

GUNDRUK (PICKLED LEAFY VEGETABLE)

Gundruk is particularly popular in Nepal. The annual production of *gundruk* in Nepal is estimated at 2,000 tons and most of the production is carried out at the household level. *Gundruk* is obtained from the fermentation of leafy vegetables in Nepal. It is served as a side dish with the main meal and is also used as an appetiser. *Gundruk* is an important source of minerals particularly during the off-season when the diet consists of mostly starchy tubers and maize which tend to be low in minerals

Raw material preparation

In the months of October and November, during the harvest of the first broad mustard, radish and cauliflower leaves, large quantities of leaves accumulate - much more than can be consumed fresh. These leaves are allowed to wilt for one or two days and then shredded with a knife or sickle.

Processing

The shredded leaves are tightly packed in an earthenware pot and warm water (at about 30°C) is added to cover all the leaves. The pot is then kept in a warm place. After five to seven days, a mild acidic taste indicates the end of fermentation and the *gundruk* is removed and sun-dried. This process is similar to sauerkraut production except that no salt is added to the shredded leaves before the start of *gundruk* fermentation. The ambient temperature at the time of fermentation is about 18°C.

Pediococcus and *Lactobacillus* species are the predominant micro-organisms during *gundruk* fermentation. During fermentation, the pH drops slowly to a final value of 4.0 and the amount of acid (as lactic) increases to about 1% on the sixth day. It has been found that a disadvantage with the traditional process of *gundruk* fermentation is the loss of 90% of the carotenoids, probably during sun-drying. Improved methods of drying might reduce the vitamin loss

Flow diagram

