



Industry: Agriculture

Duration: 2004 – 2013

Location: Nova Scotia, New Brunswick and Prince Edward Island

Case study type: Habitat conservation

Atlantic Canada Best Management Practices Program



Syngenta is a global agribusiness company with more than 24,000 employees in over 90 countries. The company is a leader in crop protection and ranks third in the high-value commercial seeds market. Syngenta Canada operates two research facilities that go beyond products and services to support commodity-based innovation in areas including bio-fuels and health benefits. Globally, Syngenta invests over \$1 billion per year in research. The Canadian head office is in Guelph, Ontario, with about 250 employees spread throughout Canada.

Syngenta's perspective on biodiversity

Impacts on biodiversity

Agricultural activities ranging from crop and forage production to inappropriate application and storage of chemicals and fertilizers can all have an impact on biodiversity. Agriculture has a large part to play in protecting habitat and biodiversity through sustainable practices. As with most in the agri-food business, Syngenta understands that in producing food for a growing population, it will become increasingly important to be able to produce more on a shrinking agricultural landscape while ensuring the protection of biodiversity. Syngenta also believes that by sharing this burden among stakeholders, farming in Canada will continue to be sustainable and compatible with biodiversity and habitat protection.

Syngenta's perspective on biodiversity

Syngenta is committed to sustainable development through innovative research and technology. The success of Syngenta depends on the sustainability of its customers, the farmers. Sustainable agriculture is achieving a balance between social, environmental and economic responsibilities – for present and future generations. This requires the production of sufficient and affordable high quality food while protecting ecological integrity and biodiversity. The promotion and use of sustainable agricultural practices will help ensure farming remains an economically viable business and contributes to the well being of rural communities for the long term.

The Syngenta role in Canada is research, development, marketing, information and training. The science behind seeds and crop protection products is evaluated by government (Health Canada, Canadian Food Inspection Agency). Syngenta Canada provides product labeling and information/educational programs to ensure its products are used and disposed of properly and in an environmentally responsible manner. Product containers are collected from farmers and managed through a recycle program managed by the CleanFARMS Program in conjunction with CropLife.

Syngenta believes environmental stewardship is everyone's responsibility. The proper management of natural ecosystems and resources is essential not only for a long-term healthy environment but also for the sustainability of an economically viable agriculture sector. Care of natural ecosystems and the establishment of wildlife habitats and setbacks ensure protection of waterways and prevention of erosion. With respect to biodiversity, it is most important that habitat for pollinators, which are essential to growing most crops, is protected. However, management of these areas is also required to ensure they are not destroyed by invasive species.

In their industrial settings, Syngenta's Health, Safety and Environment Policy and Standards set clear guidelines for managers on the strict environmental standards they must meet to reduce environmental impacts in industrial activities. These include conservation and waste minimization plans such as SynEnergy and Syn*3Rs, tools to help site managers monitor trends in energy and waste.

Supply chain

Syngenta is also developing third party guidelines that will provide consistent HSE and ethical standards for all suppliers. Syngenta conducts risk assessments of new crop protection suppliers, based on HSE management as well as quality and continuity of supply. Suppliers are audited based on their potential risk before qualification and regularly afterwards. In addition, Syngenta has an established program of HSE audits for all Syngenta production sites.

Farm practices

As well as focusing on reducing its own impacts, Syngenta develops products and provide training to help farmers use their products safely and to reduce the impacts of agriculture on climate change, water quality and quantity, soil health and biodiversity. Globally, some 3.2 million farmers have been trained in 2007 alone in various aspects of safe pesticide use.

Syngenta Canada donates more than one per cent of its pre-tax profits to various not-for-profit organizations, such as Ducks Unlimited Canada, who have a shared vision of sustainable agriculture. This shared vision is one where economically viable and sustainable agricultural processes, such as soil conservation and the protection of surface and ground water quality, are integral components of farm management.

A wide range of sustainable agricultural farming practices are acknowledged and used everyday within the agricultural industry. Such practices include integrated pest management, soil and water conservation, crop rotation, and the use of natural or synthetic inputs. The objective of sustainable agricultural practices is to ensure that all farm operations are safe to humans, animals, and the environment.

Syngenta Small Marsh Restoration

Rationale

For Syngenta, the most successful stewardship programs are those that are created and implemented through partnerships at the local level. It has developed partnerships with dealers, growers, government agencies, and environmental organizations.

Description

In 2004, Syngenta entered into a partnership with Ducks Unlimited Canada to implement a maritime (Nova Scotia, New Brunswick and Prince Edward Island) Small Marsh Restoration Program (0.8 to 1.6 ha) with a goal to restore 30 to 50 on-farm small wetlands per year. The

Small Marsh Restoration Program restores the productive capacity of wetlands within agricultural areas to improve water quality and provide critical wetland habitat for wildlife.

