

Qualitative Evaluation of Lawn and Garden Equipment Risk Communication

Prepared for:

U.S. Environmental Protection Agency



April 1995

Prepared by:

Maria Elena Toraño Associates, Inc. (META)

2000 North 14th Street

Suite 450

Arlington, Virginia 22201

Qualitative Evaluation of Lawn and Garden Equipment Risk Communication

Prepared for:

U.S. Environmental Protection Agency



April 1995

Prepared by:

**Maria Elena Toraño Associates, Inc. (META)
2000 North 14th Street
Suite 450
Arlington, Virginia 22201**

Introduction

It has been said that Americans are increasingly obsessed with their front lawns. Feelings of pride and citizenship are linked to the care and quality of lawns and gardens. Yet, the public seems to know little about the environmental impacts of lawn and garden practices. The 89 million and growing numbers of lawn mowers, chain saws, string trimmers and other pieces of lawn and garden equipment (LGE) are a significant source of ozone and carbon monoxide (CO) emissions in many United States communities. The U.S. Environmental Protection Agency (EPA), reports that about five percent of air pollution comes from these sources.

In 1994, in its continuing effort to protect air quality, EPA proposed the first-ever national emission standards for new small engines used in most LGE. Such standards are expected to significantly reduce the level of emissions from this type of equipment.

The EPA also is developing a pollution prevention campaign targeted at LGE users. The objectives are to (i) make the public more aware of environmental and health impacts of pollution from LGE; and (ii) promote voluntary individual behavior change strategies among LGE users and those who influence their behavior (such as retailers and extension agents).

To develop an effective pollution prevention campaign, EPA must have a clear profile of the target audience. EPA must understand current attitudes and practices regarding LGE, and identify effective messages and communication channels for reaching this audience. One approach adopted by EPA was to conduct focus groups with participants who represented the target audience and use the results in formulating communication strategies.

This report presents the results of a series of focus groups conducted in Milwaukee, Wisconsin during January 1995. The focus groups were designed and conducted under contract to the EPA by Maria Elena Toraño Associates, Inc. (META), an environmental services and management consulting firm of Arlington, Virginia. The focus groups were specifically aimed at obtaining information about the knowledge, attitudes, and practices of residential LGE users, and determining effective media and channels for risk communications.

Three specific behaviors on which information was sought are:

- Preventing spillage
- Switching to or using alternative-powered equipment
- Using alternative landscaping schemes

This report is divided into four sections. Section I provides an overview of the methodology employed, including the planning, implementation, and evaluation of the focus group process. Section II profiles the focus group participants. Section III summarizes the findings and highlights respondent attitudes and opinions. Section IV offers conclusions and recommendations for disseminating future information to the target audience.

Section I: Overview of Focus Groups

Although focus group research has been a widely used qualitative methodology in private sector market and consumer research, it is increasingly being used in the public sector to study perceptions of governmental programs and policies. The goal is to understand, through individual and group processes, what people think and how they feel about an issue.

Focus groups produce qualitative information on the perceptions of a limited, representative group, and complements numerical survey data from which to derive statistical inferences, and provides insights into how individuals in the general population will respond to subjects, issues, and ideas discussed in the focus groups. The free-flowing, open-ended discussion format encourages group interaction, and allows participants to use their own words in expressing their opinions and feelings. By using both survey data and focus groups, a researcher can explore the depth and nuances of opinions, correlate these to statistical information, and generalize to overall populations.

A. Planning of Focus Groups

The project team at META was responsible for designing, implementing, and evaluating the focus groups. The Work Assignment Manager (WAM) at EPA evaluated and approved each phase of the process, including project materials such as the participant screening questionnaire and moderator's guide. Copies of these are attached as Appendix I and Appendix II respectively.

Wisconsin was selected as the site for the focus groups because it is one several states already participating in EPA research efforts and pilot programs aimed at gathering data on public behaviors and attitudes. In addition, the Wisconsin Department of Natural Resources is actively involved in similar environmental research efforts and could provide additional input and direction.

Potential candidates for the focus groups were contacted by telephone and identified by using the following sources:

- A list of individuals who visited the EPA exhibit at the Wisconsin State Fair, and indicated a willingness to participate in future EPA studies.
- A database compiled and maintained by Lein/Spiegelhoff, Inc., a market research firm in Milwaukee.

The EPA list was the preferred source of prospective participants, and all persons on the list were contacted who were within a reasonable commuting distance of the site of the focus groups. When this first step did not produce a sufficient number of candidates, the Lien/Spiegelhoff database was used. However, all candidates were subjected to the same screening questionnaire and selection criteria.

Persons engaged in the manufacture or sale of LGE were not selected. Potential participants were asked questions regarding their lawn and garden practices, lawn and garden equipment types, and equipment maintenance practices. Those who performed their own lawn work, owned and operated LGE, and performed their own equipment maintenance were selected for the focus groups. The questionnaire also collected basic demographic information on respondents.

In consonance with standard focus group methodology, META prepared a moderator's guide that would be used in conducting the sessions. The guide covered all of the specific issues on which EPA sought information and reactions, described the main topic areas to be explored, offered follow-up probes to encourage elaboration of responses, and a time schedule for each major segment of the session.

