

SPECIAL FEATURE

Workforce Management

Responding to challenges in the tree care maintenance and removal industry



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THE COMMERCIAL ARBORIST INDUSTRY

currently employs approximately 225,000 persons in the United States. These employees are divided among approximately 15,000 independent tree care companies, which average 15 employees per company. The availability of skilled and job-ready workers and the retention of these workers are two of the most prevalent challenges facing the tree care industry in the Midwest and throughout the country. The average tree care company in the United States experiences an annual turnover rate of 25 percent, or an average of four persons. Fifty percent of this need falls into the job classification of ground person, which results in a potential ground person workforce need of 30,000 persons annually. The ground person job classification performs a critical role on the job site of the tree care company. These persons perform equipment operation and transportation, climbing support, and pruning services. The ground person is considered to be an entry-level position in the tree care industry, which provides an ideal introduction into the industry and a building block to progression into arboriculture as a career. In the United States, the average person in this job classification earns approximately \$14 per hour. The demand for proper tree care service in the United States continues to increase for four main reasons:

1) urbanization, 2) urban sprawl construction, 3) natural disasters and 4) imported insect pest and tree diseases.

1) Urbanization

According to Stockbridge School in Amherst, Mass., American households currently spend \$13 billion in tree care annually. As the urbanization of America continues to increase, this number will continue to rise. In fact, according to The National Association for State Foresters, "By the turn of the century, [2000] over 80 percent of all Americans will be living in or next to metropolitan centers. We need to manage our urban and community forests and integrate these resources into the infrastructure of our nation's communities, thereby making positive changes in the quality of these resources and the quality of life for urban residents."

2) Urban sprawl construction/ infrastructure repair

Increases in residential and business construction also contribute to the increasing demand for tree care workforce. According to the U.S. Department of Labor's Bureau of Labor Statistics (2006) this expected growth in construction will drive employment of grounds maintenance workers to "grow faster than the average of all occupations through the year 2014." Residential demand is also increasing, in part due to the continuing trend of two-income households. Homeowners are increasingly hiring persons to fulfill their tree and landscaping needs because they understand that proper maintenance/curb appeal will significantly increase their property's value. Construction growth also affects utility

companies as they continue working to prevent power outages through proper tree maintenance.

3) Natural disasters

Increases in the frequency and severity of natural disasters throughout the United States also create a significant demand for tree care services. According to the North Carolina Utilities Commission, "Effective tree-trimming and right-of-way maintenance programs are the most cost-effective methods to prevent widespread power outages caused by all natural disasters." Infrastructure repair caused by hurricane damage has also contributed to this increasing demand in recent years. According to storm restoration statistics reported by Baltimore Gas and Electric (BGE), the workforce dedicated to power restoration following Hurricane Isabel in 2003 consisted of 6,406 persons, including 304 tree crews. The total restoration cost was estimated at \$81 million.

According to data gathered by researchers at the School of Earth and Atmospheric Sciences at Georgia Tech and the National Center for Atmospheric Research, the number of major Category 4 and 5 hurricanes worldwide has nearly doubled over the past 35 years, even though the total number of hurricanes, including weaker ones, has dropped since the 1990s. The explanation behind these statistics is widely debated among scientific experts.

In 2004, four major hurricanes tore through Florida. Two of these, Frances and Jeanne, struck

within three weeks of each other just north of Palm Beach County. Both of these hurricanes were rated Category 3 and resulted in major devastation and hundreds of millions of dollars in property losses. More than 28,000 individuals on the Treasure Coast filed unemployment claims, and 20,843 of these claims were for Emergency Disaster Unemployment. As a result, Florida received a National Emergency Grant (NEG) to provide temporary jobs to assist local communities who received substantial damage caused by these storms. Some examples of the types of work include demolition, cleaning, repair, renovation, construction of damaged and destroyed structures, facilities and lands located in the affected areas; distribution of food and clothing; and other humanitarian services. Majority of work done was related to damages, tree clean up and removal. The 2005 Atlantic hurricane season was the most active Atlantic hurricane season in recorded history, repeatedly shattering previous records. The impact of the season was widespread and ruinous with at least 2,280 deaths and record damages of more than \$128 billion. In 2005, Wilma struck south Florida, and in August 2005 Hurricane Katrina became the costliest and one of the deadliest hurricanes in the history of the United States. It was the sixth-strongest Atlantic hurricane ever recorded and the third-strongest hurricane on record that made landfall in the United States.

