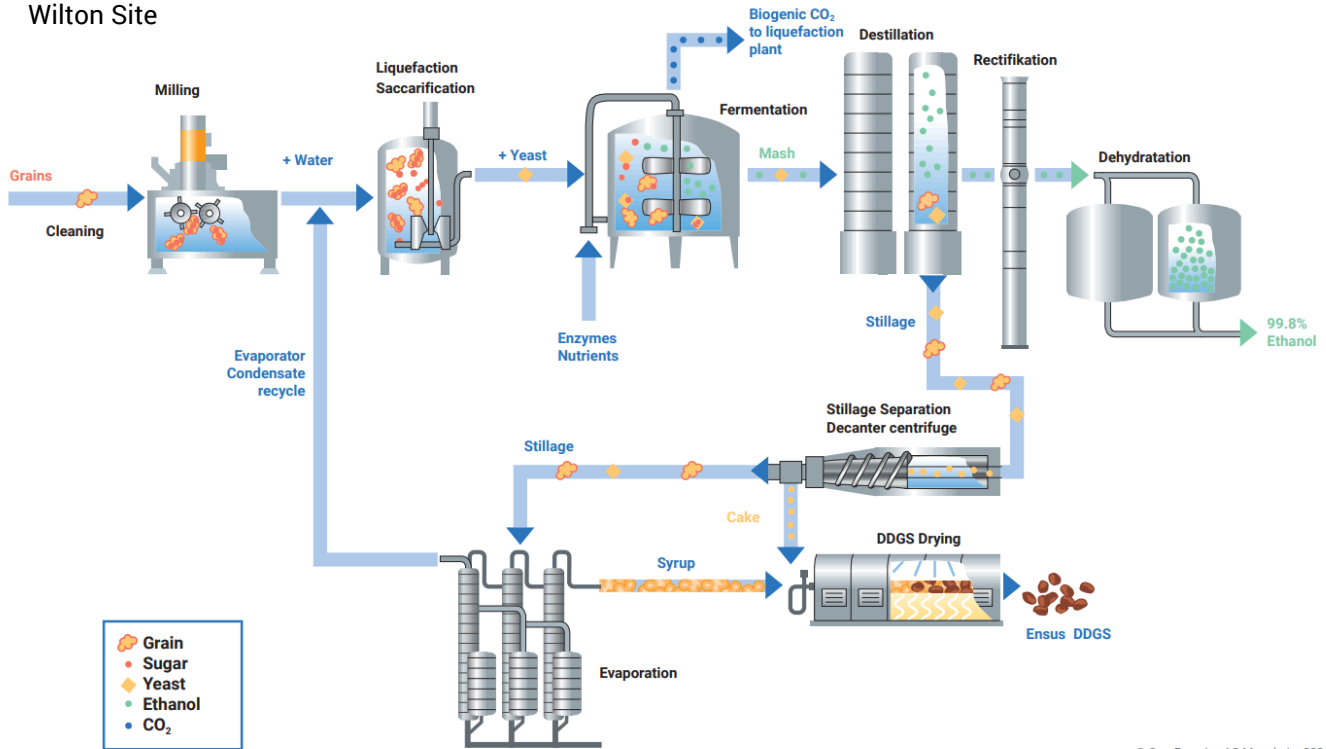


Ensus UK Ltd

Production Process

Wilton Site



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- **Grain Handling:** Incoming grain is tested for quality before being transferred into grain storage bins.
- **Milling:** The grain first passes through hammer mills, which partially crush it into coarse particles referred to as 'meal'.
- **Mashing:** Water and enzymes are added to the meal in a mixing tank to produce what is known as 'mash'.
- **Cooking:** The cooking system heats the mash and the starch is liquefied.
- **Liquefaction:** Enzymes are added to the liquefied mash to convert the starch to dextrose, a simple sugar.
- **Cooling:** The mash continues on through a series of heat exchangers that cool it before it passes on to the fermentation process.
- **Fermentation:** Yeast is added to the mash to convert the sugars by fermentation. During a 50 hour process, heat, CO₂ and a beer solution made up of alcohol and non-fermentable solids is produced.
- **Distillation:** During distillation the beer solution is continuously pumped through a multi-column system that separates the alcohol and the stillage. The alcohol moves on to the dehydration and the stillage is further processed into distillers' grains.
- **Dehydration:** The incoming 190 proof alcohol is circulated through a molecular sieve to remove any water. The resulting 200 proof ethanol is transferred to on site storage tanks. It can be denatured by adding a small percentage of a denaturing agent.
- **Storage:** Finally, the ethanol is pumped into storage tanks for onward shipment to fuel terminals.
- **Stillage:** The stillage is passed through a centrifuge system that separates the coarse grains solids from the solubles. The solubles are then concentrated into syrup by evaporation. The coarse grains solids and the syrup are then dried together to produce a high protein, nutritious animal feed known as Distillers' Dried Grains with Solubles (DDGS).