B. Implementation of Focus Groups

Two focus groups were conducted on January 12, 1995, at the Lein/Spiegelhoff facility in Brookfield, Wisconsin. The facilities provided a comfortable meeting room with audio and video recording capabilities (both of which were used for this project), and a viewing room with a one way mirror. The viewing room was to be used by representatives from EPA and the Wisconsin DNR, but because of the severe weather (airports closed because of fog), they were unable to attend.

To create a relaxed ambience, focus group participants for were greeted and registered by a hostess, shown to a waiting room, and served light snacks and refreshments. This was very important so that members of the groups would interact almost immediately, rather than having to go through a warm up period.

Both focus groups were conducted on schedule and lasted approximately two hours and fifteen minutes.

All except one participant reported at the prescribed time. This was unusual and unexpected because it is necessary to overbook sessions to assure that there will be sufficient participants to obtain valid responses, and we had wanted to have from 10 to 12 participants. For Group 1, 13 persons had been contacted and all 13 reported; for Group 2, 13 persons had confirmed, but one did not report. The single no-show had called ahead to cancel. Because the meeting rooms comfortably seated only 12 participants, one individual in the first group was paid transportation costs and released.

C. Evaluation of Focus Groups

The focus groups went smoothly and generally resulted in obtaining valuable information. Overall, the facility and personnel at Lein/Speigelloff were excellent.

The original plan called for a debriefing during the break between the two focus groups to obtain the reaction of the EPA and Wisconsin DNR representatives for the purpose of adjusting the approach to the second session. However, because of inclement weather, neither the EPA or DNR representatives was able to attend. Some immediate feedback and evaluation by a third party or co-moderator undoubtedly would have enhanced the second focus group.

The moderator's guide was designed to comprehensively cover the specific topic areas on which EPA desired information regarding risk communications. The principal objective was to obtain reactions and attitudes toward LGE purchasing, operation, and maintenance practices, as well as attitudes toward alternative landscaping. Another purpose of the guide was to determine, where possible, whether the groups' reactions were consistent with statistical data that had been collected earlier by EPA.

The guide was easy to follow and sufficiently detailed to elicit the information desired for productive analyses. However, the number of topics and scope of issues were very aggressive for the two hour schedule. Both groups went beyond the time schedule by 15 to 20 minutes. This could be overcome by adding a few extra minutes to the schedule or having the facilitator be more rigid in controlling the discussion. Restricting the discussion is not desirable unless it wanders significantly from the issues being discussed.

Section II: Profile of Respondents

Table 1, "Profile of Focus Group Respondents," reflects the demographics of each focus group based on information collected during the selection screening interview.

- The participants in both groups were almost evenly split in terms of the size of their lawns; 12 had a lawn of less than one quarter acre and 11 had lawns from one quarter to two acres.
- By far, the most common type of lawn and garden equipment used by the respondents are gasoline lawn mowers (23) and electric grass trimmers (15). Only a small number of participants used electric mowers (2), riding mowers (5) or gasoline grass trimmers (6).
- Ten (10) participants were 35-44 years of age; 6 were 25-34; 5 were 45-54; and 2 were 55-64 years of age.
- There were a total of 21 male and 3 female participants.
- The participants' homes were located as follows: 8 respondents from Milwaukee; 5 from West Allis; 4 from Waukesha; 2 from New Berlin; and one respondent each from Hartland, Pewaukee, Hales Corners, and Menomonee Falls. The residence of one respondent was inadvertently not recorded.

As shown on Table 1, the two groups had several minor differences that worked to create different group dynamics:

- Focus group 1 had a wider dispersion of characteristics than focus group 2. For example, all three females in the study were in focus group 1. The females were somewhat less confident in their knowledge of their equipment and slightly more reserved. In fact, one female respondent, who actually had done some research before purchasing her LGE, repeatedly apologized to the group for her limited knowledge.
- One male participant in group 1 was a more sophisticated LGE user and clearly was very knowledgeable on the subject matter (this person was employed at a housing complex and was doing some part-time landscaping). He was particularly interested in the use of natural gas as a potential fuel source.

- In general, members of group 1 seemed to use more sophisticated LGE and were better informed as to brand names and models. This may have been a result of having the "professional" LGE user mentioned above in the group. This may have encouraged other group members to show off their LGE knowledge.
- Conversely, participants in group 2 seemed to be less sophisticated in describing their LGE and more inclined to admit to more limited knowledge. For example, the topic of electric lawn mowers generated a much better discussion in group 2 since two members had used this type of equipment. These two users were able to express their views and provide a great deal of new information to other members.

In general, the composition of the two groups suggests that they are sufficiently representative of the LGE using population to warrant acceptance of their attitudes as also being generally representative. Their profiles closely track statistical data gathered in other studies of LGE ownership and use with respect to age, types of equipment, and distribution of male and female users of LGE.

However, the groups were not racially or culturally diverse which limits the inferences that may be drawn. These are enormously important factors in assessing the potential effectiveness of communication strategies.

