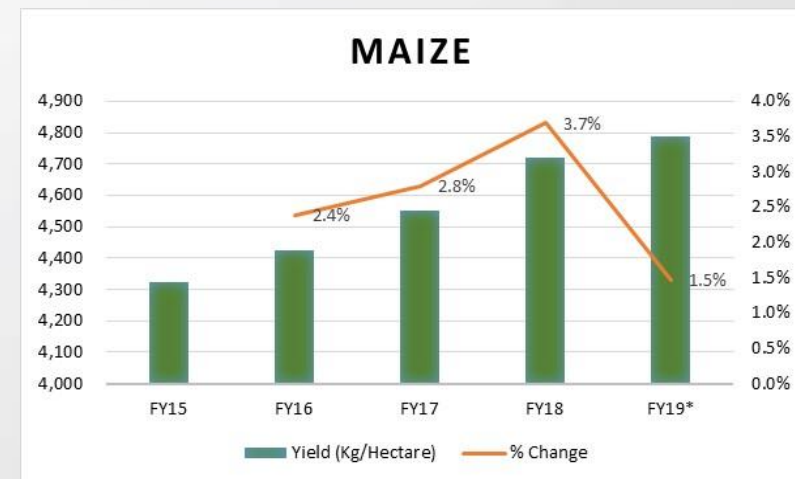
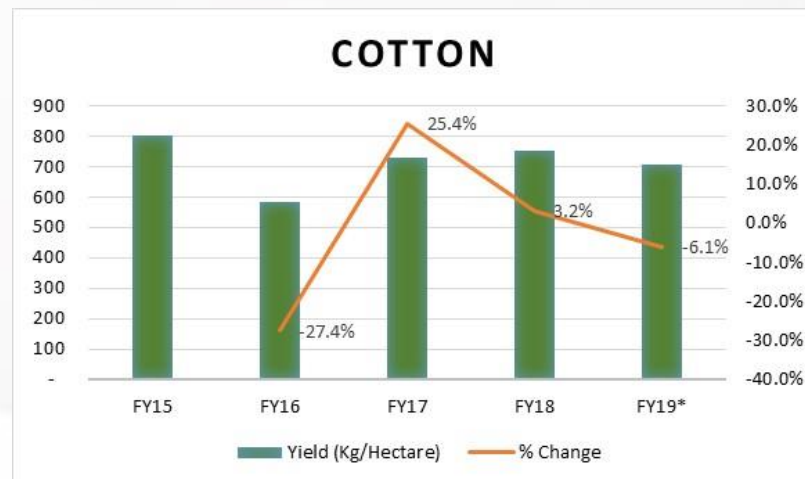
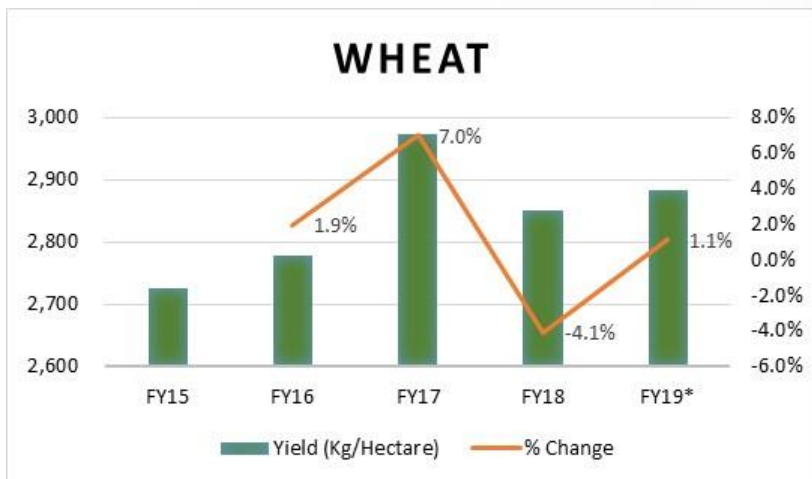