This program assists farmers in the Maritime Provinces in restoring farm wetlands that have been lost through overgrowth of vegetation, ditching or tile drainage or through in-filling of low areas. This is accomplished by the excavation of shallow ponds or through the placement of small berms or water control structures, which puts much needed water back on the land. Riparian areas are enhanced by leaving buffer strips and controlling livestock access. These newly restored wetlands will provide wildlife habitat as well as improved water quality.

The Small Marsh Restoration Program is targeted for lowland areas, as wetlands in this landscape are the most productive in the region and have been significantly impacted by human activities over the past 350 years. All projects will be on private lands with a signed 30 year conservation agreement with the land-owner for the wetland and an upland buffer strip. These areas will provide needed habitat for many species of plants, birds, mammals, fish, amphibians and numerous other life forms that rely on these habitat types for all or part of their life cycle requirements.





Farm biodiversity conservation plans

In year two, 2005, the project was expanded to include the voluntary development of farm biodiversity conservation plans. These plans address all habitats and types of operations, whether for livestock or for crops, and require the following:

- identify and map existing wildlife habitats on the farm, including streams, wetlands, forest, etc.;
- identify current and potential Best Management Practices that enhance wildlife habitat to benefit biodiversity;
- identify potential funding sources or partnerships that could reduce the cost of implementing these activities.

The plans further divide the farm landscape into three habitat types:

- riparian;
- wetlands;
- uplands: woodlands, pasture, croplands, hayfields.

These plans will identify opportunities for the farmer where wetland restoration, riparian or other projects beneficial to waterfowl or other wildlife can be carried out. They also make recommendations on the types of enhancements that could be completed. In Prince Edward Island, 75% of all farms have environmental farm plans.

This partnership has been very successful in the delivery of wetland enhancement projects on agricultural lands in the Maritime Provinces. To date 194 projects encompassing approximately 674 hectares of wetland and associated upland habitat have been completed. This work not only provides important habitat for wildlife, but demonstrates the commitment by the agricultural community to carry out its activities in an environmentally friendly manner.

Demand by the agricultural community for the development of on-farm biodiversity conservation plans continues to be high. To date, 89 farm biodiversity conservation plans have been written with a resulting impact on approximately 10,070 hectares of agricultural lands, as assessed by project staff. The program is very successful in promoting farmers to become leaders in environmentally sustainable food production.

Syngenta Canada also initiated partnerships in Quebec with the *Fondation de la faune* and *L'Union des producteurs agricoles* to support biodiversity conservation by restoring agricultural waterways through the establishment of riparian zones.

Communication

Along with providing direct benefits to both farmers and wildlife, the project has been very effective in promoting the conservation of biodiversity on the agricultural landscape. Educational and promotional activities delivered in conjunction with the program include:

- displays at agricultural exhibits and demonstration sites;
- field tours for high level government officials as well as national and international environmental groups;
- media releases;
- public presentations on the values of biodiversity programs;
- presentation of the annual Lieutenant Governor's Greenwing Award to a local farmer showing commitment to wetland conservation and environmental stewardship within the farming community in PEI.

Stakeholders and roles

Syngenta Canada – Funding.

Ducks Unlimited Canada – Funding; assessments and inventories; determine priority projects and implement; sign and hold conservation agreements.

Land Owner – Abide by conservation management guidelines; sign conservation agreement.

Outcomes

Benefits

Economic

For agriculture to remain economically and biologically sustainable into the future, and be able to feed a rapidly increasing population from a shrinking arable land base, it is essential to plan and to develop responsible products to protect biodiversity, land and water. It is anticipated that only operations that implement sustainable practices will be economically viable into the future. By implementing comprehensive product research and development programs, and educating and helping farmers develop and implement environmental programs, Syngenta is helping insure an economically viable agriculture industry that will be able to support agribusinesses.

Biodiversity

Programs to evaluate the biological impacts of small wetland restoration have all shown a significant increase in all forms of animal and plant species that rely on wetlands and riparian habitats. Notable were Neotropical migratory birds, amphibians and waterfowl – absolute numbers as well as species diversity. Fish species also benefit from both improved water quality and quantity.

Lessons learned

- The most successful stewardship programs are those that are created and implemented through partnerships at the local level.
- It is important that on-farm projects are farmer driven to instill ownership.
- Recognition that these projects are important is essential for them to create a “life of their own” which is critical if they are to become the standard way of doing business.



Pauline and Francis Verstraten (left) received the Nova Scotia Lieutenant Governor's Greenwing Conservation Award on August 26, 2009 from The Honourable Mayann E. Francis (right).

Impact on company

Syngenta prides itself on being a responsible business. As an R&D based company, many of the Syngenta employees are scientists and biologists who care deeply about agriculture and the environment. The employees are very proud of the Syngenta focus on biodiversity and the environment generally. They are encouraged to be involved and very few employees leave. These activities also attract some of the best people who want to work for a responsible business.

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