4) Imported insect pest and tree diseases

Exotic insect infestations have devastating effects on tree populations on a large scale. According to the United States Department of Agriculture's (USDA) Forest Service both native and non-native insects and diseases have caused above-normal mortality rates on forested lands in the United States. Some 58 million acres (or 8 percent) of forested lands are at risk of mortality rates that exceed the norm by 25 percent or more. According to a study conducted by Peter Follett and Lisa Neven with the USDA (2005) "The prevalence of insect infestations is expected to increase in frequency... With world trade in agricultural commodities increasing, the introduction of exotic insects into new areas where they become pests will increase." For

example, since the 2002 discovery of the Emerald Ash Borer (EAB) in Michigan, the beetle has killed at least 8 to 10 million ash trees in Ohio, Michigan and Indiana, costing homeowners, municipalities and forest product industries tens of millions of dollars. In recent years, researchers have determined that tree density after certain epidemic insect outbreaks has resulted in the increased likelihood of more large and intense wild fires.

Workforce development and retention challenges

Using primary and secondary research methods with over 1,000 customers, competitors, and industry experts nationwide between November



2004 and December 2005, Vermeer concluded that 54 percent of respondents identified recruitment and retention of qualified tree care workers, specifically ground persons and tree climbers, as one of the most prevalent challenges in their businesses. This was cited second only to business insurance/workman's compensation costs. Additional research conducted in December 2005 identified that 82 percent of the workforce need in the industry exists within the tree climb-

er and ground person job classification. These workforce development and retention challenges are a result of three main issues facing the tree care industry in the United States: 1) industry perception, 2) degree of risk and 3) seasonality.

1) Industry perception

Consumer perception is one of the largest challenges for workforce development and retention in the industry due to the lack of consumer knowledge in choosing quality tree care professionals, and the negative connotation toward workers in the industry.

Historically, arboriculture as a career was virtually unknown to the general population.

According to Ken Palmer of ArborMaster, Inc., "In the last 10 years; knowledge of arboriculture has continued to rise, mainly due to continued association development and consumer education efforts." High demand for tree care maintenance and removal services has driven many workers into the tree care industry on a full-time or part-time basis. The majority of these workers lack the education and experience to perform efficient, safe tree care services, and, in most cases, there are no incentives to seek out the limited education that is available. These two issues perpetuate an increasingly negative view of the industry.

2) Degree of risk

Accidents and injuries are the second largest challenge to workforce development and retention in the tree care industry.

The Department of Labor Bureau of Labor Statistics (2005) reports that there are 309,200 workers supporting the forestry/agricultural industries in the United States. Five-thousand-nine-hundred injuries were reported in 2004, with 3,300 of these injuries resulting in lost work days/relocations/etc.

A 2003 study by the Tree Care Industry Association (TCIA) Safety Committee, representing approximately 6 million industry man hours, reported that sprains and strains account for 40 percent of all reported injuries, followed by lacerations and contusions at 35 percent. Twenty-nine percent of these injuries were caused by falls

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from trees, 21 percent from insects, and 14 percent from caught-betweens. According to the Department of Labor Bureau of Labor Statistics, in 2002, there were 70 on-the-job fatalities among workers in the shrub and tree services industry. These fatalities occurred as a result of one or more of the following events:

- Workers struck by a tree. This includes cases where a tree fell forward onto the worker who was cutting it, and instances in which a tree struck a cutter's co-worker. In addition, workers were sometimes killed in an attempt to move from the path of a falling tree.

- Deaths occurring from falls, which might include falls from ladders, roofs or trees.

- Electrocutions. These may occur when workers come in contact with high-voltage power lines or electric transformers. There are also instances when workers cut through safety lines.

- Transportation incidents. These often involve vehicles that are overturned, or moving vehicles that hit a person or other vehicle.

The lack of bicultural and bilingual technical support and training in this industry also has an impact on the accident and injury ratings. Based on an informal survey conducted by TCIA (2004) it is estimated the Hispanic population accounts for at least 75 percent of tree care workers in the United States. In a Department of Labor – Occupational Health and Safety Administration Hispanic Safety and Health Summit speech, John Henshaw stated that while overall workplace fatalities fell, deaths among Hispanic workers have risen – by 12 percent in 2000 and 10 percent in 2001. “We learned that the service and agricultural industries account for most of the increases...” The Department of Labor Bureau of Labor Statistics reports that fatal work injuries among Hispanic workers were up 11 percent in 2004 after declining the previous two years. Occupational Health and Safety Administration statistics report that 18 percent of all worker fatalities in 2002 were of Hispanic descent. According to Iris Magaly Zayas (2004) from the United States Department of Agriculture's Forest Service “One of the reasons for this tragic statistic seems to be the failure of employers to communicate effectively with non-English speakers. Ideally the workers should learn the language, but safety and training don't need

to wait until this happens, if it ever does. Some of them are functionally illiterate in their own language.”

