



thyssenkrupp

Insights_Uhde



Ammonium Nitrate Fertilizer and why it is the preferred choice of European farmers

How to optimize ammonium nitrate fertilization and combine with soil structure improvement and decreased greenhouse gas emissions?
Granular ammonium nitrate and calcium ammonium nitrate fertilizer produced by thyssenkrupp plants is the solution.

Ammonium nitrate fertilizers are very efficient and produce less greenhouse gas emissions than other fertilizers. Half of the nitrogen in ammonium nitrate fertilizer is quick release nitrogen which is immediately available to the plants. The other half is slow release nitrogen to form an effective balance in plant nutrition. Calcium ammonium nitrate is the most popular straight nitrogen fertilizer in Europe.

Calcium Ammonium Nitrate (CAN) is a fertilizer with a nitrogen content of 25 - 28%. CAN fertilizer features great versatility as it can be applied to supply nitrogen to advance the growth of any plant. It is perfectly suited to the European acidic soil and colder weather conditions, which is why it is European farmer's preferred source of plant nutrition. The carbon footprint of CAN fertilizer per kilogram of product and per kilogram nitrogen delivered to the soil is amongst the lowest of any fertilizer product. This is how CAN helps producers reduce their emissions and enables them to comply with environmental laws and policies.

Benefits of Calcium

Calcium has a number of benefits for the plant as well as for the soil. It increases plant size and protects them from developing deformed leaves and buds. Furthermore, it aids farmers in protecting their soils due to calcium being an effective soil pH regulator and promoter of soil life.

At thyssenkrupp we have decades of experience in fertilizers. We provide technologies to produce a broad range of fertilizers.

- Nitrogen fertilizers, such as urea, ammonium nitrate, calcium ammonium nitrate (AN/CAN), urea ammonium nitrate (UAN) and ammonium sulfate (AS) as well as
- Phosphate fertilizers such as mono and di-ammonium phosphate (MAP/DAP) and the full range of other compound fertilizers with its main composition of nitrogen, phosphorus and potassium (NPK).

thyssenkrupp provides complete package EPC projects including technologies and is committed to safe and successful delivery of its plants with highest quality standards and ensures that the plants are operating fully complying with respective local environmental regulations.

The production of granular AN and CAN fertilizer is based on thyssenkrupp's uhde[®] Vacuum Neutralisation and uhde[®] Pugmill Granulation Process. AN solution is produced by neutralizing ammonia with nitric acid under utmost safe and reliable conditions. The key is the operation of the neutralization and evaporation section under partial vacuum at operating temperatures far below decomposition temperature. Thus no aerosols or decomposition products are generated. The DCS/ESD system will bring the plant in a safe status well before any unsafe situation can occur. Consequently, the AN Melt is fed into the granulation unit for the production of the final product. The result is solid AN/CAN granules.

The bottom line: Ammonium Nitrate and Calcium Ammonium Nitrate granules are an exceptional source of nitrogen due to the smart nitrogen balance. Besides the fertilization benefits it also benefits the

soil and the environment. Due to the low production emissions it helps producers to reduce their emissions and comply with environmental regulations. thyssenkrupp is a reliable partner in nitrogen fertilizers industry. thyssenkrupp offers a wide range of technologies in the nitrogen fertilizer industry to produce e.g. AN and CAN as well as UAN and AS fertilizer. thyssenkrupp stands for safe delivery, high quality and experience in technology and EPC and its strong commitment to the environment.
