

DEPARTMENT of AGRICULTURE, FORESTRY and FISHERIES

CROP ESTIMATES HOW, WHEN AND WHY?

Agrinet Workshop

15 May 2017



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Agriculture, Forestry and Fisheries
REPUBLIC OF SOUTH AFRICA



Crop Estimates Committee
Oesskattingskomitee

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1. CONDUCTING CROP ESTIMATES

WHO?

- In South Africa the Crop Estimates Committee (CEC) is responsible for the official crop forecasts and estimates of summer and winter field crops for the country.
- The CEC functions under the auspices of the Department of Agriculture, Forestry and Fisheries (DAFF).

WHAT?

- The summer crops for which forecasts and estimates are done are maize, sorghum, groundnuts, sunflower seed, soybeans, and dry beans.
- The winter crops for which forecasts are done are wheat, malting barley and canola.

Area planted, production and intentions



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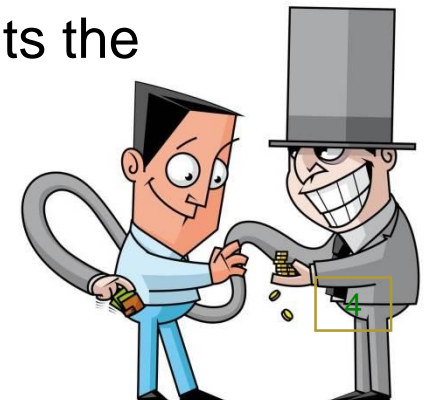
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1. CONDUCTING CROP ESTIMATES

WHY?

- ✓ Crop forecasts are primarily undertaken to give an early indication of the expected production of grains to decision-makers in the agricultural sector.
- ✓ This information is of critical importance to all role-players in the grain industry in order to plan and make informed decisions for the trading, transport, storage and marketing of the crops.
- ✓ A reliable crop estimate ensures that buyers and sellers have equal bargaining powers and eliminates unfair advantage.
- ✓ The forecast is also extremely important because it prevents the spreading of rumours aimed at market manipulation and unfair price-influencing.



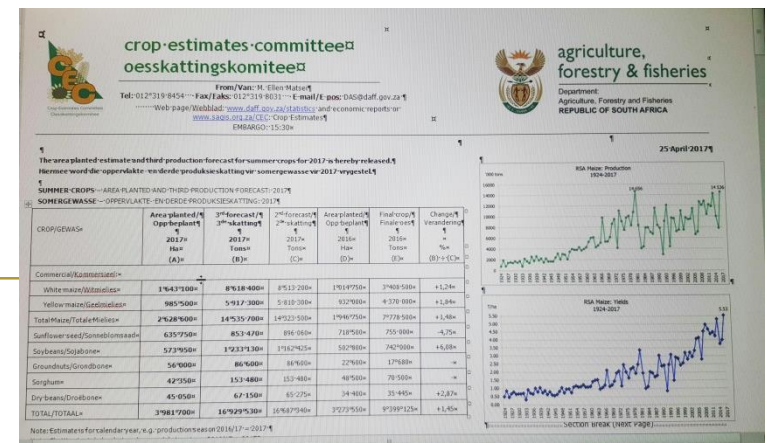
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1. CONDUCTING CROP ESTIMATES

WHEN?

- ✓ Forecasts are published monthly – between 25th and 28th of a month.
 - ❑ Release time: 15:30
 - ❑ Website, media houses, e-mail, sms, newsletters
- ✓ Releases the area and production figures for each of the crops on a provincial and national level.
- ✓ Final production estimates are released at the end of the season
(Feb – summer crops and May – winter crops).



2. COMPOSITION OF THE CEC

No person with an interest in buying and selling of grains is allowed to serve on the Committee!!

