

Optimizing yield of bio-oil crops, using advanced extraction and refinery combined with derivatization. Optimization of bio-oil quality.

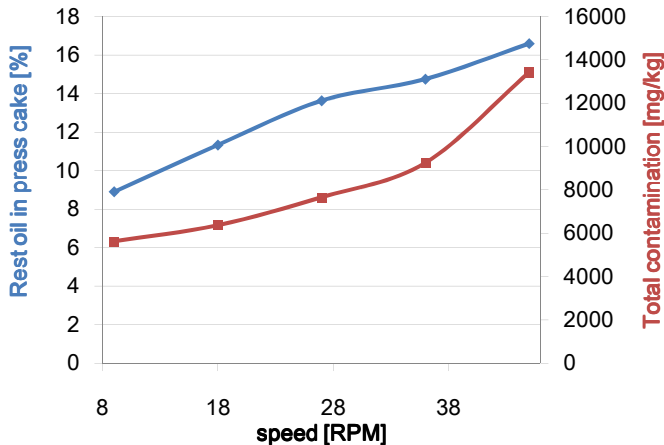
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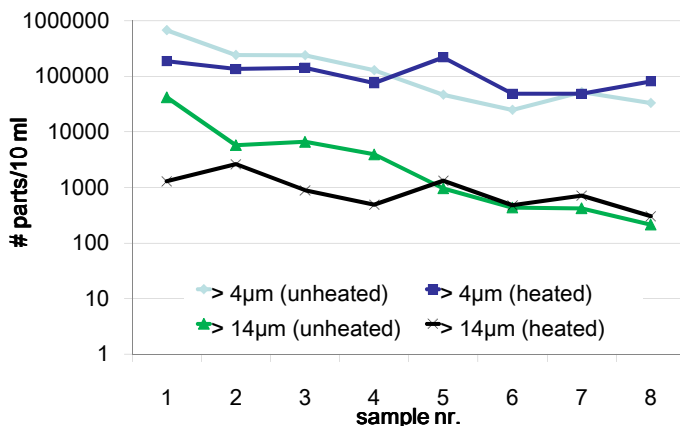
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In the first part of the project the main focus of the mechanical research at KaHo is to evaluate the effect of different press parameters (e.g. rotation speed, kind of seeds, seed conditions). Online monitoring of the press conditions and (chemical) analysis of the oil makes it possible to determine the economically most sound parameter set.



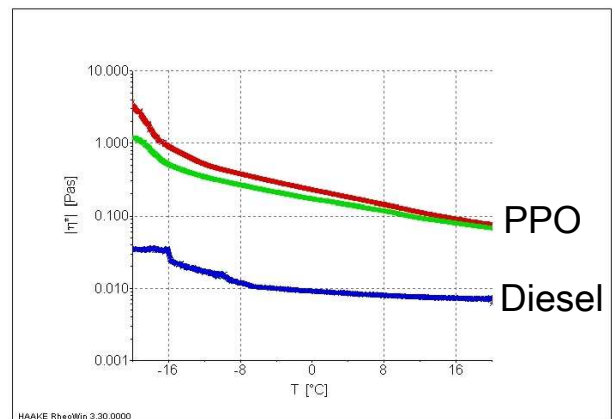
Detailed research into the efficiency of different filter techniques and filter media is performed. Not only the amount of contamination is important but also the size distribution of particles is relevant. Research has been done on the effect of filter cake on filter media.



Up to now, the development of quick tests was the focus of the chemical research at KdG. Quick tests for the determination of the acid value and the water content are now available and quick tests for phosphorus, calcium and magnesium content are under development. The quick tests for acid value and water content are good/bad-tests, the other tests will probably be working according to quantitative methods using a Quick π -sensor.



A thermo-rheology study is done to compare diesel and PPO samples.



The next step in the chemical research is development of simple refinery methods to optimize the quality of bio-oil.

Eventually, the testing of cold pressed oil in engines is scheduled, starting with a small one-cylinder engine. After these tests, experiments are planned on the injection and pumps.