The grant was at the first moment conceived for student’s presentation in the highly recognized European Biomass Conference in Netherlands.

In addition to the Zobel grant support, the travel was extended for one additional week, where the student visited FCBA institute in France (with FPC support). This visit aimed to a better understanding of cold tolerant eucalyptus species planted in that country. This was an unique opportunity to get new knowledge for FPC/NCSU.

Therefore, Zobel grant was highly valuable for the student development as a professional. The following slides are reporting the key points extracted from the conference and the field visit in France.
Modeling the production of short-rotation Eucalyptus species for biomass in the southeastern United States

European Biomass Conference 2016
24th European Biomass Conference and Exhibition

Henrique Ferraço Scolforo, NC State
Kevin Brown Hall, NC State
Jose Luis Stape, Suzano
Tom Fox, Virginia Tech
Rafael Rubilar, Universidad de Concepción
Barry Goldfarb, NC State

Amsterdam - Netherlands
June - 2016
Key points

Presentation

➢ We presented key points regarding the southern US potential for biomass production:

- FPC/NCSU effort regarding eucalyptus plantation in southern US, since it is well known how this species present a great potential for biomass production with short rotation (6 years)

- Network of biomass screening trials across the southern US installed in 2010 and 2011 with 330 entries of 150 eucalyptus species to identify viable eucalyptus species and examine the effects of climate of productivity

- Clones with higher potential for biomass production (their current production) across all sub-regions of the southern US after 5 years of research, highlighting 4 clones: E. benthamii, E. dorrigoensis, E. gunnii, E. grandis
Key points

Conference results

- The key points presented by our research called attention of researchers and companies, since:

  - 98% of Europe biomass is imported from southern US. Therefore, eucalyptus plantation in the future will be able to play an important source of biomass for Europe, since the demand is increasing year after year.
Key points

Conference results

- The key points presented by our research called attention of researchers and companies, since:

  - Although poplar productivity has been investigated for biomass production, they still have a long way to go and new sources of biomass (specially from eucalyptus) seems to be highly valuable for European market
  
  - Canada would be a direct competitor, however, the low quality wood is a restriction. Again eucalyptus and poplar were discussed as the main species to provide biomass for Europe
Conference – Take home message after our presentation

- FPC/NCSU has been investing in eucalyptus studies, which in a short future will add to southern US a valuable source for biomass production. Therefore, Europe participation would be extremely important in new researches.

- Finally, the presentation was extremely important, since companies and universities was able to check how southern US is preparing for the future.
Cold tolerant eucalyptus species in France: survival

Henrique Ferraço Scolforo, NC State
Kevin Brown Hall, NC State
Jose Luis Stape, Suzano
Barry Goldfarb, NC State

Bordeaux - France
June - 2016
Field trip

- Field trip focused on visiting eucalyptus trials

- FCBA has been investing in new eucalyptus genetic materials for the past 15 years

- An impressive point regarding all the trials was the high survival rate even for the places with winter having days of -20 degrees Celsius

- This called our attention, since the North Carolina sub-region has experienced the coldest winters among the southern states
Field trip

- Several tips regarding possible new genetic materials to be produced in Raleigh was given by FCBA researchers. In addition, possible exchanges, like their visit at NCSU, were discussed as part of the breeding studies that are starting.
Field trip

- The main problem in the North Carolina sub-region: find a genetic material that can survive in extreme cold winters. Therefore, the exchange information with FBCA was extremely valuable. With genetic materials that survive in southern US, eucalyptus will become a reality, thus, the knowledge extracted from FCBA visit complemented what we experienced and discussed in Netherlands.

- Result: we showed FPC/NCSU eucalyptus studies to Europe; we identified new sources to produce more cold tolerant clones; and finally, we now have elements to increase the work effort and sooner than we expect biomass production from eucalyptus will occur.