Table 1: Profile of Focus Group Respondents

Respondent Characteristics	Focus Group 1	Focus Group 2	Total
Size of lawn:			
Less than one quarter acre	5	7	12
One quarter to two acres	6	5	11
More than two acres	0	0	0
No response	1	0	1
Type of equipment:			
Walk-behind mower	12	12	24
Gasoline	12	11	23
Electric	0	2	2
Riding Mower	3	2	5
Grass Trimmer	11	9	20
Gasoline	4	2	6
Electric	8	7	15
String	11	9	20
Blade	1	0	1
Age of respondent:			
25-34	2	4	6
35-44	4	6	10
45-54	4	1	5
55-64	1	1	2
No response	1	0	1
Gender of respondent:			
Male	9	12	21
Female	3	0	3

Section III: Focus Groups Summary and Highlights

This section highlights the attitudes and perceptions participants in the two focus groups.

As discussed above, focus groups produce qualitative information on the perceptions of a limited group rather than statistical data which are used to draw inferences regarding the broader population. However, focus groups can complement statistical analyses by providing greater insight into the intensity of attitudes and into the nuances of reactions. These cannot be easily discerned from statistical data.

These insights are critical in assessing the effectiveness and risks of different communication alternatives, particularly when the issues are unusually sensitive and/or associated with government initiatives that touch everyone's lives. In such situations, there are inevitably underlying attitudes and emotions that inhibit or distort communication of important information.

Focus groups create an environment of free-flowing, open-ended, interactive discussions. Participants not only express their opinions, using their own words, they also reveal the intensity of their feelings. The entire spectrum of group interactions (tail-gating; challenge; clarification) provides a deeper and broader insight into every issue. The focus groups conducted in this engagement reflect the typical town meeting environment that often occurs in which everyone correctly believes that they can express their opinions and every opinion has value. In reviewing the audio and video tapes, one can detect acceptance of other positions and subtle shifts in attitudes.

Topic 1. How participants feel about their lawns

- A. How respondents and neighbors feel about their lawns
- B. Lawn expenses and family budget priority

If lawn care is an American obsession, not many people seem to be enjoying the experience. Among the participants in these focus groups, no one claimed to be getting any true pleasure from mowing their lawn. As one participant said, "It's hard love." The following discussion reflects a common attitude in both focus groups that lawn care is principally a routine household chore that must be done. Two people did mention the residual health and exercise benefits that accrue from lawn mowing, but the rest of the group did not accept these as significant motivations for lawn care.

The typical attitude of group participants to lawn care was summed up by comments such as:

"(I) cut the grass as often as I have to. And I only fertilize the front, but not the back."

"I cut once a week, and water once in a while."

One member of group 1 was much less gentle in describing her lawn relationship. As she put it, "I'd be glad to dig up." However, such an extreme view was the anomaly in the groups.

One issue that became very clear from the focus groups is that the lawn obsession may be driven as much by peer pressure and conformity as pride in the lawn's appearance. The participant who admitted to only fertilizing the front lawn was not alone in his innocent subterfuge. At least a quarter of the respondents suggested that they had different mowing habits for their front lawn than other areas. It seems important that the front lawn be well maintained, while other areas do not deserve intensive care.

Two or three members of each group were quick to mention neighbors who had "too much time on their hands" and "perfectly manicured" lawns. But, no one from either group admitted that they kept a perfectly manicured lawn themselves. The direction and tenor of the group's discussion may have inhibited any participants from admitting or appearing to be overly concerned with their lawns. Even participants' comments indicating that they carefully tended their lawns revealed that their neighbors' opinions were big motivators.

"Having it look trimmed is a way of showing my neighbors I care how it looks."

When the group was asked a question regarding lawn care peer pressure, more than half were quick to agree that it was a significant factor. No one in either group openly disagreed with this notion. However, two or three participants did say that, even peer pressure existed, they would not be influenced by it. Notwithstanding this expression of independence, comments of group participants offered compelling testimony that peer pressure played a major role in lawn care practices. It appeared that group members rationalized their conformity to the existence of and need to meet a "neighborhood standard," even though the ensuing discussion suggested that such standards vary substantially.

- One participant in group 1 admitted that there may be "a little bit of competition" in his neighborhood.

- A member of group 2 said that his neighbors at one time pressured people to use the same lawn feeding company so their lawns would grow at the same rate and have a consistent appearance.
- More than one person in group 2 suggested that a "group dynamic" influenced lawn mowing practices. When one person went out and began mowing, other neighbors tended to go out and follow along. A participant in group 1 claimed that going outside with your edger can have the same affect.

While participants agreed that neighbors may attempt to exert pressure and achieve conformity in lawn care, there was a strong feeling that there was a lot of valuable information sharing among neighbors and a spirit of neighborhood assistance:

- At least three or four members of each group talked at one time or another during the discussion about either giving or receiving lawn care assistance or advice.
- One of the men in group 1 who has some mechanical skills mentioned that he had a shed full of other neighbor's equipment that he was trying to repair.
- One of the women said that she and a neighbor often take turns mowing one another's grass.