- **DEPARTMENT OF AGRIC, FORESTRY AND FISHERIES**

- Chairperson and Secretariat

DAFF

- **PROVINCIAL DEPARTMENTS OF AGRICULTURE**

- 9 Representatives

PDA's

- **ARC**

- ISCW
- SGI
- GCI

ARC

- **STATS SA**

Stats SA

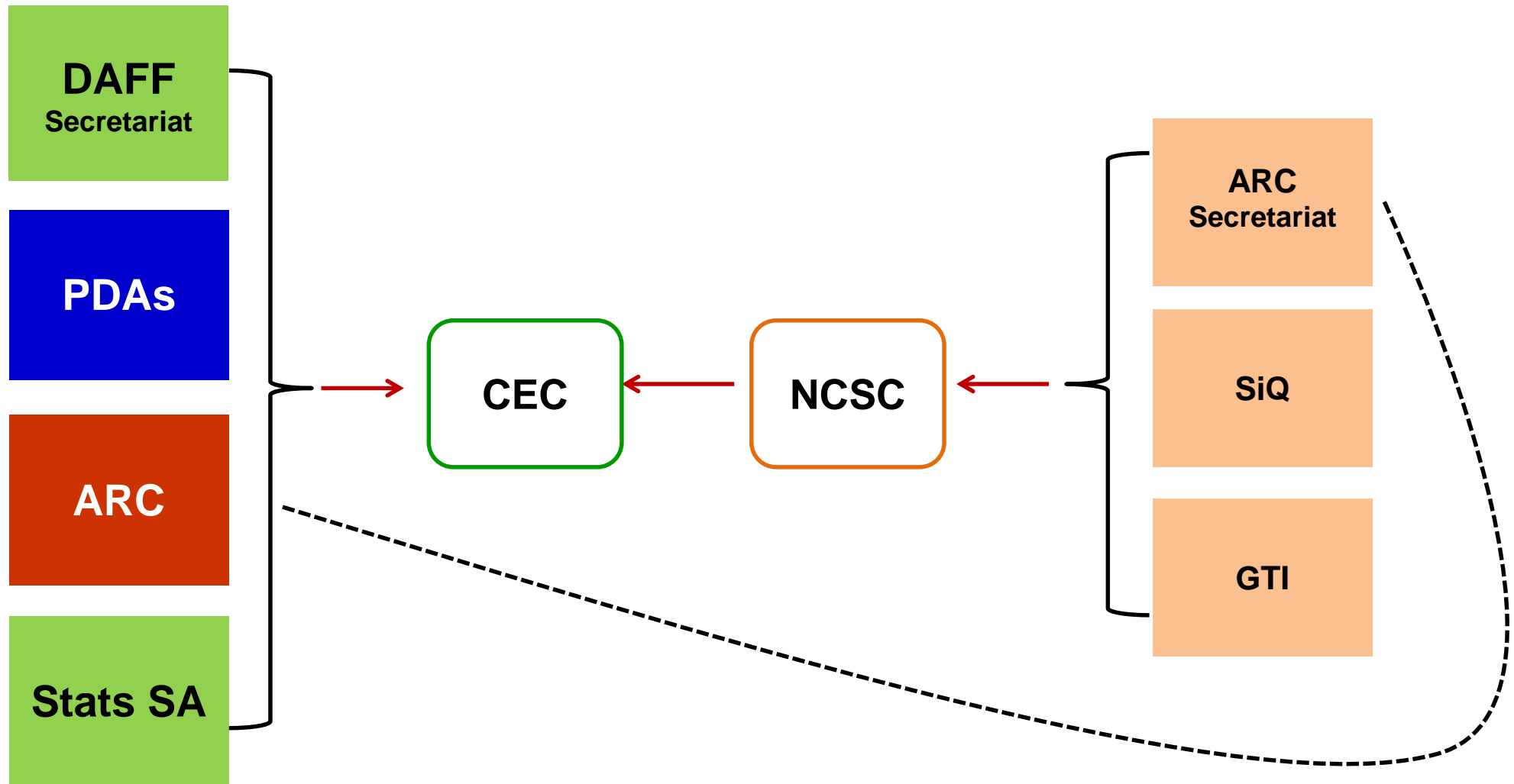
Information is also received from various organisations and institutions which is NOT PART OF THE CEC



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2. COMPOSITION OF THE CEC - + CONSULTANT



3. CURRENT METHODOLOGIES FOR FORECASTING – DATA INPUT SUPPLIERS

METHOD:	SOURCE:
A-LINE (Scientific/Statistical/ Objective surveys)	<ul style="list-style-type: none"> • National Crop Estimates Consortium <ul style="list-style-type: none"> ✓ PICES ✓ Telephonic survey (Farmers) • SAGIS (actual deliveries – later in the season)
B-LINE Non-probability surveys/ Crop Modelling	<ul style="list-style-type: none"> • DAFF (Farmers) • ARC-IDSS Model
C-LINE (Own observations/ surveys/calculations)	<ul style="list-style-type: none"> • PDA representatives • Reports • Forums • Agbiz Grain

A-line: Determine the area and production/yield (90%)

B- and C-line: Evaluate/verify inputs from A-line



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A-LINE INPUTS

	AREA	YIELD	PRODUCTION
A-line	NCSC:PICES (obj) & Telephonic survey (subj)	NCSC: Obj field surveys & Telephonic survey	SAGIS (end of season)

Arial Survey: A new earth observation methodology, designed to objectively and accurately determine the area under summer and winter grain crops has been developed in South Africa.

