

## Six Sigma in agricultural farms

Agriculture is the science, art or practice that deals with the production of plant and animal food, fiber or useful materials through the systematic cultivation of certain plants.

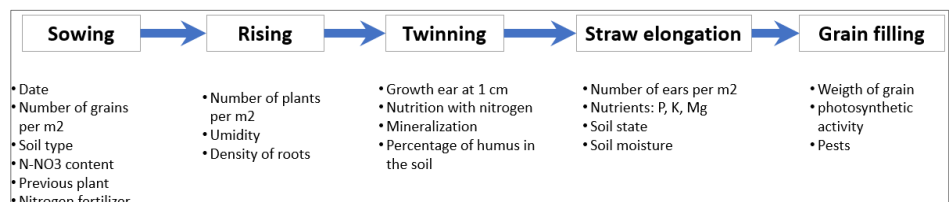
Most of the products we consume and use every day come from a farm, milk, bread, meat and wine, clothing and flowers. The quality of these products can be improved using Six Sigma. Six Sigma is a highly disciplined process that helps us focus on developing and delivering near-perfect products. Six Sigma is a data-driven systematic approach methodology **DMAIC** - Define, Measure, Analyze, Improve, Control to improve an existing process.



In agriculture, there are many parameters that can be measured: Soil type, previous plant, crop rotation, fertilizer application, tillage, seed treatment, the optimal time of sowing, optimal seeding density, crop maintenance works (irrigation, mechanization), storage and preservation, etc. Only food mentioned in the Our Father - the most important prayer of the Christian universe, the bread has a special importance for Romanian and beyond. Bread is a basic food produced by baking dough made from wheat flour mixed with water and yeast.

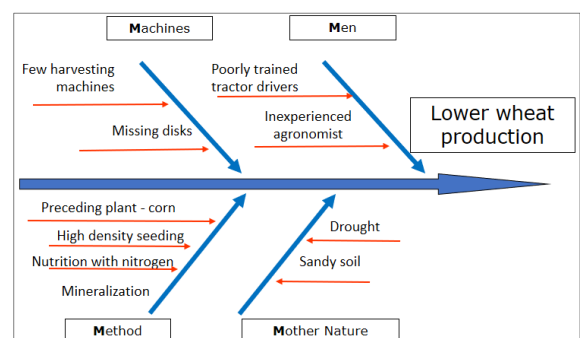
An example of a successful project in a farm is using Six Sigma is "increasing the amount of wheat grains harvested". Project was made because the production was only 3 MT per hectare.

The **Define** phase was studied process and the steps done, starting from sowing to the grain filling. Were not taken into consideration transportation, storage and delivery.



In **Measure** phase data were collected and were made links between parameters that could influence production. Identifying the factors of influence it was made with Ishikawa diagram.

In **Analyse** were found the root causes that were improper preceding plant (same wheat) and seed density too high (600 grains germinate / sqm).



Measures of Improvement were:

- ✓ Preceding plants – to be: peas, beans, lentils
- ✓ Seeding density was established 450-500 grains germinate / sqm.
- ✓ Agricultural engineer was sent to training

After implementation, next year was awarded a harvest of 4.72 per hectare.

We invite you to Six Sigma courses organized by Effective Flux to reap the benefits of this methodology.