

## **Market Invaders: Invasive Plants on the Propagation Radar<sup>©</sup>**

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### **INTRODUCTION**

The Government of Canada, in its publication *An Invasive Alien Species Strategy for Canada*, defines invasive species as alien plants, animals (fish included), fungi, and microorganisms introduced by man into areas outside of their natural range or distribution, where they become established and disperse, generating a negative impact on the local ecosystem and species (Environment Canada, 2004).

The topic of invasive species is one of global concern. It is well-known that invasive organisms are second only to habitat loss and degradation in endangering native plants and negatively impacting our environment, society, and economy (Voller and McNay, 2007).

Invasive species are usually circulated via human-based pathways and are spread by a wide array of vectors (Voller and McNay, 2007). They can significantly compromise natural ecosystems as well as man-made systems by adversely altering biodiversity, food sources, species at risk, crop integrity, and may threaten human and/or animal health and introduce foreign parasites and disease. These negative effects often result in increased management costs and lost resource productivity (Invasive Species Council of BC, 2012). Finding both short and long-term, practical and effective solutions to prevent the introduction and spread of invasive species is often overwhelming and challenging. Prevention by education is critical to halting invasive spread. An important step to making a difference in preventing invasive spread is to provide the necessary education and tools to help businesses and the public understand the widespread impact of invasive species.

Invasive plants make up only a small subset of introduced plants on a global scale. Regardless, the damage done by invasive plants is tremendous. Such invaders are successful due to the fact they have few or no natural population controls outside of their native range. In addition, these plants tend to maintain effective and diverse reproductive strategies that allow them to establish aggressively and out-compete non-invasive species. Once established, invasive plants can cause large-scale environmental, social and/or economic damage which is often irreversible. Management and/or eradication efforts are often costly and difficult. In British Columbia (BC) alone, the damage costs associated with just six invasive plants far outweigh the cost of management. It is projected that by 2020, damage costs may reach \$140 million (Fridd et al., 2009; Coulatti et al., 2006).

### **INVASIVE SPECIES COUNCIL OF BC (ISCBC)**

The Invasive Species Council of British Columbia (ISCBC) is an action-oriented, non-profit organization whose members are involved in all aspects of invasive species management. The ISCBC works to reduce the negative impact of invasive species in British Columbia. Through province-wide coordination and collaboration with those invested in making a difference, ISCBC provides effective prevention and management programs. Education and awareness are keys for implementing many of these programs. To streamline its programs, ISCBC follows the *Invasive Species Strategy for British Columbia*, a multiyear, strategic framework for improved invasive species management in BC.

### **THE HORTICULTURAL TRADE: PATHWAY OF INVASIVE PLANT SPREAD**

The horticulture industry has been identified as a key pathway of invasive plant spread. Nearly 60% of invasive plants were intentionally introduced to Canada as agriculture crops, landscape plants, ornamentals, or for medicinal and/or research purposes (CFIA,

2008). Invasive plants are being spread in rural and urban communities, orchards, crops, gardens, vineyards, aquatic areas, and wild lands. In addition, global trade of plants has allowed for movement of plants around the world at a rate, volume, and diversity not seen in geologic times past. The result is an increase in the promotion, propagation, selling, purchasing, trading, gifting, and relocating and improper disposal of invasive plants.

### **PLANTWISE: AN EFFECTIVE SOLUTION FOR CHANGE**

To mitigate the growing threat of horticulturally invasive plants in BC, ISCBC partnered with the BC Landscape and Nursery Association, and the Horticulture Advisory Board (HAC) to create a powerful solution — PlantWise. The HAC consists of plant scientists, horticulturists, provincial invasive plant committees and council members, landscapers and landscape architects, nursery owners among others, who voluntarily contributed their time and expertise toward the development and production of the program.

Being a prevention-based program specifically designed to work with both the horticulture industry and consumers, the PlantWise program bases its success, not only on conveying a positive and realistic message, but also by integrating the power of community-based social marketing (CBSM). The latter is an effective way to encourage and motivate the horticulture industry and plant enthusiasts to commit to making a long-term change in their behavior. The desired behavior for people is to utilize only non-invasive plants instead of plants deemed invasive in their region. If increasingly more consumers decide to choose and purchase only non-invasive plants, the greater will be the decrease in supply of invasive plants. Over time, this change may cause a significant, positive impact on halting invasive plant spread.

Around the world similar programs are in action: “PlantWise”, Vermont; “PlantRight”, California, “Grow Me Instead”, Australia; “Be PlantWise”, United Kingdom; and “GardenSmart”, Oregon and Colorado.

### **Invasive Species Council of BC’s Grow Me Instead Resource**

The Grow Me Instead (GMI) is a valuable resource tool that complements the PlantWise program. It illustrates 26 of horticulture’s most “unwanted” invasive plants commonly circulated throughout BC. These “unwanted” plants are sold at garden centers and other outlets, and are used by landscapers and landscape architects in their designs. The invasive plants included in this resource were chosen by the HAC. Each plant is pictorially listed along with a map showing current provincial distribution. Also included is a profile of the plant as well as a list of suitable, functional and equally beautiful, non-invasive plant alternatives (native and exotic) that work well for a range of growing zones and conditions in BC. In combination with ISCBC’s Grow Me Instead Resource, the PlantWise message encourages responsible behavior in both the horticulture industry (supply) and the general public (demand).

