The invention relates to processes for producing biogas, in particular to a process for producing biohydrogen and biomethane.

The process, according to the invention, comprises the anaerobic fermentation in two phases of the wine distillation or alcohol production vinasse in mesophilic conditions with stirring of vinasse and outlet of biohydrogen and biomethane from the bioreactor; wherein in the first stage vinasse fermentation is carried out with the addition of gypsogenin, gypsogenin glycosides, limonene, menthol, or  $\beta$ -carotene to yield biohydrogen, then vinasse is mixed with cattle manure and/or bird litter in a ratio of 1:0.5, respectively, and is added Amaranth flour in an amount of 0.02...0.03 g/dm³, and fermentation is carried out at pH 6.5...8.5 to produce biomethane.

Claims: 2 Fig.: 1