	**	**	**
LINSEED	**	**	**	**	**	**
RAPESEED	-	-	-	-	-	-
GROUNDNUTS	-	-	-	-	-	-
SUNFLOWER	-	-	-	-	-	-
SEASAME	-	-	-	-	-	-
FENUGREEK	-	-	-	-	-	-

Abbreviations.

S.E. = Standard Error

C.V. = Coefficient of Variation

- Insignificant or not available

ESTIMATES OF AREA, PRODUCTION, STANDARD ERROR AND COEFFICIENT OF VARIATION  
FOR MAJOR BELG SEASON CROPS, OROMIYA REGION.

TYPE OF CROP	AREA (000' HA)	S.E. (000' HA)	C.V. (%)	PRODUCTION (000' QT)	S.E. (000' QT)	C.V. (%)
TEFF	12.87	5.01	38.94	62.02	28.11	41.11
BARELY	121.70	15.99	13.14	1100.92	217.12	16.94
WHEAT	33.72	8.54	25.31	312.30	87.73	27.25
MAIZE	175.45	22.27	12.69	1871.76	307.28	13.77
SORGHUM	**	**	**	**	**	**
MILLET	**	**	**	**	**	**
OATS	10.54	2.57	24.37	109.70	32.14	29.21
HORSEBEANS	3.46	1.70	49.07	15.41	7.40	44.01
FIELDPEAS	8.36	2.44	29.25	**	**	**
HARICOTBEANS	26.22	5.56	21.21	94.08	15.51	15.03
CHICKPEAS	**	**	**	**	**	**
LENTILS	**	**	**	**	**	**
VECTH	**	**	**	**	**	**
NEUG	-	-	-	-	-	-
LINSEED	**	**	**	**	**	**
RAPESEED	-	-	-	-	-	-
GROUNDNUTS	**	**	**	**	**	**
SUNFLOWER	-	-	-	-	-	-
SEASAME	-	-	-	-	-	-
FENUGREEK	**	**	**	**	**	**

ESTIMATES OF AREA, PRODUCTION, STANDARD ERROR AND COEFFICIENT OF VARIATION  
FOR MAJOR BELG SEASON CROPS, SOMALE REGION.

TYPE OF CROP	AREA (000' HA)	S.E. (000' HA)	C.V. (%)	PRODUCTION (000' QT)	S.E. (000' QT)	C.V. (%)
TEFF	-	-	-	-	-	-
BARELY	**	**	**	**	**	**
WHEAT	**	**	**	**	**	**
MAIZE	4.24	1.39	32.70	69.33	52.05	25.62
SORGHUM	**	**	**	**	**	**
MILLET	-	-	-	-	-	-
OATS	-	-	-	-	-	-
HORSEBEANS	-	-	-	-	-	-
FIELDPEAS	-	-	-	-	-	-
HARICOTBEANS	-	-	-	-	-	-
CHICKPEAS	-	-	-	-	-	-
LENTILS	-	-	-	-	-	-
VECTH	-	-	-	-	-	-
NEUG	-	-	-	-	-	-
LINSEED	-	-	-	-	-	-
RAPESEED	-	-	-	-	-	-
GROUNDNUTS	**	**	**	**	11.38	**
SUNFLOWER	-	-	-	-	-	-
SEASAME	-	-	-	-	-	-
FENUGREEK	-	-	-	-	-	-

Abbreviations.

S.E. = Standard Error

C.V. = Coefficient of Variation

- Insignificant or not available

ESTIMATES OF AREA, PRODUCTION, STANDARD ERROR AND COEFFICIENT OF VARIATION  
FOR MAJOR BELG SEASON CROPS, BENSANGUL - GUMUZ REGION.