Only two people in group 1 expressed a contrary view by suggesting that everyone in their neighborhood was "on their own."

The general impression is that neighbors with information or expertise regarding lawn care practices or equipment share information with those less experienced or knowledgeable. One person said that his neighborhood had a beautification committee that distributes literature on good lawn care.

Lawn care practices seemed to be pretty consistent among members of both groups:

- Although one or two members of each group said that they used a lawn service at some point in the past, almost all participants said that they mowed their own lawns.

- More than half of each group mow their lawns an average of once a week.
- Almost all of the group 1 participants has stopped bagging their clippings (some as a matter of city ordinance), and at least half are now using or going to refit their equipment with *mulching blades*.
- Two or three members of group 1 also were composting. One composter sits on his town's ecology committee and claimed that he even "swayed my neighbors" into composting and avoiding chemicals.

Generally, spending patterns on lawn care seem to be about right:

- In group 1, all five participants who offered an opinion on the question said that they spent the right amount on their lawns and gardens.
- Although participants were not asked to give exact amounts spent, the typical expenses mentioned were for several flats of annual flowers, one or two bags of fertilizer, and the long term cost of the lawn and garden equipment.
- Judging from the reactions of the groups however, expenses seems to be dependent most on lawn size. The general reaction from the groups' members was that lawn care would not be a high priority for family spending even if they had more discretionary money.

Several participants said that time constraints and the associated costs were more important than actual outlays for lawn care. Although it was never directly mentioned in group 1, at three or four members of group 2 said that time constraints were a bigger factor than monetary costs in keeping them from doing more with their lawn.

In group 2, the majority believed that lawn and garden care is the most time consuming regular maintenance activity around their homes. When asked whether they needed or wanted additional or different equipment, two or three participants in each group expressed an interest in either riding mowers or a vacuum bagger/mulcher device to pick up leaves and yard debris.

At least two people in group 2 gave the unsolicited opinion that they would reduce their lawn size and move to alternative landscaping if they had additional discretionary finances and more information and knowledge about such alternatives.

Topic 2. Lawn mowing equipment and factors influencing selection of equipment

This topic covered several related areas of inquiry:

- A. Ranking of most important mower features
- B. Perceptions of features on electric and gas mowers
- C. Information on improvements in gas mowers
- D. Maintenance on lawn - who, how often, what done, information source
- E. Any modifications made to lawn mowers, results of modifications
- F. Difference in maintenance of gas and electric mowers
- G. Consider buying an electric mower previously
- H. Perceptions of electric strong and weak points
- I. What would make you buy or not buy and electric mower
- J. Sources of information on buying lawn mowing equipment
- K. Innovations that you would like to see from LGE manufacturers

Mower Features

Participants were asked to think about the different features of lawn mowing equipment. There was a broad range of features that participants might look for in new lawn mowing equipment:

- Mulching ability
- Adequate power/horsepower
- Safety features
- Ease of starting
- Self-propelled
- Noise level
- Deck size
- Wheel placement
- Rear bagger
- Placement of controls
- Clear plastic filling tanks for ease of filling
- Size of gas tank (larger preferred)
- Engine type (2 or 4 cycle)
- Durability
- Alternative fuel capability
- Versatility of equipment (built in features like chipper/vacuum)

When prompted asked to rank the top features, members of the groups felt that the most important of the above group were (not ranked in order):

- Noise level
- Power
- Deck size
- Mulching
- Durability
- Ease of starting

When it comes time to buy new lawn mowers, the consensus of group 1 was that while features may be important, cost would still be the principal factor. As one group 1 member simply put it:

"I don't like to spend a lot of money on lawn equipment."

However, another participant in the group was quick to point out that "you get what you pay for."

Group 1 participants expressed clearly diverse opinions on LGE buying (or other acquisition) practices:

- While one person admitted to buying an inexpensive Murray at Sears, another group member said that had recently gone to a dealer and spent \$699 on a new Snapper to replace an older Snapper.
- The gentleman who claimed to be repairing his neighbors equipment said that he often finds older broken equipment that he uses to construct equipment for himself. He also revealed that his current mower was being held together by some wires. As he put it: "People sometimes throw it away when it needs a spark plug."

Gasoline vs Electric Mowers

The general discussion on equipment features turned to the differences in features on gasoline and electric mowers. The consensus of both groups was that electric mowers would be superior in noise abatement and ease of starting, but inferior to gasoline mowers in power, deck size, versatility, and the availability of self-propelled models.

Two of the perceived disadvantages of electric mowers that was mentioned frequently in both groups was handling the electrical cord and whether it would be hazardous if their grass was wet.

Concerns raised about battery-powered electric mowers included factors such as the weight of the mowers, the recharging time, and the frequency of recharging.

The discussion of electric mowers went on longer and in greater detail in group 2 because two participants owned electric mowers and tried to dispel the cord-cutting myth. They explained that, after several sessions, you will have figured out the system for mowing and it is no longer difficult or dangerous.

