

CV Ruzena Svedelius

January 2020

Name: Ruzena Svedelius (Gajdos until 1998)

Date of birth: 1943-08-23 in Czechoslovakia

Address: Aspavägen 41, 26165 Härslöv, Sweden

Title: Doctor of Philosophy (Ph.D.) in Agronomy

Present position: Independent researcher

Nationality: Swedish, Czech

In Sweden since 1967-09-17

Organisation: BAS BIO HB

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Education and degrees:

Doctor of Philosophy (Ph.D.) in Agronomy, Swedish Univ. of Agricultural Sc., Alnarp, 1997

M.Sc. in Horticulture, Swedish University of Agricultural Sciences, Alnarp, 1985

Positions (latest before retirement):

Assistant, Swedish Board of Agriculture, Jönköping

Project leader, Green Library, Lund

Research assistant, Department of Horticulture, Swedish University of Agr. Sciences, Alnarp

Lecturer, Institute for Technology and Resources Management, Mid Sweden University, Östersund

Language skills:

Swedish, Czech, English, Slovak, and some Russian and German.

Other qualifications:

Courses on environmental issues

Environmental oversight 10 p, University of Lund, 1972; Biology in soil and its impact on plant production, 1987; Waste management in the society - today and tomorrow, 1988; Composting – Waste – Environment, 1989; Biological treatment of waste, 1990; Basics in environmental issues, 1998; Environmental law in Sweden and EU, EMAS and ISO 14 000, 1999; Administration – project management, logistics, 2000

Member of:

Friends of the Earth, Swedish Society for Nature Conservation, Hortonomförbundet, Skånska

Agronomförbundet, Småbrukaren, Trehäradsbygdens folkdanslag, WestCoast LineDancers, PRO,

Others:

Partner, two sons (born in 1966 and 1973), two grandchildren (born in 2000 and 2002).

Driving licence.

Publications

Doctoral thesis

Gajdos, R., 1997. Product-Oriented Composting. From open to closed bioconversion systems. Acta Universitatis Agriculturae Sueciae, Argaria 68. ISSN 1401-6249.

Thesis is based on four primary research papers:

Gajdos, R., 1997. Effects of Two Composts and Seven Commercial Cultivation Media on Germination and Yield. *Compost Science & Utilisation* 5(1):16-35.

Gajdos, R. Methods for Laboratory Studies on Composting of Standard Substrate in Static or Rotated Bioreactors.

Gajdos, R. Bioconversion of Organic Waste in Ecologically and Economically Efficient Systems.

Gajdos, R., 1998. Bioconversion of organic waste by the year 2010: to recycle elements and save energy. *Resource, Conservation and Recycling* 23 (1998) 67-86.

Contributions at conferences and seminars etc.

Gajdos, R. 1986. Barkkompost till containerodlade plantskoleväxter (Composted bark for container-grown nursery plants.) In: Försöksledarmöte i Alnarp 1986. *Konsulentavd rapporter, Trädgård* 310, 13: 1-7.

Gajdos, R. 1992. The use of organic waste materials as organic fertilizers - recycling of plant nutrients. *Acta Horticulturae* 302:325-331.

Gajdos, R. 1992. Organic material for Energy production and Plant Nutrients Recycling. Part 1: Composting on a laboratory scale. *1992 International Conference on Industrial Waste Minimization*, Taipei, Taiwan, R.O.C.

Gajdos, R. 1993. Kretsloppstänkande vid behandling av hushållens organiska avfall. Seminar "Slamhantering" i Trondheim, Norge.

