Making Biodiesel and Biodiesel Emission Characterization

RET 2007

Intro

- Biodiesel
- Clean schoolbus initiatives
- Air quality around schools

The Modular Tasks

- Weeks 1-2: Make your own biodiesel
- Week 3: Make use of glycerol, the byproduct
- Week4: Biodiesel compositional analysis
- Week 5: Pollutant emissions from biodiesel use
- Week 6: Result analysis and project summary

Goal: Making the most out of the RET experience

- Live the experience of a scientist and engineer, what they will be facing in day-to-day research
- Exploratory research, not all about smooth sailing
- To do the work, to analyze, to compare and to conclude
- The challenge, pain and achievement will simulate creative ideas in the classroom

The Expected

- Work closely with the RA and with each other
- Follow the standard procedures
- Be consistent
- Take notes
- DO not throw away bad data
- Ask questions

The Lessons Learned

- Challenging the classic results: understand the limitations, provide solid support for your case
- The Instruments can malfunction
- The good side
  - The teachers contribution
  - Turn bad results into good ending

When the results are unexpected

- Remain calm and critically analyze the process
- Is the measurement done correctly?
- Learn a lesson from it
- Repeat for reproducible results
- Cross referencing: comparing with existing studies, in your group or by others