### **PlantWise and the Horticulture Industry**

The PlantWise program relates well to plant growers, wholesalers, and retailers. The program offers free PlantWise certification, an easy-to-follow Code of Conduct, in-store Grow Me Instead resources, staff training as well as community and provincial recognition to those businesses willing to promote and utilize only regionally non-invasive plants. In exchange, the program encourages horticulture businesses to voluntarily phase out or halt selling plants deemed invasive in their region and, instead, grow and/or sell only non-invasive alternatives. Horticulture business owners and/or managers can make a significant difference in their community — becoming a trusted source for offering a wide variety of safe plants and providing in-store and/or online invasive plant education to their customers.

### **PlantWise and Consumers**

Consumers, such as landscapers and gardeners, are often drawn to the beauty and functionality of invasive plants without questioning whether or not a particular plant is

invasive in the region. Without having widespread meaningful awareness and understanding of invasive plants, preventing their introduction and spread may not be possible. One effective solution is providing consumers with relevant and factual information about the potential threats that invasive plants pose and offer them safer non-invasive alternatives. The Grow Me Instead resources are key tools used to help consumers make informed decisions about the types of plants they purchase.

The PlantWise message and Grow Me Instead Resources are positive and motivating; they encourage consumers to connect with the issue and take action to prevent the problem of invasive plant spread in their region. In the past 2 years the program has helped inspire many people to want to commit to choosing and utilizing only safe, alternative non-invasive plants instead of invasive ones. By committing to making a simple change in behavior, consumers can drive change in market supply. In so doing, consumers can make a measurable difference in reducing the spread of invasive plants. In addition, consumers can build trust with local garden suppliers, are able to select from and use a greater diversity of regionally safe plants, and can have peace of mind knowing they are avoiding negative and often costly consequences that come with invasive plant infestation.

**The PlantWise Ambassador Program: Provincial and Regional Collaboration**

In collaboration with Plant Wise Ambassadors, such as the Master Gardeners Association of BC (MGABC), British Columbia Communities in Bloom (BCCIB) and numerous regionally-based invasive species committees in the province, the PlantWise message is now being disseminated and associated resources circulated to businesses and the general public throughout BC.

**2014 SNAPSHOT OF HORTICULTURE-BASED INVASIVE PLANT USE IN BC**

In the spring of 2014, ISCBC contracted Mario Lanthier of CropHealth Advising & Research based out of Kelowna, BC, to carry out a number of spring visits to garden centers in the Lower Mainland and Southern Interior of BC. The areas selected represent the horticulture hub of BC. Stores selected include chain stores, independent seasonal, and independent year-round. The purpose of store visits was to determine horticultural business purchasing patterns and the number and kind of GMI listed invasive plants being sold.

Out of a total of 83 garden centers visited, 45% sold one or more invasive plants. Of those selling invasive plants, approximately 40% sold only one type of invasive. Of all stores visited in the spring, only a fraction of total sales were derived from selling invasive plants. Garden center visits also revealed that only six GMI listed, regionally invasive plants were regularly being sold in the spring (Table 1).

Table 1. List of six commonly sold invasive plants in British Columbia, Canada.

Common name	Latin name
Common periwinkle	<i>Vinca minor</i>
Yellow archangel	<i>Lamium galeobdolon</i>
Mountain bluet	<i>Centaurea montana</i>
Spurges	<i>Euphorbia esula, E. myrsinites, E. cyparissias</i>
Russian olive	<i>Elaeagnus angustifolia</i>
English ivy	<i>Hedera helix</i>

**CONCLUSIONS OF THE SURVEY**

Preliminary findings of this snapshot survey shows that at least six invasive plants were commonly sold in the BC horticulture trade and many were sold in regions where these plants are regionally invasive. Also, less than 20% of sellers provide only one type of

invasive plants. Due to the narrow margin of monetary gain derived from the sale of these plants it is conceivable that garden centers can afford to either phase out or entirely halt the sale of many of these plants in regions where they are invasive. Notable exceptions are *Vinca minor* and *Hedera helix*, which may be more difficult to remove from the trade because demand is strong, therefore supply is strong. It was suggested that in order to effectively convince garden centers to sell only non-invasive alternatives, a different approach must be taken depending on store type (e.g., chain store, independent seasonal, or independent year-round store).

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### QUESTIONS AND ANSWERS

Larry Rupp: Several of the plants you listed are not invasive where I come from. Should a wholesale nursery continue to grow and ship a plant where it is not invasive or if it's invasive in their area they should stop growing it so they don't run the risk of it escaping?

Evan Rafuse: It can be challenging for a wholesale nursery and other suppliers, even retailers, to be mindful of and practice not selling plants to and/or within regions where they are proven invasive. If a plant is not invasive in area but it is in another, then clearly it is okay to grow it and ship it where it is not invasive. By growing and shipping plants to areas where they are invasive however, is consistently catalyzing further introduction and spread and thus associated damages and management costs in that area. There are many safe, alternative plants that can be utilized across the country and businesses can make a profit on these while providing invasive plant education to their customers. We simply encourage suppliers, growers, and wholesalers to adopt the PlantWise mindset or like-mindsets already prevalent in many regions of the world and become community stewards exercising responsible behavior. Remember, if you grow, send or sell it, trusting consumers will buy it. It takes both consumers and industry to work together to first become aware of the problem, then to care enough about it to make a concerted, beneficial change.