TYPE OF CROP	AREA (000' HA)	S.E. (000' HA)	C.V. (%)	PRODUCTION (000' QT)	S.E. (000' QT)	C.V. (%)
TEFF	-	-	-	-	-	-
BARELY	-	-	-	-	-	-
WHEAT	-	-	-	-	-	-
MAIZE	0.28	0.13	45.16	1.54	4.04	40.09
SORGHUM	-	-	-	-	-	-
MILLET	-	-	-	-	-	-
OATS	-	-	-	-	-	-
HORSEBEANS	-	-	-	-	-	-
FIELDPEAS	-	-	-	-	-	-
HARICOTBEANS	6.62	2.58	38.96	**	**	**
CHICKPEAS	-	-	-	-	-	-
LENTILS	-	-	-	-	-	-
VECTH	-	-	-	-	-	-
NEUG	-	-	-	-	-	-
LINSEED	-	-	-	-	-	-
RAPESEED	-	-	-	-	-	-
GROUNDNUTS	-	-	-	-	-	-
SUNFLOWER	-	-	-	-	-	-
SEASAME	-	-	-	-	-	-
FENUGREEK	-	-	-	-	-	-

ESTIMATES OF AREA, PRODUCTION, STANDARD ERROR AND COEFFICIENT OF VARIATION  
FOR MAJOR BELG SEASON CROPS, S.N.N.P REGION.

TYPE OF CROP	AREA (000' HA)	S.E. (000' HA)	C.V. (%)	PRODUCTION (000' QT)	S.E. (000' QT)	C.V. (%)
TEFF	6.12	1.04	17.02	26.05	6.47	21.93
BARELY	9.18	1.98	21.59	80.14	27.30	31.43
WHEAT	1.21	0.31	25.66	3.45	2.53	43.59
MAIZE	143.83	15.14	10.52	1951.85	398.08	17.81
SORGHUM	14.96	2.45	16.36	86.73	24.82	23.93
MILLET	0.65	0.24	36.08	**	**	**
OATS	-	-	-	-	-	-
HORSEBEANS	**	**	**	**	**	**
FIELDPEAS	**	**	**	**	**	**
HARICOTBEANS	17.88	3.68	20.58	68.57	19.82	23.96
CHICKPEAS	**	**	**	**	**	**
LENTILS	-	-	-	-	-	-
VECTH	-	-	-	-	-	-
NEUG	**	**	**	-	-	-
LINSEED	-	-	-	-	-	-
RAPESEED	**	**	**	-	-	-
GROUNDNUTS	-	-	-	-	-	-
SUNFLOWER	-	-	-	-	-	-
SEASAME	-	-	-	-	-	-
FENUGREEK	-	-	-	-	-	-

Abbreviations.

S.E. = Standard Error

C.V. = Coefficient of Variation

- Insignificant or not available

ESTIMATES OF AREA, PRODUCTION, STANDARD ERROR AND COEFFICIENT OF VARIATION  
FOR MAJOR BELG SEASON CROPS, GAMBELA REGION.

TYPE OF CROP	AREA (000' HA)	S.E. (000' HA)	C.V. (%)	PRODUCTION (000' QT)	S.E. (000' QT)	C.V. (%)
TEFF	-	-	-	-	-	-
BARELY	-	-	-	-	-	-
WHEAT	-	-	-	-	-	-
MAIZE	1.22	0.58	47.72	11.08	12.16	41.03
SORGHUM	**	**	**	**	**	**
MILLET	-	-	-	-	-	-
OATS	-	-	-	-	-	-
HORSEBEANS	-	-	-	-	-	-
FIELDPEAS	-	-	-	-	-	-
HARICOTBEANS	-	-	-	-	-	-
CHICKPEAS	-	-	-	-	-	-
LENTILS	-	-	-	-	-	-
VECTH	-	-	-	-	-	-
NEUG	-	-	-	-	-	-
LINSEED	-	-	-	-	-	-
RAPESEED	-	-	-	-	-	-
GROUNDNUTS	-	-	-	-	-	-
SUNFLOWER	-	-	-	-	-	-
SEASAME	-	-	-	-	-	-
FENUGREEK	-	-	-	-	-	-

ESTIMATES OF AREA, PRODUCTION, STANDARD ERROR AND COEFFICIENT OF VARIATION  
FOR MAJOR BELG SEASON CROPS, HARARI REGION.

