

Market Valuation of Invasive Plants Widely Grown in Georgia Nurseries



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Nature of Work: There is ample discussion at the national level, the regional and state-wide trade organizations, as well as local communities and counties as to what constitutes an invasive plant species, what should be done about them, and what the marketing impacts would be if the propagation and sales of these species were forbidden. There is not a consensus list of plant species that are considered either a severe or a serious threat, either by region or within a state. Differences exist, for instance, in Georgia between the Georgia Exotic Pest Plant Council (GEPPC), the Georgia Department of Agriculture (GDOA), the Georgia Green Industry Association (GGIA), the University of Georgia Center for Applied Nursery Research (CANR), as well as specialty plant organizations and individual commercial growers and marketers.

The signing of the Invasive Species Executive Order, February 3, 1999, laid forth a definition for an invasive species as “an alien species whose introduction does or is likely to cause economic or environmental harm or harm to human health.” A frustration in the trade has arisen because many of the so-called invasive plant species have become economically important as a revenue generator for the growers and propagators, as well as the landscapers and marketers. Some plants are deemed as invasive due to the same characteristics and reasons that have made them so popular in the trade. A consensus list of characteristics defining an invasive plant species in Georgia, per the Georgia Green Industry Association, are (1) lots of seeds production;

(2) effective dispersal methods; (3) rapid maturation; (4) vigorous vegetative growth; (5) long-lived; (6) highly adaptable to a variety of habitats; and (7) easily established.

A mail survey was developed and administered by the Georgia Department of Agriculture in the fall 2005 to (1) identify and quantify relative sales volume (as a percent of total annual sales) and (2) determine the willingness of respondents to stop selling or growing or installing the plants listed as the Georgia DOA's top ten severe threats [645 usable responses].

Another survey was developed and distributed by the University of Georgia Department of Agricultural and Applied Economics in the winter 2006 to gain further insight into the growers' and grower-wholesalers' understanding of invasive plant species (plant list provided by the CANR), their views on the species cited as either a severe or a serious threat, and what the market value of these plants were in their operation [655 usable responses]. Only one plant was on both surveys, as each survey relied on different invasive plant species. The combined results of these two surveys, extrapolated for the entire state, are summarized in the following table.

Results and Discussion: The Georgia DOA survey had an overall 23% response rate, but only 17% usable responses. The agricultural economics survey had an overall response rate of 34% with 29% of the responses usable. Neither of the surveys had a follow-up reminder for responders to complete the survey, and each survey was returned "anonymously," – no tracking capability. The Georgia DOA survey used its certified grower list for its mailing, while the UGA survey was mailed to the Georgia Green Industry Association membership roster of wholesale growers, as well as nurseries provided by the County Extension Directors.

The plant material listed on the GDOA survey included ten plant species thought to be invasive and a severe threat. The species from the GDOA survey included: Autumn Olive, *Elaeagnus umbrellata*; Chinese and Japanese Wisteria, *Wisteria floribunda* and *Wisteria*

sinensis; Chinese Privet, *Ligustrum sinensis*; Chinese Tallow Tree, *Triadica sebifera*; Princess Tree, *Paulownia tomentosa*; Japanese Climbing Fern, *Lygodium japonicum*; Japanese Honeysuckle, *Lonicera japonica*; Kudzu, *Pueraria montana*; Mimosa, *Abizia julibrissin*; and Multiflora Rose, *Rosa multiflora*. The list of plant material used in the agricultural economics survey, as provided by the CANR, included: Asian Privet, *Ligustrum lucidum*; Asian Wisterias, *Wisteria floribunda* and *Wisteria sinensis*; Autumn Olive, *Elaeagnus pungens*; Chinese Privet, *Ligustrum sinensis*; English Ivy, *Hedera helix*; Japanese Privet, *Ligustrum japonicum*; Japanese Spiraea, *Spiraea japonica*; Nandina, *Nandina domestica*; Vinca, *Vinca major* and *Vinca minor*; and Wintercreeper, *Euonymus fortunei*.

The questions posed on the two surveys included: Which of the following plant species have you grown, installed, or sold at least occasionally during the past marketing season [the respective lists were presented]? [Note that if the respondent indicated he or she had grown, installed or marketed any of the specified plant species, they were then asked the following questions with respect to the aforementioned plant species.] What are the estimated revenues received from the production, installation or marketing of these plant species? These plant species represent what approximate percentage of your total revenues? Do you consider the respective plant species as a severe-threat invasive plant? Would you be agreeable to or willing to phase-out of production, installation, and marketing of the plant species? If a phase-out were to occur, would that phase-out have a high or extremely high negative impact on your business? The results from the two surveys are aggregated in the following table.

Significance to Industry: This project, funded by the Center for Applied Nursery Research, had the objectives of estimating the revenues to the green industry attributed to severe threat invasive plant species and to ascertain the attitudes of the growers and grower-wholesalers of the invasive

plant species as to the degree of plant invasiveness (a severe threat?), their willingness or agreeability to a phase-out of the use of the plant species, and if the phase-out occurred, their perceptions as to the magnitude of any negative economic or lost revenue impacts.

Literature Cited

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Invasive Species Executive Order. February 3, 1999. The White House.

Table 1. Estimated Sales of Potentially Severe-Threat Invasive Plant Species in Georgia, and Grower-Installer-Marketer Attitudes.

Plant Species	% Who Occasionally Grow, Install, Sell Species	Estimated Grower Revenues Attributed To Species	Of The Respondents Who Grow, Install, or Sell Species			
			Species Is What Total Sales	% Who Consider Species to be Severe-Threat as Invasive	% Agreeable or Willing to Phase-Out Production Installation, Marketing	% Who Consider Phase-Out to Have High Negative Impact on Their Business
Asian Privet	6%	\$ 125,675	1.1%	15%	32%	18%
Asian Wisteria	14	218,120	1.2	16	28	19
Autumn Olive	7	61,740	0.7	23	27	13
Chinese Privet	15	519,320	2.4	21	27	30
Ch. Tallow Tree	15	312,380	0.2	13	29	11
English Ivy	18	546,625	3.1	8	23	37
Kudzu	2	17,900	0.3	80	40	8
Jap. Climbing Fern	1	9,995	0.1	11	50	20
Jap. Honeysuckle	8	97,920	0.9	19	26	13
Japanese Privet	13	386,745	0.9	60	30	14
Japanese Spiraea	10	393,810	1.6	32	24	17
Mimosa	5	67,560	1.3	12	20	20
Multiflora Rose	5	109,875	2.0	28	25	25
Nandina	21	843,695	3.8	14	21	32
Princess Tree	2	11,740	0.8	40	40	10
Vinca	20	459,630	1.8	20	22	35
Wintercreeper	19	187,100	2.9	23	28	28