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- Gajdos, R. 1995a. Composting in static bioreactors in laboratory. 1. Effects of insulation on temperature and pH. 2. Effects of additives on temperature and pH. In: R' 95 (Recovery Recycling Re-integration) Congress, Geneva, Schweiz, Febr 95
- Gajdos, R. 1995b. Bioconversion of Organic Waste in an Ecologically and Economically Efficient System. I en sammanställning över "poster papers" från sektion för ekonomi, NJF:s XX kongress i Reykjavik, Island, juni 95.
- Gajdos, R. 1997. Efficient bioconversion of solid and liquid waste – composting and anaerobic digestion in novel systems. Proceedings of the International Symposium on composting and use of Composted Materials for Agriculture, Auchincruive, Scotland, Apr. 97. http://www.actahort.org/books/469/469_14.htm
- Svedelius, R. and Watkin, S. J. 2002. Your Body, Renewable Organic Waste and the Environment - Sustainable Management of Solid and Liquid Waste - "SOLIWA". In: *Recycling of Agricultural, Municipal and Industrial Residues in Agriculture RAMIRAN 2002*, 10th International Conference Hygiene Safety, Proceedings, Strbske pleso, Slovak Republic, May 14 -18, 2002: 303-314. <http://ramiran.uvlf.sk/DOC/E1.pdf>
- Svedelius, R. 2009. How to avoid pollution of the Baltic Sea. Baltic Sea NGO Forum 2009. 26 February – 1 March 2009, Helsingør, Denmark.
- Svedelius, R. 2010. BIOENERGY - energy important for life. IX BALTIC SEA NGO FORUM, April 16-17, 2010, Vilnius, Lithuania.
- Svedelius, R. 2011. BIOENERGY - energy important for life. South Baltic Gas Forum 2011. *Strategies and policies for sustainable biogas production and use*. 8th September 2011, Gdansk/Poland.
- Svedelius, R. 2014. Use of bioenergy and plant nutrients from human waste. Recycling Closet (RC) instead of Water Closet (WC). *ECO-ENERGETICS – BIOGAS. Research, technologies, law and economics in the Baltic Sea region. Gdansk 2014*. BALTIC BIOGAS FORUM 11-12 September 2014, Gdansk/Poland. www.gsw.gda.pl/wydawnictwo
- Svedelius, R. 2017. Interdependence between rural and urban. FALF KONFERENS 2017. Arbetslivets utmaningar i staden och på landsbygden. 13–15 juni 2017, Alnarp.
- Svedelius, R. 2018. **Sustainable cities** - focus on areas relevant to citizens' daily lives. INSPIRE Conference 2018, 27 February 2018, Floret, Průhonice, Prag.
- Svedelius, R. 2018. Bioenergy and plant nutrients in waste and sewage systems. Linnaeus ECO-TECH 2018, November 19-21, Kalmar, Sweden.
- Svedelius, R. and Sölverud, B. 2019. How to utilize sustainably bioenergy and plant nutrients from organic waste in Guatemala and thereby avoid emissions and costs. ECOTECH 2019, 6, 7 and 8 March, Gran Karmel Convention Center, Quetzaltenango, Guatemala.
- Svedelius, R. 2020. Bioenergy in Renewable Organic Material to electricity + heat + cooling. Presentation on meeting organized by Smart City Sweden, Nordic Solutions for C40, Swedish Energy Agency, Urban Tech Sweden and Urbs, Nordic Heat. Tuesday 4th of February 2020 at Smart City Sweden, Hammarby Kaj 18d.

Poster presentations

- Symposium on Horticultural Substrates Other than Soil in Situ, Italy. September 1992. "Controlled composting system - better economy with plant nutrients, better weed control, time saving, space saving."
- Konferens EKOLOGISKT LANTBRUK, Uppsala. Sweden, November 1993. "Från hög och bingé till bioreaktor - biologisk nedbrytning av organiskt material i slutna behandlingssystem."
- R' 95 (Recovery Recycling Re-integration) Congress, Geneva, Switzerland. February 1995. "Composting in static bioreactors in laboratory. 1. Effects of insulation on temperature and pH. 2. Effects of additives on temperature and pH."
- NJF:s XX kongress i Reykjavik, Island. June 1995. "1. Biofertilisers - Composts with High Quality. 2. Bioconversion of Organic Waste in an Ecologically and Economically Efficient System."
- Bio Tek Symposium, Denmark. October 1995. "1. Biofertilisers - Composts with High Quality. 2. Bioconversion of Organic Waste in an Ecologically and Economically Efficient System."
- Konferens EKOLOGISKT LANTBRUK, Uppsala, Sweden, November 1995. "1. Biofertilisers - Composts with High Quality. 2. Bioconversion of Organic Waste in an Ecologically and Economically Efficient System."
- Bertebos conference Ecosystem services in European agriculture: Theory and practice. Falkenberg, Sweden, September 2003. "Sustainable and Efficient Bioconversion of Renewable Organic Material."