Special initiatives have begun to combat this issue. In 2000, the USDA Forest Service assembled a Hispanic Tree Workers Initiative to address this and related issues involving the growth of the Hispanic workforce population in the Arborist Industry. Programs of this initiative include:

- 1) International Tree Climbers Guide has been translated into Spanish;

- 2) Launch of the Hispanic Web Page of the International Society of Arboriculture;

- 3) Hands-on-training workshop in Atlanta in May 2003 that focused on immigration laws, recruitment, training, retention of employees,



safety and health and Hispanic culture;

- 4) Green Industry job and safety fair held in March 2004 focusing on safe tree climbing techniques; and

- 5) Development of Spanish language CD-ROM “Introduction to Arboriculture – Tree Biology,” through The International Society of Arboriculture.

Based on the results of these initiatives Zayas stated, “...in the future the Initiative should do more of the hands-on training or workshops, interactive activities, where employees and employers can ask questions, exchange ideas and get immediate feedback from the presenter and other attendees.” Since 2004 related initiatives have been minimal, due to lack of support and funding.

Training has shown to significantly decrease the risk in the industry. From 1997 to 2004, Arizona Public Services (APS) experienced approximately 12 injuries/accidents per year.

After APS invested in the ArborMaster training series designed to improve safety and productivity, employees experienced a 100 percent reduction in accidents the first year trained while decreasing cost per tree worked by 30 percent.

3) Seasonality

Seasonality is an important factor in employee retention for tree care companies. Until a company develops a portfolio of services to offset seasonal demand or is educated in tree technique to be utilized in colder climate, seasonality will continue to negatively affect the tree care workforce. According to Palmer, “A lot of pruning is best done during winter months and frozen earth and water can be a huge advantage for many tree removal operations.”

The increasing frequency and severity of hurricane activity in recent years, as well as future storm predictions also contributes to the increasing demand on the tree care workforce.

Training activities and opportunities required to build a successful arboriculture ground person workforce

While the vast majority of training for this workforce is informal/on-the-job, two types of formalized hands-on arboriculture training are offered in the United States.

- 1) Degree programs
- 2) Independent public courses

1) Degree Programs

Two, two-year arboriculture degree programs are currently offered in the United States. The first is through Northeast Iowa Community College in Calmar, Iowa. The second is through Stockbridge School at University of Massachusetts in Amherst, Mass.

The two-year degree program at Stockbridge offers courses in plants and landscape, aerial techniques, botany, soils, insects, plant science, marketing, turf grass management, forestry, and a hands-on internship program.

2) Independent public courses

According to Palmer, “Public training typically is geared for the experienced worker who wants to further his expertise in climbing, chain saw, rigging, etc. These courses do not support the entry-level worker who cannot afford this type of training...”

Neither degree programs nor independent

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public courses are sufficient to recruit and train entry-level workers. College graduates are educated for managerial or sales positions, or urban/municipal forestry management rather than entry-level ground person positions.

According to Palmer, “Typically, the extent of hands-on training in these programs is an overview taught from a management perspective.” The lack of readily available training programs for new entrants into the tree care industry is a major barrier to the success and growth of these and other arboriculture training. Mark Garvin, TCIA vice president of public policy and communications, noted in an article published by Stockbridge (2005), “Without programs to interest and train young people, the industry will naturally attract fewer workers – and fewer qualified workers. We have to attract people and show them that there is a career path. This is not an industry where they’ll be making minimum wage for the rest of their lives...”

Indeed, educational reports from institutions across the country support Garvin’s statements. A study published by Ohio University in 1991 suggested associate degree earners who took vocational programs had 37 percent higher incomes than graduates from non-vocational programs nine years after graduation. Drop out rates are also 31 percent lower in vocational programs than associate or bachelor degree programs. “The careers that can be entered [from degrees in vocational programs] provide the sat-

isfaction of a fulfilling work life with exceptional compensation. Vocational-technical education can be a lifesaver for the men and women who choose to refrain from or postpone going to a four-year or two-year college.”

The economic impact of technical education is demonstrated by continued support from the



United States Chamber of Commerce. According to Vocational Education, “The United States needs, and will continue to need, a highly skilled workforce, with strong academic, occupational and technical abilities. Career and technical education helps students develop occupational and technical skills and achieve success in the labor market.” Only 36 percent of adults pursue and complete bachelor’s degrees, leaving 64 percent of American adults open to participate in technical skill training and education which will allow them to contribute successfully to the

nation’s workforce.

A research review by the Iowa Des Moines Register further explains the need for vocational training programs. Difficulty in finding qualified workers is increasing significantly nationwide, as well as in Iowa. By 2012, Iowa is projected to have up to 200,000 more jobs than workers to fill them, the result of Iowa’s stagnant population growth converging with impending baby boom retirements (Eller, 2006).

