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**REFINERY HYDROTREATED DIESEL PRODUCTION BY
ORGANIC OILS HYDROCONVERSION**

Nelmo F. Fernandes

PETROBRAS SA, Rod. Fernão Dias km 427, BR 381, Betim, MG, BRASIL 32530-000

This paper presents the H-BIO process, which was developed to introduce a renewable oil source in the diesel fuel production scheme, taking advantage of existing diesel hydrotreating plants. The vegetable/animal oil stream, blended with mineral diesel fractions, is hydroconverted in Hydrotreating Units (HDT), which are mainly used for diesel sulphur content reduction and quality improvement in petroleum refineries. This process involves a catalytic hydroconversion of the mixture of diesel fractions and vegetable/animal oil in an HDT reactor under controlled conditions of high temperature and hydrogen pressure. The triglycerides from the vegetable or animal oil are transformed into linear hydrocarbon chains, similar to those already existing in the diesel coming from petroleum. The most important aspect of the H-BIO process is its very high conversion yield, at least 95% v/v to diesel, without residue generation and a small propane production as a by-product. The converted product contributes to improve the diesel pool quality in the refinery, mainly increasing the cetane number, reducing the sulphur content and density. The diesel pool quality upgrade will be a consequence of the vegetable oil percentage used in the H-BIO process. A large range of operational conditions and several vegetable oils, like soybean and castor oils, were tested in pilot plants. Afterwards, industrial tests have been carried out in refinery HDT Units for technical evaluation, demonstrating the technology flexibility. The Petrobras H-BIO technology introduces a new way to include renewable feedstock for bio-fuels production in addition to the Brazilian Biodiesel Program, which is getting ahead following a fast track development. This will enhance the biomass role in Brazilian transportation fuel supply, generating environmental benefits and improving social inclusion. The main reactions and the results of castor oil and soybean oil processing will be presented, as well as a corrosion study at an industrial unit.