Overall, the two electric mower users expressed satisfaction with the power and durability of their electric mowers. However, while they gave some new information to the other group members about the virtues of electric mowers, they did not seem to have convinced anyone to change their mind.

Maintenance

Almost all of the participants do their own basic repairs and regular maintenance. Among the typical maintenance chores were annual spark plug and oil change; blade sharpening; and cleaning. The question of maintenance generated some diverse opinions and revealed widely different practices:

- Five group 1 participants said that they do regular maintenance once a year, while three others said that they perform maintenance tasks twice each year.
- Two participants in group 1 seemed unaware that routine maintenance was required or desirable, and suggested they maintain the mower "only when it doesn't work." A similar attitude seemed to prevail among the members of group 2.
- On the topic of adding oil, one of the groups also spent some time complaining about the burden of adding the oil for 2-stroke gasoline engines.
- About half of the respondents seem to be comfortable doing some basic repairs on their lawn mowers. As it was described by one respondent from group 2, "it's not brain surgery."

- Only two or three members of each group said that they used repair services when they could not fix it themselves. The person with the expensive Snapper in group 1 never touches the equipment and allows only the dealer to repair and maintain the equipment.

Sources of Information on Equipment Maintenance

The sources of information relied upon for maintenance and repairs varied widely:

- None of the participants seemed inclined to rely on the manufacturer's guide for instructions on basic repairs. In group 1, when one member was asked what they thought of the manufacturer's guide, he responded that it was "vague." No one in the group seemed to disagree.
- With respect to basic repairs, it seemed as though at least half of the groups would say that they learned on their own or from neighbors. They described themselves as "shade tree mechanics."
- In both groups, at least two or three of the "shade tree mechanics" had taken courses on small engine repair or similar topic at a technical school or local extension service. All of these people recommended such basic courses to the group.
- One member of group 1 said that he would go to the library to get repair and maintenance information.
- There was some concern expressed regarding overall awareness of courses at extension centers or local technical schools.
- It was mentioned more than once that finding replacement parts wasn't always easy and that sometimes you have to improvise to make parts work.
- At least two participants were seriously concerned about the high price of having equipment fixed at repair shops.
- Several group members believed that sales representatives and dealers are usually a good source of information for parts or service tips.

- There seemed to be a widespread perception that electric lawn mowers would be much simpler and cheaper to maintain. Over half of both groups expressed this opinion or nodded in the affirmative. However, the participants clearly did not believe that this was sufficient reason to shy away from gasoline mowers. They were willing to accept small regular maintenance costs.

Durability of equipment is extremely important, and it is clear that participants don't mind a little regular maintenance if it means the equipment will last longer. This opinion was exemplified by the argument made by several participants that lawn mowers are relatively inexpensive and should be considered as disposable items after a few years of use or when significant operating problems arise. However, this position seemed to depend on the cost and complexity of equipment used. No one with bigger or more expensive equipment seemed to accept this argument.

Purchasing Electric Mowers

The focus groups were asked to discuss their attitudes and practices toward purchasing electric mowers:

- Few respondents (one in group 1, three or so in group 2) thought about buying electric mowers when they made their last lawn mower purchase.
- Monetary inducements such as rebates or trade-ins might be favorably received if cost and other performance factors were equal. In group 1, seven respondents suggested that, in one way or another, they might be influenced by rebates, but only if they were sure that the product was as good as a gasoline mower.
- Electric mowers seem to suffer from a widely held belief that they are lower on power and not as safe as gasoline models.
- One member of group 2 was concerned that they would have electricity brown-outs if everyone used electric mowers. Most of the other participants in the group did not feel this was an issue.
- The question of how to handle the electric cord came up repeatedly.

- Only two participants said that they had looked at or tried a battery-operated electric mower. Another expressed concern about the disposal of dead batteries.

In group 1, the group was probed to find out what would be needed to convince them to buy an electric mower. Among the most important factors were: a cordless model; size of battery; life of battery; reasonable price; and reasonable weight. One member of group 2 suggested a 30 day money-back guarantee as an inducement to try an electric mower.

Overall, participants felt that there is really a lack of information about the benefits of electric mowers and because few people actually own them, there is very little information being shared among the general public.

Sources of Information for Purchase Decisions

The most popular sources of information on lawn mowers mentioned by participants in both groups were neighbors, salespeople, newspaper sales announcements, and consumer reports or groups. The rating assigned by the groups to these various sources appears later in this report.

- There was a feeling in the groups that people rely heavily on word of mouth among neighbors, and tend to trust this information.
- At least half of the participants said that they shopped around when buying equipment, and while they might compare power and features, price was still most important.
- It was clear from the discussions that the participants' level of understanding about electric lawn mowers was minimal and highly subjective (except for the few who owned or tried the equipment). This obviously contributes to the apparent misconceptions that surround electric equipment. At least two group members felt that, unless salespeople are pushing or heavily advertising electric mowers, there was little means of learning of their performance or benefits.

Participants also were probed to express their knowledge of and desire for innovations in lawn care equipment; among the ideas were:

- That mowers (particularly gasoline models) should be designed to serve as a power source for other equipment and increase the mower's versatility so that it can perform several lawn care tasks such as chipping or blowing.

