

The Eskom Expo for Young Scientists, 2008

GSSA award for best ecological project

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The Society was represented by ten judges at seven Regional Expos. At the regional level, six projects presented by six scholars received the award. All of these scholars will receive a framed certificate from the Society.

The GSSA Award for the Best Ecological Project is judged according to the following criteria:

- The project must deal with an ecological issue (rangelands/pastures, rehabilitation, alien and invasive species, game surveys, animal production, etc.)
- The students must exhibit a clear understanding of the problem
- The project must have a sound scientific approach
- Presentation must be good

At a regional level, the prize consists of a GSSA certificate for each member of the winning team. At national level, the prize consists of a GSSA certificate and medal for each member of the winning team. If possible, the prize may also include "tickets" to the next GSSA Congress. It is advisable that if this part of the prize is to be awarded, the GSSA specifies (under the special requirements section requested by

the organisers) that only Matric and Grade 11 students may be awarded the Grassland Society Award.

Regional Expos

Grahamstown: Vuyile Sixaba, Grade 10, Nathaniel Nyaluza High School.

The power of mycorrhiza on eutrophicated (sic) ecosystems,

The student's interest in the topic arose because there are some very nutrient-polluted rivers in the area where he lives and he is concerned about the environmental and health effects of this. As mycorrhizae aid plants in absorbing phosphorus, one of the main causes of eutrophication, he thought this might be used to help reduce phosphorus levels in water. His experiment showed that mycorrhizae removed most phosphorus from eutrophied river water and water mixed with phosphorus-rich detergent. There is thus potential to apply this in cleaning up nutrient-polluted water or reducing nutrient levels of run-off that could end up in rivers and lakes. His teacher, Mrs Rejoyce Batyi, says that the project is the result of much hard and

Nadine Nowers (Port Elizabeth Expo) on her fertilizer trial

meticulous work in the field and laboratory.

The Science Expo judges rated the project as excellent, awarding him a gold medal at the regional expo.

Susi Vetter and James Gambiza, Rhodes University



Bloemfontein: Michael Leeuw, Grade 11, HTS Louis Botha
Termite mound - no growth

Mr Leeuw performed a very intensive study on the dynamics of the anthill termite, an insect that can give problems in some grasslands. He identified the most important aspects around the insect influencing the functioning of the grassland ecosystem. Surveys were done in terms of the distribution of grass species around the mounds and in the open. In his study he came up with some solutions for a more sustainable utilization of the grassland ecosystem and how the mounds can be used in different ways.

Hennie Snyman, University of the Free State

North West Cape: Susan van der Merwe, Postmasburg High School
Weiveldbestuur (Grazing veld, management)
Marna van Zyl

Port Elizabeth: Nadine Nowers, Grade 11, Stutterheim High School
Be wise...fertilize

Nadine is a keen horse rider and investigated alternatives to

fertilize the ryegrass oversown kikuyu paddocks to save costs. Comparing no fertilizer, conventional inorganic fertilizer, horse manure and chicken litter (the last two being freely available) she determined growth rate and palatability. Chicken litter proved to be the best option.

Sikhalazo Dube, University of Fort Hare and Pieter Conradie, Eastern Cape Department of Agriculture

Cape Town: Siobhán O'Donovan, Grade 6, St Cyprian's High School
Global Warming - Armageddon or Utopia?

Siobhán showed how elevated atmospheric CO₂ concentrations increased the growth of bean plants. She commented that it is generally accepted that elevated atmospheric CO₂ is bad for the environment, but that there are also some positive effects in the form of higher crop production. She further noted that the challenge is to create technology that would be able to extract CO₂ from the atmosphere for use in greenhouses, while simultaneously mitigating the global warming effect of this greenhouse gas. What

impressed me was her innovative use of basic materials to ask an important question of how a high atmospheric CO₂ world will affect plant growth. She showed awareness of global food security issues and how elevated atmospheric CO₂ can be used to mitigate food shortages globally. Her knowledge of current issues and debates on global warming was impressive for her level.

Dawood Hattas, University of Cape Town

Lebowakgomo: No award given
Pieter Wagner, Limpopo Department of Agriculture

Nelspruit: Adriaan Mosterd, Warmbad High School

Overgrazing: Impact on ecosystem.
Jorrie Jordaan and Erna van Schoor, Limpopo Department of Agriculture

National Finals

The National Finals were held at the Pretoria University Sports Grounds in October 2008.

Emelia Swart, Waterkloof Hoer Skool.

The role of allelopathy in Agriculture.

Emelia used sunflower, maize and tomato as a model to demonstrate allelopathy. Apparently, sunflower has allelopathy, a common phenomenon in most invasive plants and some field crops that seem new and as such not clearly understood by farmers. She demonstrated experimentally how allelopathic compounds in sunflower inhibit the growth of tomato and maize when grown together on the same pots. She believes the same effect do take place in nature among

some of the invasive and indigenous plants. The student had a clear understanding of the problem, had a sound scientific approach, had a very good presentation, and most importantly was from the grade 11-12.

Julius Tjelele, Gilbert Pule and Malenyalo Bathlatswi (ARC - Range and Forage Unit)

The quality of the work exhibited by all the learners was impressive, and shows that there is an enormous amount of talent in the next generation of scientists.

The GSSA thanks all of the judges for their time in judging the Expos.



Emelia Swart, winner of the GSSA award for best ecological project at the National Finals

