CONVERSION - Spiritsfully

THE CONVERSION CONSISTS OF ANY ACTIONS UNDERTAKEN BEFORE FERMENTATION WHEN PREPARATORY STEPS ARE NECESSARY TO ALLOW FERMENTATION TO HAPPEN.
ACCORDING TO THE TYPE OF CARBS PRESENTS IN THE BASE MATERIAL, DIFFERENT CONVERSION TECHNIQUES HAVE BEEN DEVELOPED ALONG THE YEARS.

THE CONVERSION STEP DEPENDS OF THE TYPE OF CARBOHYDRATES

If a plant **stores carbohydrates in the form of sugars** in its fruit (for example in grapes, apples, pears, etc.), there is no need of that extra conversion step for a juice extracted from these fruits is the perfect starting point for a fermentation process.

If the plant **stores carbohydrates in the form of starch** (such as in grains or potatoes) or **inulin** (in agave), these have to be made soluble and then converted into sugars, in order to obtain a sugar solution suitable for fermentation. This is what we called conversation and also saccharification, as it is about creating that sugar (Saccharose is the old name for sugars in general, especially sucrose).

TWO EXAMPLES OF CONVERSION PROCESSES

The different steps the Blue Weber Agave goes through to be fermentation ready

- When the piñas are harvested they first get **cut**.
- After the **cooking**, piñas must rest for up to 2 days to cool down.
- When they are cooled down, they are sent to **grinding** (the action of crushing and shredding the piñas)
- After grinding the end product is ready for fermentation.

<u>The different steps barley goes through to be fermentation ready</u>

- **Germination** : barley is first exposed to moisture and heat to initiate the germination. Successive steeping & drying are part of this step, allowing the barley to germinate regularly and obtain a homogeneous quality.
When is has germinated barley is called *green malt*. Green malt has to be carefully monitored. Temperature & humidity are seriously controlled as the germination releases heat, potentially leading to drying, and drying would the germination process before it is fully completed. The grains require to be moved and turned all the time to avoid that the small roots transform themselves into knots. The group of enzymes produced during barley germination are called diastase. They turn the starch in the grain into sugar. Amylase is an enzyme of the diastase group which is responsible for the conversion. Once the germination is fully completed, the starch has been transformed into sugar.
- **Kilning** : after germination comes the step where the fully germinated grains are heated and dried, stopping any further germination and preventing the deterioration of the enzymes, as they will be needed again later in the process. Malted grain is the end product obtained once kilning is fully completed. At this point for example peat flavors can be introduced.
- **Milling** : after kilning comes milling : the malted grains are transformed into a coarse flour named *grist*.
- **Mashing** : after milling comes mashing. It consists of mixing the grist with hot water, reactivating the enzymes carrying out the final conversion. Water temperature control is important as if it is too cool or too hot it will prevent the conversion to be fully completed.
- After mashing the end product (now named wort) is ready for fermentation.

source of the image : the blog of brewingwithbriess. thank you !

DISCOVER THE NEXT STEP: FERMENTATION --->