A micro-light aircraft is used to survey selected points throughout the country. The aircraft is equipped with a sophisticated Global Positioning System (GPS) that allows for the easy capturing of field crop data.



Telephonic Survey: Estimates of planted area and area expected to be harvested are derived using data collected via telephone from a sample (probability sample) of farmers shortly after planting has been completed. Farmers have to indicate the area planted for each crop on his/her farm.



A-LINE INPUTS

	AREA	YIELD	PRODUCTION
A-line	NCSC:PICES (obj) & Telephonic survey (subj)	NCSC: Obj field surveys & Telephonic survey	SAGIS (end of season)

Telephonic Survey: Estimates of expected yields are derived using data collected via telephone from a sample (probability sample) of farmers during February and March (summer crops) and during August and September (winter crops). Farmers have to indicate the expected yield for each crop on his/her farm.



Objective Yield Surveys: Samples of fields are selected from the fields identified as having the crops of interest during the planted area surveys. In the case of maize, five (5) and for wheat three (3) small plots are randomly located in the selected fields, and counts and measurements of various physiological characteristics are made on the plants in each plot. Done once/season in main provinces.

SAGIS: Reports on actual producer deliveries.

SAGIS South African Grain Information Services NPC
Suid-Afrikaanse Graaninligtingsdiens NWM
Reg no. 1997/01918/06



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B-LINE INPUTS

	AREA	YIELD	PRODUCTION
B-line	DAFF	DAFF ARC-Modelling	DAFF

Postal Survey: Another important input to the Committee is the subjective opinion of producers.

Data on the area planted, as well as a farmers' opinion on his expected production is collected from a non-probability sample survey (postal and e-mail survey) to estimate the average yields of summer and winter crops.

Considering current crop and weather conditions, each farmer in the sample reports the "expected production" for each crop on his/her farm.

Yield is a function of the expected production / area planted!!



B-LINE INPUTS

	AREA	YIELD	PRODUCTION
B-line	DAFF	DAFF ARC-Modelling	DAFF

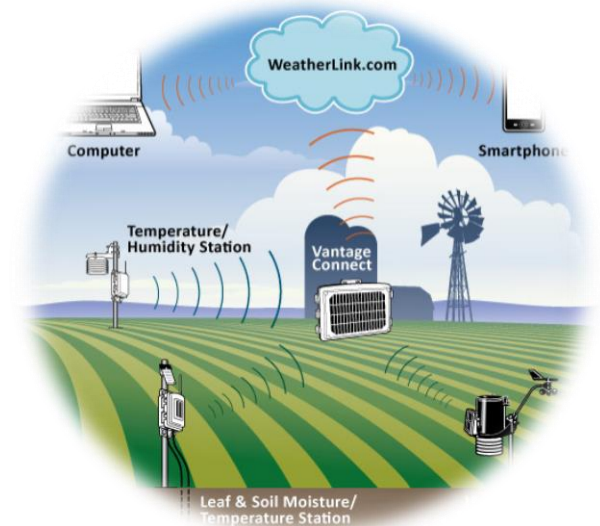
Integrated-Decision Support System – Yield Estimates Model:

Done by ARC Institute for Grain Crops

Various factors are used in this model, such as:

- available soil moisture for planting
- temperature
- rainfall
- type of cultivars planted
- other production inputs

to determine the possible yield (tons/ha)



C-LINE INPUTS

	AREA			YIELD			PRODUCTION		
C-line	Risk-specialists	DPO	Fertiliser Comp's	Financial Institut's	Forums	Agric Businesses	PDAs	SACOTA	Traders/ Reports

PDAs assess local conditions and have direct consultations with farmers and farmers study groups.

Own observations regarding weather conditions, crop conditions (phonological stages), crop pests and diseases are also made.

They have a network of contacts from which information is obtained on areas planted and yields. This network may include agric businesses, seed companies, producers' organisations and large-scale farmers.

Agric businesses: A questionnaire is sent monthly to the various companies to update with latest area planted and production statistics.



