



Renseignements détaillés

Development of spent mushroom growing medium*****

Détails de la recherche

Année de concours :	2018	Année financière :	2018-2019
Nom de la personne :	Abbey, Lord	Institution :	Dalhousie University
Département :	Agriculture, Faculty of	Province :	Nouvelle-Écosse
Montant :	25 000	Versement :	1 - 1
Type de programme :	Programme de subventions d'engagement partenariat	Comité évaluateur :	Comité de décision interne pour l'Atlantique
Sujet de recherche :	Gestion des déchets dangereux (y compris radioactivité)	Domaine d'application :	Déchets, gestion des déchets et recyclage
Chercheurs associés :	Aucun associé	Partenaires :	Maritime Gourmet Mushrooms Inc.

Sommaire du projet

Maritime Gourmet Mushrooms Inc. (MGMI) is the largest 'specialty' exotic mushroom grower in the Atlantic region. Despite its success, MGMI is faced with two specific problems: (1) the large volume of waste (i.e. spent mushroom substrate, SMS) generated weekly, which is approximately 1.63 tons per week and its high cost of disposal; and (2) the relatively low mineral nutrient content of the SMS due to the nature of the raw materials used i.e. red oak (*Quercus rubra*), soybean (*Glycine max*) hull and water. Preliminary studies show great potential for use of their SMS for growing plants. However, this may require the addition of other natural ingredients to enhance its efficacy. MGMI have access to black soldier fly (*Hermetia illucens*) larvae (BSFL) frass and granite powder and therefore, seek to pursue vigorous studies to formulate a highly efficacious and innovative SMS-based mixed medium for commercialization. This project will be the first to characterize SMS+BSFL frass+granite powder mixture and to evaluate its potential for crop production. The objectives are to: (1) assess the characteristics of SMS-BSFL frass mixed growing media; and (2) determine responses of different plant species to variable proportions of SMS-BSFL frass mixed media. Laboratory and greenhouse pot-experiments will be performed using design of experiments. The anticipated outcomes will help solve the specific problems faced by MGMI in addition to generation of new knowledge and bioproduct that will generate economic benefits to the company. This will lead to job creation to further stimulate the local and regional economies. Ultimately, this new venture will have significant socioeconomic and environmental impacts in Canada through waste diversion and processing into a useful bioproduct for agricultural use. Additionally, this innovative medium can potentially supplement the use of non-renewable natural resources such as peat moss. This is a first-time relationship between MGMI and Dr. Abbey who is looking forward to building an impactful longer-term collaboration.*****