PROBLEM SOLUTION FIT

1.We have founded some of the problem solution in crop yield production .

**\*changing of climate, agriculture faces increasing problems with extreme weather events leading to considerable yield losses of crops**.

\*Most often, crop plants are sensitive to stresses since they were mostly selected for high yield, and not for stress tolerance. Climate change is the result of global warming.

\*In addition, irrigation of agricultural crops comprises 70% of global water use, and agriculture directly contributes to around 11% of global greenhouse gas (GHG) emissions (mostly through cattle). Expanding agricultural land can also lead to deforestation, additional GHG emissions, and a loss of biodiversity.

2.Three major crop improvement

* Crop variety improvement.
* Crop production improvement.
* Crop protection management.

3.How do you overcome crop failure?



**Manual harvesting with machine threshing, combination of manual and machine power**. Machine harvesting with machine threshing and possible use of manual power. Combine harvesting in which all harvesting operations are done with combine, no need for manual power.

4.Factors that influence crop yield

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There are a variety of factors associated with crop yield and the risks involved with farming. The four most important factors that influence crop yield are soil fertility, availability of water, climate, and diseases or pests. These factors can pose a significant risk to farms when they are not monitored and managed correctly. While Omnia Fertilizer specialises in Nutriology® (*The science of growing*) in order to increase crop yield and to decrease risk, it is still important to understand exactly what influences crop yield and the risks involved.

* There are 18 nutrients that are essential for proper crop development. Each is equally important to the plant, although they are required in vastly different amounts. These differences have led to the grouping of these essential elements into macro and micro nutrients. The function of nutrients in plants is complex and includes process like root, shoot, leaf and fruit development, production of proteins, hormones and chlorophyll, photosynthesis, etc. Soil is a major source of these nutrients to plants and soil fertility (or nutrient content) can therefore have a profound impact on crop production. The absence of any one of these nutrients has the potential to decrease crop yield by negatively affecting the associated growth factor.
* While it may seem obvious, the availability of water has a direct impact on crop yield and profitability can therefore vary widely due to the highly variable nature of precipitation, both in timing and amount. Too little precipitation can cause crops to wither and die, whereas excessive rainfall (especially when it follows irrigation) will also have adverse effects on crop growth.  When crops are over-irrigated, water, energy, labour, and fertiliser are wasted and crop production can decrease.
* Perhaps one of the most overlooked (but nonetheless important) factors that influences crop production is climate. Climatic conditions extend beyond just “wet” and “dry”.  While annual precipitation is an important aspect of climate, there are other aspects to consider as well, such as humidity, temperature, wind, increased prevalence of pests during certain climate conditions, and weather patterns. South Africa’s climate varies from region to region and each is associated with certain plants or crops. Planting crops outside the specific climatic region that they are adapted to will negatively impact crop yield. Erratic weather patterns also pose an immense risk to crops, as they can cause extensive damage to crops and may create highly favourable conditions for certain pests and weeds to thrive.
* One final factor that influences crop yield is the presence of pests and diseases. They come in a plethora of shapes and sizes and may cause damage in a number of ways. Besides the direct damaging effect on crops, certain pests (like plant parasitic nematodes) can also cause harm in other ways, such as damaging plant roots (therefore altering the water and nutrient uptake capability of the plant. This can also cause plants to be more susceptible to other diseases.

## 5.What kind of problems do farmers face?

Farmers need to deal with many problems, including how to:

* Cope with climate change, soil erosion and biodiversity loss
* Satisfy consumers’ changing tastes and expectations
* Meet rising demand for more food of higher quality
* Invest in farm productivity
* Adopt and learn new technologies
* Stay resilient against global economic factors
* Inspire young people to stay in rural areas and become future farmers

## 6.Farmers must adapt to climate change

The effects of climate change affect farmers’ ability to grow the food we all need. Increasingly volatile weather and more extreme events – like floods and droughts – change growing seasons, limit the availability of water, allow weeds, pests and fungi to thrive, and can reduce crop productivity.

Soil erosion is reducing the amount of land available for agriculture, and declining biodiversity affects the pollination of crops. At the same time, farmers are under pressure to conserve water and use fewer agricultural inputs.

As they adapt to these changes, farmers also need to mitigate the greenhouse gas emissions contributed by agriculture through adopting climate-smart practices – a new learning journey for man

**Land**

Only 12% of the world’s land can be used for farming

**Water**

Farming uses 70% of the world’s fresh water

**Emissions**

Agriculture, forestry and other land use causes 23% of [**greenhouse gas emissions**](https://www.ipcc.ch/srccl/chapter/summary-for-policymakers/)

**Biodiversity**

[**84% of crop species**](https://royalsocietypublishing.org/doi/full/10.1098/rspb.2006.3721) in the European Union depend at least partly on pollination by wildlife

**70**%

MORE FOOD WILL BE NEEDED BY 2050 TO FEED A GROWING POPULATION

**80**%

OF FOOD FOR THE DEVELOPING WORLD IS PRODUCED BY SMALLHOLDERS

**700**%

HIGHER CROP YIELDS ARE PRODUCED IN NORTH AMERICA THAN IN SUB-SAHARAN AFRICA

**180,000**

PEOPLE LEAVE RURAL COMMUNITIES EVERY DAY TO LIVE IN CITIES

**7.Farmers face issues such as high costs of production and low returns, high taxes on agricultural raw material, etc.**

**Explanation:**

* Farmers face multiple problems at the present time.
* The most common problem being faced by farmers at present is the high rate of taxes that they have to give on the ROMaterial and fertilizers.
* Another issue is the lack of incentive by the government to help farmers.
* The farmers are also affected by the patterns of rainfall and environmental situations which are very bad and directly have a negative impact on the produce of agriculture.
* The farmers are getting violated at the hands of the middlemen and there is nothing that can save them from this violation as there is no law regarding middlemen in the market.