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Reports

Utvärdering av komposterat förpackningsmaterial (Evaluation of composted milk cartoons). Samarbetsprojekt mellan Institutionen för trädgårdsvetenskap (R. Gajdos) och Institutionen för växtskyddsvetenskap (G. Svedelius) på Alnarp. Uppdrag, konfidentiellt. Rapporten redovisad och överlämnad till bidragsgivaren våren 1994.

Product-oriented bioconversion of organic waste by the year 1999. Presented at seminar "Perspectives on the Recycling of Solid Wastes", Linköping University, March 1995.

Reseberättelse från studieresa till USA och Kanada (Report on study tour to USA and Canada.) 1995.

Rapport från volontärsvistelse i Yemen (Report on voluntary work in Yemen). Till Svenska institutet 1997.

Thesis for Diploma M.Sc. in Horticulture (in Swedish)

Gajdos, R. 1985. Effekter av långtidsverkande gödselmedel på tillväxt och näringsupptagning hos engelskt rajgräs (*Lolium perenne*) under kontrollerade betingelser (Effects of long-term fertilisers on growth and nutrient uptake on *Lolium perenne* under controlled conditions). 10 points. SLU, Department of Plant Nutrition, 750 07 Uppsala.

PMs (in Swedish)

Varför bör vi arbeta med komposterat material? (Why should we use composted material?) Juni 1986.

Snabbkompostering av trädgårdsavfall. (Quick composting of garden residues.) Mars 1989.

Sluten behållare - ett steg mot bättre kompostering. (Closed composters – one step forward more efficient composting.) Sept. 1989.

Biologisk omvandling av organiskt material. Framställning av reproducerbara komposter/biogödsel. En kort presentation av forskningsprojekt. (Biological transformation of organic material. Production of reproducible composts/biofertilisers. Short presentation of research project.) 1989-1996.

Nej till eldning av organiskt material. (No to incineration of organic material.) Aug. 1991.

Organiskt material som råvara för energiutvinning och växtnäringsåtervinning. (Organic material as raw material for recovery of energy and plant nutrients.) Aug. 1991.

Förslag till hantering av allt organiskt material i en sluten biologiskt behandlingslinje i syfte att utvinna energi och återvinna växtnäring. (Suggestion on handling of all organic material in closed biological treatment line with aim to recover energy and plant nutrients.) Nov. 1991.

Komposteringens grundprinciper. (Basic principles for composting.) Apr. 1992.

Cirkulation av ämnen och energi från organiskt material mellan land och stad. Förslag till samarbetsprojekt "energihushållning". (Circulation of elements and energy in organic material between country side and town. Suggestion on co-operative projects.) Aug. 1992.

Energi och växtnäring i kretslopp. (Cycles of energy and plant nutrients.) Mars 1993.

Systemförändring av avfallshantering mot biologisk behandling av organiskt avfall. (System changes of waste management towards biological treatment of organic waste.) Mars 1993

Säker mat, allergier och avfallshantering. (Safe food, allergies and waste management.) Sept. 2001.

Several contributions to newspapers

For example:

Rondecos använder en föråldrad komposteringsmetod (Company Rondecos/Bedminster use old-fashioned composting method). November 1996.

Dags för radikal omställning av energiförsörjningssystem (It is time to radical changes in energy supporting systems). Mars 1998.

Energi ur avfall - med biologiska metoder (Energy from waste – by biological methods). January 1999.

Fler fördelar med modern bioteknik. (Plenty of advantages when modern biotechnology is used). January 2000.

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Contributions to programmes on radio and other communication media

For example, about bioenergy, waste management, pollution's in our environment, innovative environmental technology, sustainable development, etc.