- The use of clear plastic tanks for gasoline and oil. This would make it easier for users to determine fluid levels and help in refueling.
- There was general concern over the design and quality of lawn mowing equipment. Several participants said that engines could be better manufactured and could take advantage of new technology to be cleaner and easier to maintain. A question was raised as to why lawn mowers do not have catalytic converters or the equivalent.

Topic 3. Views on alternatives to lawns or lawn reduction techniques

A relatively recent innovation in lawn design and care is to use alternative landscaping as a means of reducing the size of lawns or eliminating them altogether. As the one lady in group 1 put it: she would be "just as glad to dig it up". This topic sought to explore how widely and intensely this sentiment was held, and explores:

- A. Feelings on getting rid of lawns or reducing their size
- B. Has anyone explored the idea of alternative landscaping
- C. Why haven't you explored these alternatives
- D. Important factors in considering alternatives

The groups were led into this topic by discussing some relatively common and traditional alternatives to the grass lawn, such as planting trees and shrubs, using rocks or gravel, and allowing for natural landscapes or prairies.

Overall, there was a favorable reaction to the possibility of using alternative types of landscaping. For example, at least two-thirds of group 1 had begun or given thought to landscaping alternatives. However, certain concerns were raised in both groups. Participants in each group questioned the amount of maintenance that alternative landscaping such as rocks or bricks may have, indicating that it could turn out to be the same or even more maintenance than a lawn required. As one person explained, you still must pull weeds, and clean or replace the rocks periodically.

Among both groups, the general reaction from respondents was that people, especially those with children, like a lawn with at least some grass.

There also was some concern over the appearance of "natural landscaping" and the health concerns, particularly that small animals and pests may be attracted to overgrown or large numbers of bushes/shrubs. One participant talked about a neighbor who had tried to move to the prairie-type landscape and had city workers come by and try to cut and clean up her property. Participants said that neighbors often don't understand the practice of natural prairie designs. They said that:

"(It) looked like hell."

"People just don't know what it is."

It was clear from the limited discussion by the groups that people must discuss their plans and ideas with their neighbors before they try something as different as creating a natural prairie.

The general perception among participants in group 2 was that alternative landscapes would be more energy efficient and safer for the environment. At least three talked about how shrubs and trees adding shade for homes in summer, lowered electricity costs, and reduced harmful chemicals being dumped into the environment. However, at least one person in the group wondered whether people would still use the same amount of chemicals to kill weeds and wild pests and therefore not really benefit the environment.

When asked what they thought were barriers to trying alternative landscaping, the group discussion identified as the most likely: (i) initial time and energy to install; (ii) cost; (iii) lack of information; and (iv) personal tastes.

At least three members of group 1 felt that the negative reactions of neighbors might be a barrier, especially in older, established neighborhoods. As one respondent in group 1 remarked about his experience with neighbors: "I had to start explaining when I starting digging those big holes."

Topic 4. Views on environmental impact of lawn care

- A. Feelings on environmental impact of lawn care
- B. How lawn mowing pollutes the air
- C. Methods for preventing emissions
- D. Perceptions of standards for controlling emissions
- E. Information sources on preventing pollution by lawn mowers
- F. Information on current programs or policies

Participants seemed to have some mixed feelings about the nature and magnitude of environment problems that may be caused by lawn and garden care, and the comments reflected a diversity of beliefs and feelings:

"Lawn care is a blot on the environment."

"I think a lot of people doubt their lawn has a significant impact on the environment."

"Nature causes a lot more of its own pollution."

It was a commonly expressed belief that lawn mowers may be a contributor to pollution, but they are not the biggest cause, and more should be done to clean up other large polluters rather than worry about such a minor source of pollution.

"Start with the other 95 percent, and tackle the bigger items" seemed to be a common attitude.

When information was presented to the groups about the carbon monoxide (CO) emissions of lawn mowers and the amount of fertilizer used by homeowners, it seemed that at least half of the participants were surprised. One or two individuals in each group were aware of the information, and at least one in each group was quick to question the credibility of the statistics.

However, the overwhelmingly expressed perception was that newer equipment is cleaner and better than older equipment. Better maintained equipment was viewed as safer for the environment.

Although many participants were initially shocked by the number of gallons of gasoline that are spilled annually, it became more believable once they began to admit their own spilling habits. At least four respondents in group 1 felt that spillage was an important issue. It was very clear from the discussion that few people realize how much gas gets spilled into the environment.

Two or three of the participants said that the current standard practice for reducing spillage is to place the thumb over the vent of the gasoline container. There was little discussion over how effective this approach actually was in reducing spillage.

When asked about the effectiveness and usefulness of devices such as the "Sure Pour" spout, the two groups had opposite reactions. In group 2, several people had been given the spout at the State Fair EPA demonstration and were very satisfied with it. It's important to note, however, that they were using metal containers that work quite well with the spout. Others in the group were favorably impressed by the spout and felt that they would use it if it was widely available and inexpensive. At least half of the group said that they would try it if it cost "just a couple of dollars" (under \$5.00).