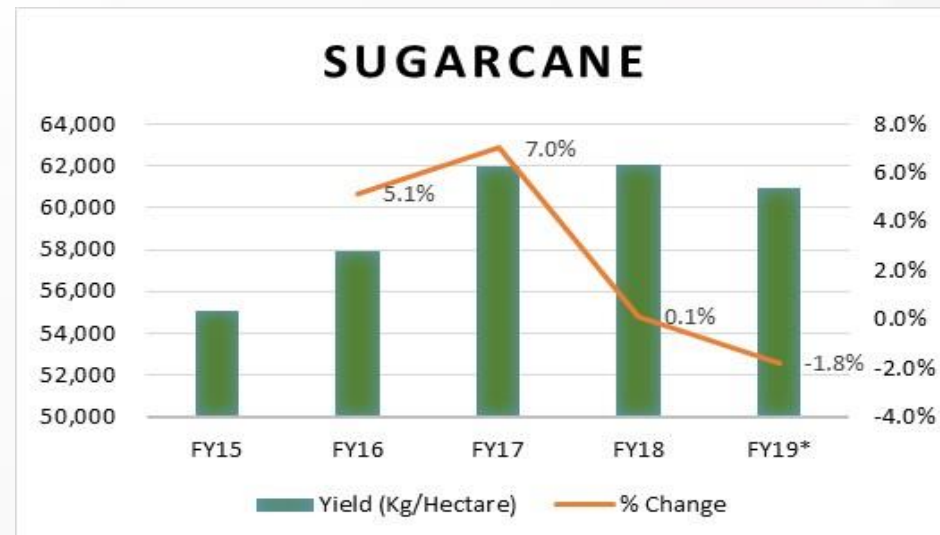
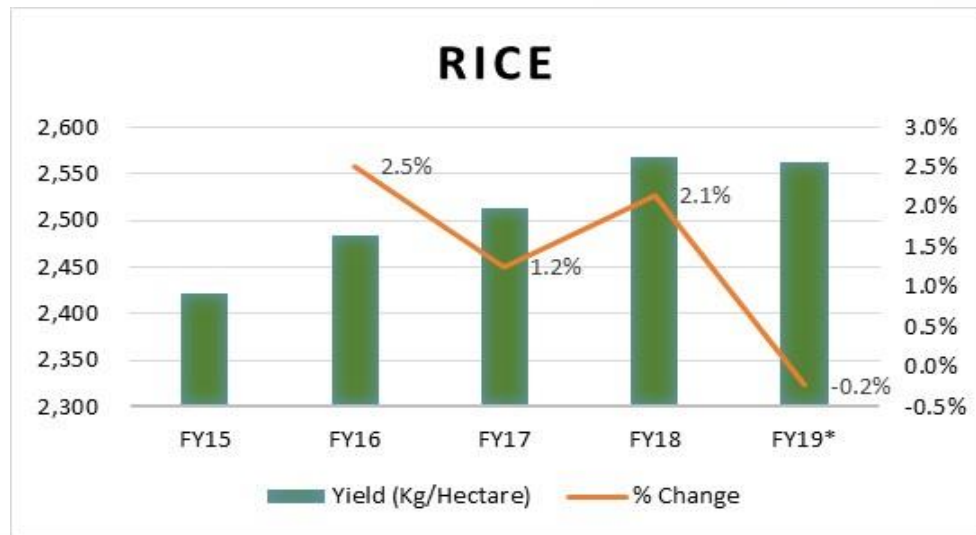