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4. CROP ESTIMATES LIAISON COMMITTEE (CELC)

CELC is regarded as the WATCHDOG OVER ACTIVITIES OF CEC

ALL ROLE-PLAYERS IN INDUSTRY

SAGIS

Agbiz Grain

SACOTA

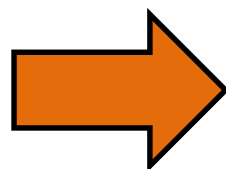
JSE (SAFEX)

Grain SA

Processors (AFMA)

Forums

Members of the CEC



ROLE

1. Defining role/Functions
2. Composition
3. Evaluate results
4. Do recommendations on:
 - ✓ Current methodologies
 - ✓ New methodologies
 - ✓ Research



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5. EVALUATION OF RESULTS

After the production season has been completed, the size of the crops are being finalised at the CELC meeting.

SAGIS: Actual producer deliveries as basis

Summer crops: February

AND

Winter crops: May

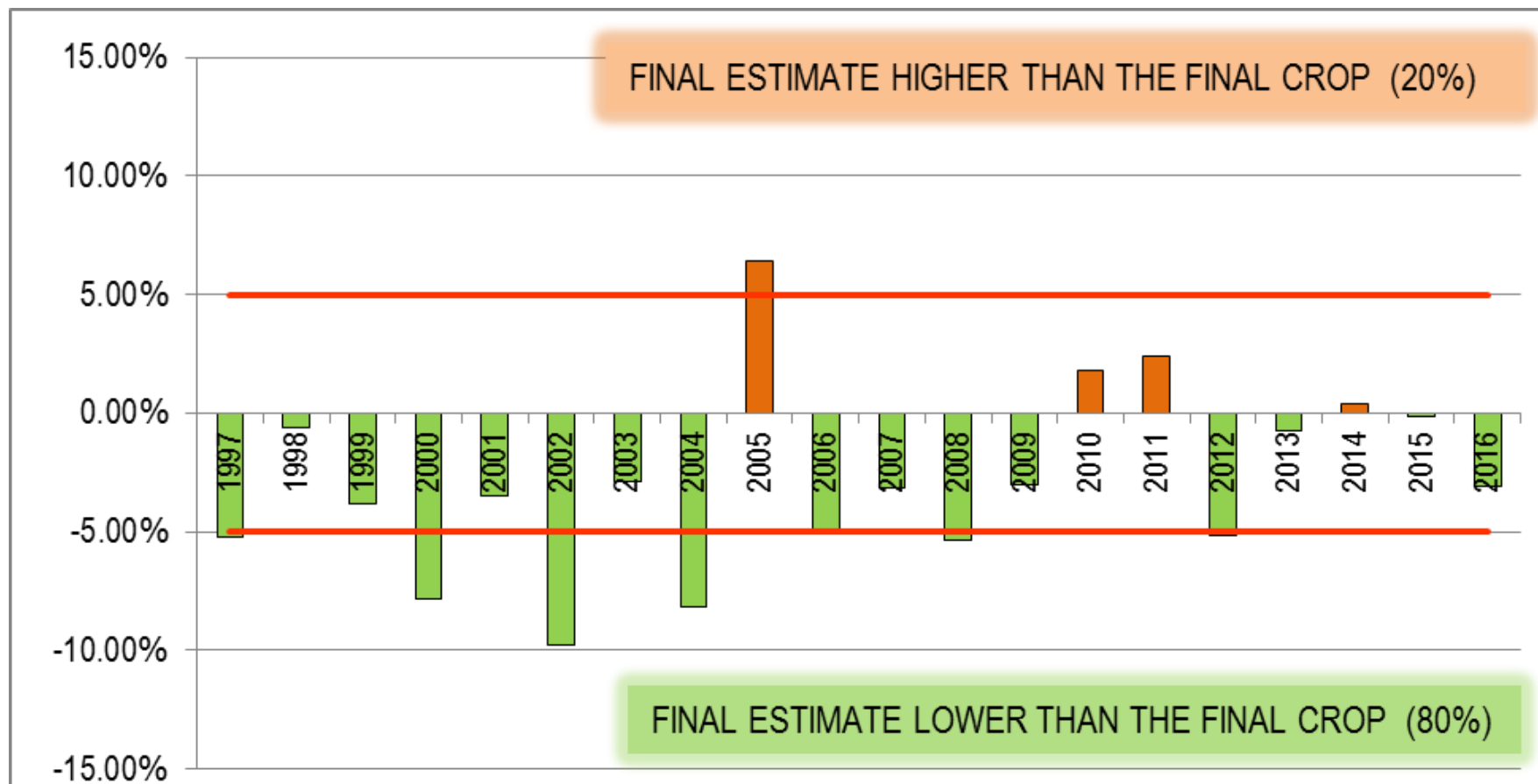
FINALISATION CAN BE SUMMARISED AS FOLLOWS:

TOTAL CROP	=	DELIVERIES	+	RETENTIONS ON FARM
		(SAGIS)		(SURVEYS BY DAFF & NCSC)



6. ACCURACY OF CROP ESTIMATES?

MAIZE:

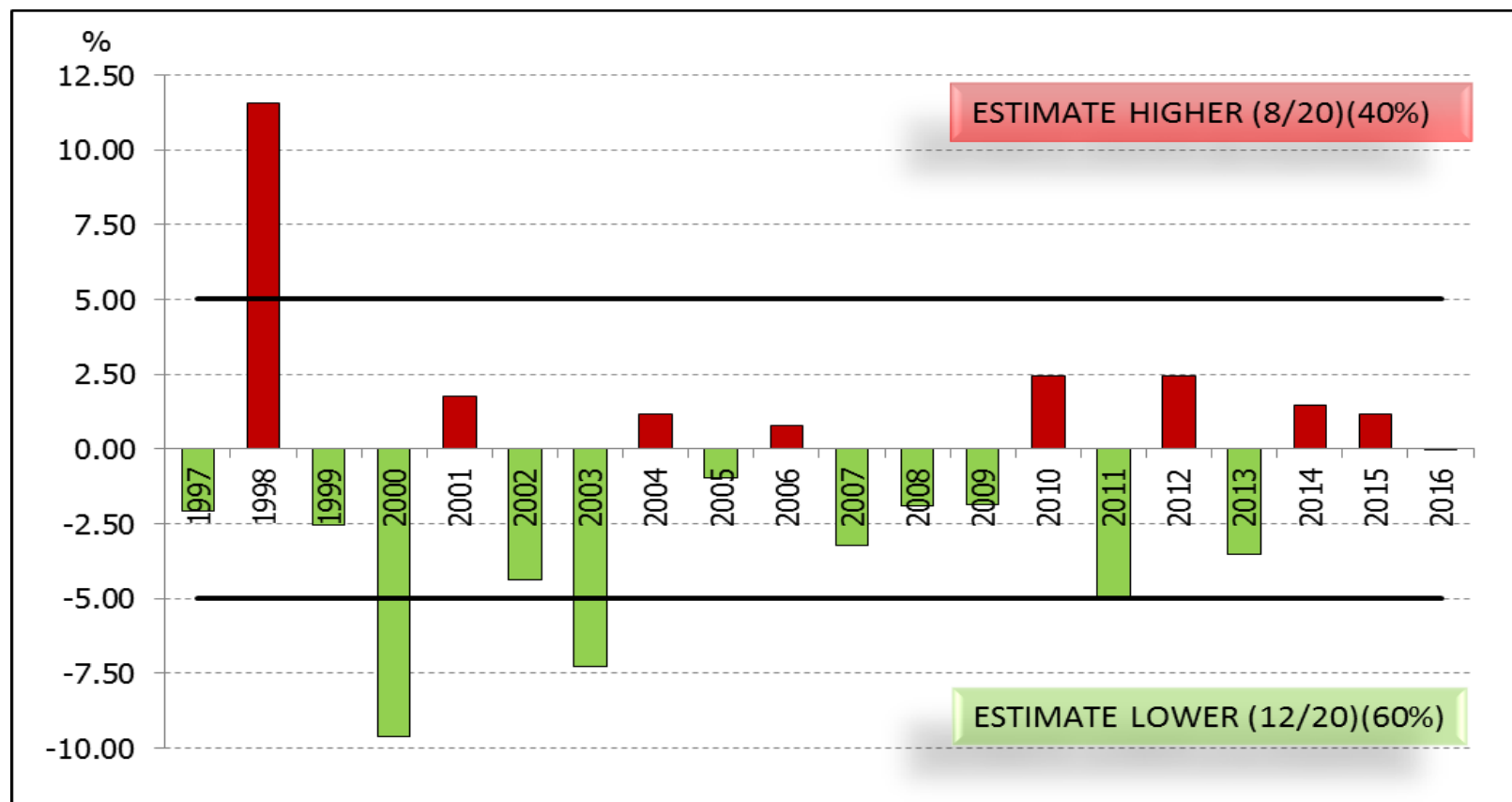


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6. ACCURACY OF CROP ESTIMATES?

WHEAT:



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Thank You



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