However, in group 1, the two or three people who had used the spout were less satisfied because it did not fit their large plastic gasoline containers. However, the rest of the group did not seem dissuaded by the few negative comments, and said that they would try if it didn't cost more than a few dollars. When prompted, at least half of the participants seemed willing to buy a new gas container if such a no-spill spout were built right into the container.

Participants in both groups felt generally that the availability of more information on spillage and the contribution of LGE on environmental pollution might change behavior:

"I believe most people are willing to do something small that makes them feel good."

"People want to do the right thing."

These comments seemed to be supported by most of the participants, who felt that pollution prevention efforts would be supported, especially if such small measures were inexpensive and easy to use.

Two or three participants felt that promoting an inexpensive device such as the no-spill spout along with other LGE or at gas stations or LGE dealerships would be helpful in marketing the product. It was interesting to note that in group 2, after positive testimonials, many other members of the group were interested in finding such a device and asked where it could be obtained. One person wanted to take the display sample.

Disseminating Information on LGE and the Environment

The groups were encouraged to discuss the best media for communicating information about the no-spill spout and other environmental risks of LGE:

- There was a clearly positive reaction to providing information through product demonstrations at state fairs or other public events.

- Several members of each group felt that promotion of pollution preventing products or practices government agencies (state or federal) might not be viewed positively by the public because of a lack of trust and perceived over-regulation. As one participant put it: "A lot of people have questions about the credibility of EPA."
- In group 1, three or four participants suggested that public interest commercials on radio or television would be effective in informing the public of safer lawn and garden practices. They felt that a short commercial could be used during the seasons when stations were airing LGE sales announcements.
- Direct mailings to the public, regardless of the source, were not favored by the participants because of the excessive junk mail that people now receive.

Emission standard were viewed by the majority of participants as necessary evils in today's society. However, two or three members of each group were tremendously concerned about equity across cities, regions, and areas. Because Wisconsin residents already live with mandatory vehicle emissions and ethanol blended gasolines (which they claim drove the cost of gas up), they reacted passionately to areas where emissions standards are enforced to a lesser extent or not at all. They cited, as examples, pollution that affected Wisconsin that was generated by Chicago and Gary, Indiana.

Concern was raised by more than one participant over pollution by area industries and the lack of enforcement over this source. No one appeared to favor any type of user-based pollution regulation on LGE and questioned how this could reasonably be accomplished.

While they seemed to take a dim view of user-based regulation, participants reacted more positively to manufacturer-based standards for LGE. They generally felt that manufacturers should attempt to use their knowledge and new technology to upgrade lawn mowing equipment and reduce pollutants generated by current engines.

However, some concern was expressed over the cost of pollution control, and how that might be passed on to the consumer through increased prices. Until manufacturers hear from government and consumers that pollution control is a concern in lawn mowers, none of the participants felt that much will change.

None of the participants was aware of any gasoline lawn mower now on the market that had an anti-pollution feature that gave it a market advantage. Until that occurs, the groups do not feel that the public will recognize this as an issue and there will remain a limited market for the product.

Five or six respondents in group 1 engaged in a discussion about the advisability of putting pollution and other product information listings on LGE as are currently attached to washers, dryers, and similar appliances to advise consumers of the energy consumption. This group felt that, at a minimum, safety, pollution, and energy costs might be listed by the manufacturer. In this regard, one participant pointed out that "Consumers must tell the manufacturers the type of information they want."

During the discussions on this topic, one member of group 2 offered a suggestion to reduce pollution of LGE that did not deal with gasoline spillage or toxic emissions. He believed that the best solution to the environmental problems was to create a strain of grass that grew very slowly and required much less mowing.

Participants were not well informed about any new LGE policies or programs currently being debated or prepared for release. One individual had heard about emission standards for out-board motors for boats. Others had heard about increased standards for auto emissions. Another had heard about an EPA program to divert a creek in his neighborhood.

Topic 5. Sources of information on equipment and environmental risk

- A. Information from manufacturers
 - B. Information from consumer groups and publications
 - C. Information from government publications
 - D. Should government regulations be used to obtain compliance with air quality standards
-
- Participants generally were more favorably inclined toward consumer publications and their own friends/neighbors as the best sources of information on lawn equipment and practices. They felt that these sources were generally unbiased and informative.
 - Many felt that sales representatives and manufacturers provided a good amount of information, but that it was not the most objective source of information.
 - They felt that they currently see no information about environmental impact of products, but would welcome and encourage such information. Information attached to the equipment (so-called "green" label) regarding efficiency and pollution, would provide useful information for decision making.