Comments on LinkedIn (<https://www.linkedin.com/pulse/green-sector-organic-waste-circular-economy-most-energy-svedelius/>) and on Facebook (<https://www.facebook.com/biogasandbiofertilizers/>).

Others

Svedelius, R. 2001. SOLIWA – **Sustainable Management of Solid and Liquid Waste**. 2001. Draft for discussion with The Swedish Foundation for Strategic Environmental Research and other foundations.

Hjorth, P. and Svedelius, R. 2002. **Mobile research plant for decentralised bioconversion of renewable organic material**. On-city treatment – a novel energy efficient technology for integrated waste management. Project description.

Svedelius, R. June 2002. Expression of interest to identify research actions ready for scientific programme topics as a base for the preparation of work programmes for the 6th framework programme for research. Sustainable Management of Solid and Liquid Waste. http://eoi.cordis.lu/dsp_details.cfm?ID=26219 (and additional document)

Svedelius, R. 2007. Förslag på "Testanläggning för att uppnå en lönsam produktion av biogas och biogödsel" skickades - på uppmaning - till E.ON i februari 2007. (Proposals for "**Test facility to achieve profitable production of biogas and biofertilizers**" were sent - on request - to E.ON in February 2007.)

Svedelius, R. and Sölverud, B. 2015. **Blackwater & Food Waste Challenge** - innovation competition.

Proposals (EU FP6) – coordinator

SUMAWA - **Sustainable Management of Waste and Wastewater**. A multidisciplinary proposal to the 6th framework programme for research. Integrated project. 2003-03-05

ESOLIRE – **Energy from Solid and Liquid Renewables**. A multidisciplinary proposal to the 6th framework programme for research. Integrated project. 2003-03-17

CANIBSER – **Carbon and Nitrogen in Biological Systems from Solid and Liquid Renewables**. A multidisciplinary proposal to the 6th framework programme for research. Integrated project. 2003-04-06

ENEFBIOTRANS – **Energy Generation by Efficient Biological Transformation of Renewable Biomass**. A multidisciplinary proposal to the 6th framework programme for research. Integrated project. 2003-12-16

SEPBIOGAS – **Smart Equipment for Production of BIOGAS**. Specific Targeted Research Project. 2004-12-08

Expert for evaluation of proposals (EU FP6).

Ruzena Svedelius (Gajdos until 1998, born Sklenarova) – short life story.

She is daughter of a farmer in former Czechoslovakia. Father became a political prisoner in 1950 and released in 1960 with the words that all was a legal mistake. Ruzena was forced to go to a labor school for farm workers and then worked at a state-owned farm. After her father's release, she finally had to study at high school with focus on gardening. Since it was debated that there are many hungry in the world, she became interested in how to relieve hunger with increased knowledge about the recycling of plant nutrients. The traces of father's captivity made life difficult. Therefore, together with her husband Jan Gajdos, she decided to leave the country in 1967. In 1968 they managed to welcome to Sweden their son Jan, who was 2 years old.

In Sweden, Ruzena started working in greenhouses at a greenhouse company, later as a gardener for experimental activities at Alnarp. In 1973, the son Tom was born. After taking the horticultural exam in 1986 at the Swedish University of Agricultural Sciences Ruzena was given the opportunity to conduct research on plant nutrients and became a Doctor of Philosophy (Ph.D.) in Agronomy in 1997.

Now the number of hungry in the world begins to rise again. Therefore, Ruzena wants to contribute to greater understanding of the potential for building sustainable systems for recycling plant nutrients and better use of bioenergy using Recycling Closet BAS (RC BAS) instead of WC, Recycling Food Waste BAS (RFW BAS) and local high-tech biogas plants by means of modern logistics, mechanization, automation and digitization. Improvements will include increased utilization of plant nutrients, bioenergy, increased soil fertility, less pollution in air and water, thereby reducing negative effects on the environment, health and the climate.

Ruzena is convinced that citizens in both urban and rural areas with ecologically, economically and socially sustainable local management of residues and waste from the plant and animal kingdom have enormous positive effects on energy efficiency, the environment and thus citizens' health, private economy, cohesion and well-being.