PESTICIDES SECTOR ANALYSIS



February, 2020



*FY19 refers to Provisional July-March data
 1 Hectare = 2.47105 Acres.

CROP INPUTS

- Agriculture contributes ~19% to the GDP of Pakistan (FY19), while crops make up ~35% of the share in agriculture.
- Key Crop Inputs are those inputs that are necessary for the growth, development and protection of crops. These include seeds, fertilizers & pesticides.
- Major crops in Pakistan are Wheat, Rice, Cotton, Sugarcane and Maize.
- Mix of Input varies from crop to crop.

Seeds



Market Size: Approx. PKR~200bIn

Fertilizers



Market Size: Approx. PKR~320bIn

Pesticides

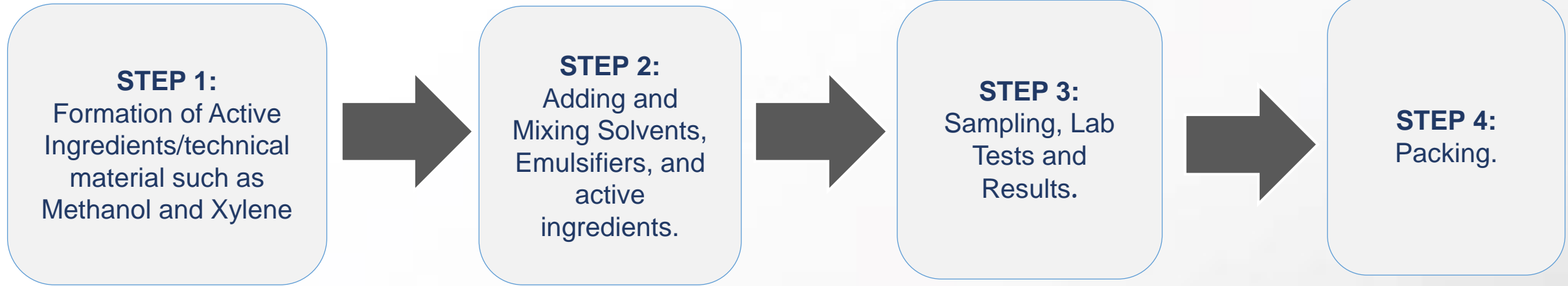


Market Size: Approx. PKR~65bIn

Overheads

Seeds and Fertilizers are two major crop inputs that are composed of separate market players. In Seeds Market, dominant players include Pioneer Seeds, ICI Pakistan and Hybrid Importers like Guard Rice, Auriga Group etc. Fertilizer Market is ruled by the three groups – Engro, Fauji and Fatima.

Pesticides Market is referred to as “**Crop Protection Market**”. It includes synthetic agro-chemicals and bio pesticides used for preventing the destruction of crops by pests, diseases and weeds.



Cost Component:
80-90-%
This Process is not carried out in Pakistan and all active ingredients are imported, majorly from China

Cost Component:
10-20-%
Pesticides can be grouped as Emulsifiable Concentrate (EC) or Suspension Concentrate (SC). Both can be in liquid form, powder or granules. Both groups are differentiated based on their method of mixing.

In Pakistan, approximately 90% of pesticides are imported in raw form and then further formulated, while only a maximum of 10% are imported as final product in the country as custom duties on finished products are very high.

Size of Crop Protection Market (Pesticides) –
PKR~65-70bln

Costs – Heavily Import dependent market with major cost Input being imported from China

Emergence – Pesticides business was initially brought into the country through Foreign Companies.

Growth Factors –
Growing food demand & low agricultural productivity.

- Challenges –**
- Reduced Cotton Production in FY19
 - Rising costs of imported component.
 - Slower Supply due to outbreak of Coronavirus in China.



By Usage:

Insecticides: Substances/Chemicals used to kill Insects. They comprise approx. ~60% of the pesticide market in Pakistan, as cotton, being prone to insect attacks, is the most pesticide-intensive crop in the Country.

Herbicides: also known as weed killers, are substances used to control unwanted plants. These account for almost ~30% of the pesticides market.

Fungicides: are chemicals that destroy fungus. These contribute up to ~10% of the pesticides application in Pakistan.



By Application:

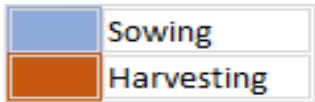
Liquid: Around 70-75 percent of the pesticides are applied to the crops in liquid form.

Powder: 10-20 percent are used in powder form mixed with other dissolvers.

Granular: pesticides are applied only to maize, rice and sugarcane crops (in addition to liquid form) and account for 10-15 percent of pesticide application.

PESTICIDES | CROP WISE APPLICATION

Crop Calender	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Cotton				Sowing	Sowing					Harvesting	Harvesting	
Wheat				Harvesting	Harvesting	Harvesting			Sowing	Sowing	Sowing	
Maize (Spring)		Sowing				Harvesting	Harvesting					
Maize (Normal)						Sowing	Sowing			Harvesting	Harvesting	
Rice						Sowing			Harvesting	Harvesting	Harvesting	
Sugarcane (Autumn)*									Sowing	Harvesting	Harvesting	
Sugarcane (Spring)		Sowing	Sowing								Harvesting	Harvesting