The impact of technical training in raising human capital makes technical-vocational education a logical fit for the tree care industry. A collaborative training and placement effort by industry trainers, associations, educational institutions, and equipment suppliers (see sidebar, page 21) has shown to be highly effective in producing a high-performing, safe and professional workforce. “Collaboration between such [vocational] institutions, companies and unions can produce curricula that redound to the benefit of workers as well as workplaces,” (Cantor: Lewis & Griggs, as cited in Texas A&M University, 2004).

The proposed strategy to provide skilled and job-ready tree care ground workers involves a combined effort of the public, private and non-profit sectors leveraging the core competencies of each organization. **AI!**

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Tree Care TechReach

Tree care industry leaders ArborMaster, Husqvarna, SherrillTree and Vermeer are working together in cooperation with Manpower and Bigtimejobs.com to provide tree care businesses with a new source of skilled workers. Tree Care TechReach is a comprehensive, collaborative program that encompasses recruiting, training and job placement assistance.

The program works with local workforce investment system to recruit potential tree care professionals. Candidates participate in a one-week course focused on general safety, an introduction to tree care operations and the role of the ground worker, tool safety, equipment operation and transportation, cutting techniques, in conjunction with job-readiness training. Following the program course, graduates are recommended to tree care businesses looking for workers. This training program is geared toward the entry-level worker and aims to fill the industry need for ground workers.

Tree Care TechReach is based on Manpower's model for workforce development, and helps tree care companies identify regions where the industry has high employment needs. Manpower, through its national partnership with the public workforce system and supported by the U.S. Department of Labor, collaborates with the local workforce investment system to recruit potential tree care employment candidates in these regions.

Vermeer, ArborMaster and Manpower work together to identify core competencies, employer objectives, and requirements to develop trained, job-ready tree care ground workers. They then design a training and placement program based upon these competencies, job requirements and objectives.

Manpower and local workforce development boards will recruit potential workforce candidates utilizing nationwide

branches and advertising programs. Inventive Marketing will help create a Tree Care TechReach-specific Web site to help employers and job seekers connect online. Manpower will direct recruits through a pre-employment assessment using their proprietary selection processes including behavioral and industry assessments, interviews and pre-employment screenings.

Following successful completion of assessments and pre-employment screenings, recruits will attend a 40-hour training program consisting of instructor facilitation, and hands-on practice/demonstrative coursework.

Instructor-facilitated classroom covers worksite safety/awareness, and industry introduction. Hands-on practice/demonstrative includes equipment operation for hand tools, power tools, stump cutter and brush chipper; climbing support, which includes rope and knot tying, rigging, basic pruning and tree felling procedures; personal protective equipment; worksite preparation and clean-up; and emergency preparedness. In addition to technical skill training, soft skills enhancement is also offered.

The goals of the project are to provide tree care businesses with a new source of work-ready, skilled workers; provide unemployed and underemployed workforce with a gateway to high-potential technical careers; overcome the technical skill shortages by positioning Vermeer, ArborMaster and Manpower as effective intermediaries between employers and the workforce investment system; reduce the potential workforce safety risk presented by hazards on the job through effective education; and reduce risk and potential hazards to consumers and communities (utilities, structures, infrastructure) by providing tree maintenance and removal education.

The implementation of this program will realize a business

solution that strengthens its workforce and positively impacts the bottom line; significantly reduce new hire training costs; significantly reduce turnover and the costs associated with replacement; reduce the number of unemployed and underemployed citizens; offer benefit through potential tax incentives associated with eligible candidates from the above-mentioned groups; contribute social and economic benefits to the entire country through employment opportunities, education, and expanded career growth in the arboriculture industry; and take advantage of an established partnership between service and product providers in the tree care industry that combines the strengths of all to offer a cost-effective tree care ground workforce.

Manpower, Vermeer and ArborMaster propose a one week, bi-lingual (Spanish/English), fast-track training program to prepare new hires with little or no experience in the industry with the essential skills to perform successfully as tree care ground workers. Specialized "soft skills" training would be provided in a classroom, instructor-led environment. Specialized "hard skills" training would be provided on-site at residential, commercial or community parks and/or Vermeer distributors eight hours per day for a period of three-and-a-half days. After completing the initial training session, trainees will be given the opportunity to interview and apply for hire as tree care ground worker at area tree care companies.

Most up-front program start-up costs will be covered by alliances participating on this public/private-sector initiative. There will be no cost to participants. In many cases, Public Workforce System, through its skills development programs would fund this training initiative. There will be minimal or no costs to hiring tree care companies.

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