TYPE OF CROP	AREA (000' HA)	S.E. (000' HA)	C.V. (%)	PRODUCTION (000' QT)	S.E. (000' QT)	C.V. (%)
TEFF	-	-	-	-	-	-
BARELY	-	-	-	-	-	-
WHEAT	-	-	-	-	-	-
MAIZE	0.02	0.00	15.03	**	**	**
SORGHUM	-	-	-	-	-	-
MILLET	-	-	-	-	-	-
OATS	-	-	-	-	-	-
HORSEBEANS	-	-	-	-	-	-
FIELDPEAS	-	-	-	-	-	-
HARICOTBEANS	0.87	0.10	11.19	1.12	0.18	16.05
CHICKPEAS	-	-	-	-	-	-
LENTILS	-	-	-	-	-	-
VECTH	-	-	-	-	-	-
NEUG	-	-	-	-	-	-
LINSEED	-	-	-	-	-	-
RAPESEED	-	-	-	-	-	-
GROUNDNUTS	-	-	-	-	-	-
SUNFLOWER	-	-	-	-	-	-
SEASAME	-	-	-	-	-	-
FENUGREEK	-	-	-	-	-	-

Abbreviations.

S.E. = Standard Error

C.V. = Coefficient of Variation

- Insignificant or not available

ESTIMATES OF AREA, PRODUCTION, STANDARD ERROR AND COEFFICIENT OF VARIATION  
FOR MAJOR BELG SEASON CROPS, ADDIS ABABA REGION.

TYPE OF CROP	AREA (000' HA)	S.E. (000' HA)	C.V. (%)	PRODUCTION (000' QT)	S.E. (000' QT)	C.V. (%)
TEFF	-	-	-	-	-	-
BARELY	**	**	**	**	**	**
WHEAT	-	-	-	-	-	-
MAIZE	-	-	-	-	-	-
SORGHUM	-	-	-	-	-	-
MILLET	-	-	-	-	-	-
OATS	-	-	-	-	-	-
HORSEBEANS	-	-	-	-	-	-
FIELDPEAS	-	-	-	-	-	-
HARICOTBEANS	-	-	-	-	-	-
CHICKPEAS	-	-	-	-	-	-
LENTILS	-	-	-	-	-	-
VECTH	-	-	-	-	-	-
NEUG	-	-	-	-	-	-
LINSEED	-	-	-	-	-	-
RAPESEED	-	-	-	-	-	-
GROUNDNUTS	-	-	-	-	-	-
SUNFLOWER	-	-	-	-	-	-
SEASAME	-	-	-	-	-	-
FENUGREEK	-	-	-	-	-	-

ESTIMATES OF AREA, PRODUCTION, STANDARD ERROR AND COEFFICIENT OF VARIATION  
FOR MAJOR BELG SEASON CROPS, DIRE DAWA REGION.

TYPE OF CROP	AREA (000' HA)	S.E. (000' HA)	C.V. (%)	PRODUCTION (000' QT)	S.E. (000' QT)	C.V. (%)
TEFF	-	-	-	-	-	-
BARELY	-	-	-	-	-	-
WHEAT	-	-	-	-	-	-
MAIZE	0.32	0.08	26.48	0.65	0.33	49.74
SORGHUM	**	**	**	**	**	**
MILLET	-	-	-	-	-	-
OATS	-	-	-	-	-	-
HORSEBEANS	-	-	-	-	-	-
FIELDPEAS	-	-	-	-	-	-
HARICOTBEANS	-	-	-	-	-	-
CHICKPEAS	-	-	-	-	-	-
LENTILS	-	-	-	-	-	-
VECTH	-	-	-	-	-	-
NEUG	-	-	-	-	-	-
LINSEED	-	-	-	-	-	-
RAPESEED	-	-	-	-	-	-
GROUNDNUTS	-	-	-	-	-	-
SUNFLOWER	-	-	-	-	-	-
SEASAME	-	-	-	-	-	-
FENUGREEK	-	-	-	-	-	-

Abbreviations.

S.E. = Standard Error

C.V. = Coefficient of Variation

- Insignificant or not available

## References

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