Pesticides Application**

Cotton – 60% - 65%

Wheat & Pulses – 10-14%

Rice – 10% - 12%

Vegetables and Other Crops – 12%

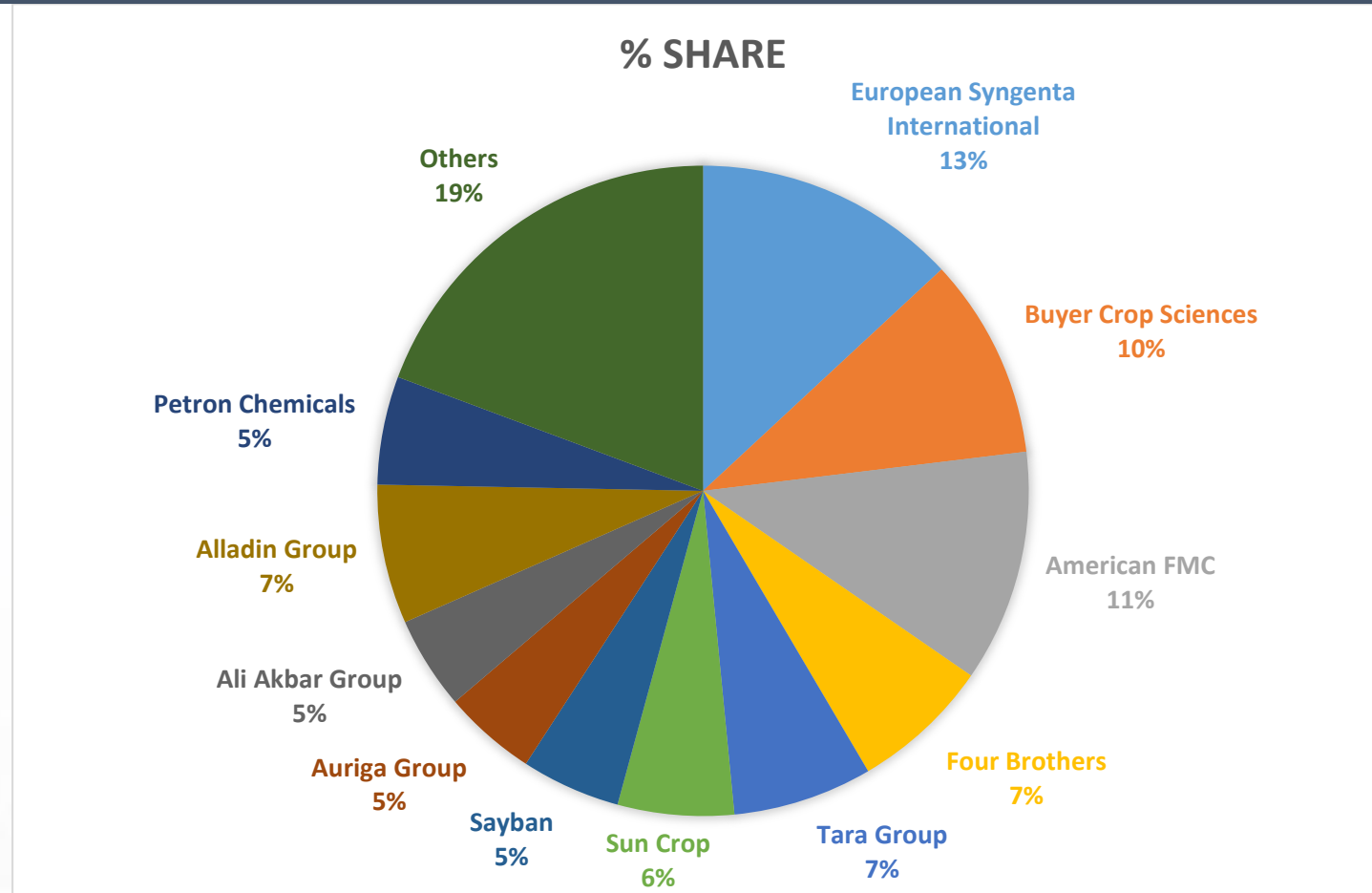
*Sugarcane autumn cycle extends to a year and the Oct – Nov harvesting period represents the next year’s months.

**Pesticides application is based on estimates provided through Client database.

- Cotton is considered as life line of the economy of Pakistan.
- It has 0.8% Share in GDP and contributes 4.5% in agricultural value addition.
- Cotton crop is, however, prone to significant challenges, most important of which is unfavorable International prices.
- During FY19, contraction in the cultivated area of cotton by ~12% resulted in a reduced cotton production. Production was recorded at 9.8mln bales (down by ~18% YoY) resulting in a gap of ~32% from the target of 14.4mln bales.
- During the sowing season of cotton cycle, usage of pesticide is at peak. However, use of pesticides continues before, during and after sowing till the product is ready.

- Traditionally, cost of cotton crop hovers in the range PKR70,000 –PKR73,000/acre. Estimated distribution of costs is stated below.
- With increasing input costs and reduced yield, profitability on production of cotton has been negatively impacted.

Cotton Inputs Per Acre	Percentage of Cost
Cultivated Land Rentals	27%
Crop Irrigation	17%
Cotton Picking	14%
Fertilizer	12%
Labour Cost	11%
Pesticides	10%
Tractor Cost	6%
Seeds	3%
	100%



- Pesticide market value is estimated around PKR~60-70bln.
- Market comprises MNCs and local Companies. MNCs include European Syngenta International, Buyer Crop Sciences and American FMC.
- Major players (11) make up ~80-85% of the total pesticide market.

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