- Again, participants generally agreed that consumers would make wise choices if, and only if, they are given more and better information about the equipment they are purchasing. They particularly urged comparative information on gasoline and electric mowers.
- A majority of members of both groups agreed that manufacturers are not going to voluntarily make their LGE less damaging to the environment unless it contributes to marketing the equipment. Therefore, to effect such a change, government might have to step in and create uniform testing standards and ensure LGE industry compliance.
- Participants were generally unfamiliar with government publications on LGE topics, and several viewed government publications in general as either too complex or very difficult to obtain.
- At least two or three participants said that government publications should be disseminated at trade shows or state fairs.
- One person said that the government should establish an 800 phone number to obtain ordering information for brochures, rather than have consumers write in for the materials.
- One person expressed concern over the costs of producing all of these government publications.
- A majority of participants in group 2 felt that government regulation might be acceptable in the LGE industry, but "only at point of sale." The belief is that it would be difficult or impossible to regulate once the equipment reached the public.
- A recurring theme in the focus groups was the conviction that manufacturers should do more to create cleaner, more efficient equipment and then inform the public.

Topic 6. Wrap-up and Conclusions

- A. What has been most interesting/informative
- B. What can/should be done to reduce lawn care pollution

When asked what was most interesting or informative about the sessions:

- The greatest number of participants seemed to feel better informed about the amount of air pollution emitted from lawn equipment.
- Respondents were genuinely surprised by the magnitude of the environmental problem, especially the level of gas spillage.
- Another area that was mentioned as most informative was alternative landscaping techniques.

Section IV: Conclusions and Recommendations

The objective of conducting the focus groups covered by this report "was to perform a risk communication evaluation to assess the knowledge, attitudes, and practices of lawn and garden equipment users for the purpose of determining effective media and communication channels to deliver relevant information regarding the health and environmental risks associated with using this equipment."

This section sets forth conclusions and recommendations that address this objective. They are based on analyses of the focus group responses, complemented by survey data EPA previously collected from 341 Wisconsin residents. Together, the qualitative and quantitative information provides a comprehensive perspective on public attitudes and perceptions regarding lawn and garden equipment.

TRANSCENDENT THEMES

Conclusions drawn from focus group results have compelling implications for the design and execution of communication strategies which have, as their purpose, changing behavior of buyers and users of lawn care equipment. There are recurrent themes in the attitudes and perceptions expressed by group members regardless of the specific topic being discussed:

- Peoples' lawn care practices, including equipment purchases, are influenced most strongly by their neighbors' opinions and peer pressure.
- People trust and rely on information provided by their neighbors even when confronted with strong evidence to the contrary.
- There is a dichotomy in attitudes toward information provided by governmental agencies (Federal, state, or local). There is real skepticism toward publications or information provided by EPA and its sister agencies in states. But, there is fairly strong support for the government to establish emission standards that manufacturers must meet. They also support initiatives for the government to prescribe practices that manufacturers must adopt to better inform the public of features or operating characteristics.
- There is real enthusiasm for more information on lawn care innovations such as electric mowers, turf improvements, and alternative landscaping. While misconceptions persist and approaches to lawn care presently vary very little, there appears to be a genuine willingness to at least explore new ideas.

These receptive attitudes create fertile ground for introducing new lawn care practices and equipment, and appear to offer a reasonable chance to change attitudes as well. The following actions and approaches are recommended as possible components of broad communication strategies:

- Communications will be more effective the closer they can be associated or identified with neighborhoods. While it is recognized that national or state campaigns cannot be designed for each neighborhood, there are approaches and print/broadcast media that capture the spirit and emulate the atmosphere of neighborhoods:
 - Develop communication materials that can be modified to incorporate information or issues that have a local flavor. Some outlets for such materials include: (i) cable public access channels; (ii) garden clubs and shows; and (iii) county and state fairs. Materials should be structured to encourage participation by local citizens.
 - Garden shows on local television stations create a neighborhood atmosphere and would be effective outlets.
 - Although it is more difficult to gain access to commercial network radio and television shows, these would be extremely effective communication channels. Shows such as "Home Improvement" would be perfect. The U.S. EPA should make contact with the producers of such shows and suggest treatments that can woven into the shows' story lines. Producers of such shows are always looking for ideas that can be humorous. Use of LGE as props offer excellent opportunities for slapstick comedy with a message.
 - Print media campaigns should have major component for providing information to regional newspapers and neighborhood newsletters. Regional newspapers generally have garden sections which are excellent outlets. Neighborhood newsletters/papers often are free and always need material.

Large newspaper chains generally have a division that manages the chain's regional and local non-daily newspapers. This would be major source for distribution assistance.

- Materials should be multi-lingual and market tested before general distribution.
- Campaigns should be designed to capitalize on public's support of Government sponsored emission and manufacturing standards and general curiosity about new LGE and new features. [Who can leave a hardware store without looking at the new LGE?]

TOPIC SPECIFIC CONCLUSIONS/RECOMMENDATIONS

The remainder of this section contains conclusions and recommendations related to specific topics:

- Perceptions of LGE purchasing and maintenance
- Perceptions of the LGE industry
- Perceptions of landscaping alternatives
- Public awareness and information dissemination

The findings, conclusions, and recommendations in this report should be of value to EPA officials responsible for developing and refining their LGE public awareness campaigns.

Perceptions of LGE Purchasing and Maintenance

CONCLUSIONS:

1. Perceived advantages and disadvantages of electric LGE

Both the focus groups and the Wisconsin survey reflect the public's lack of enthusiasm for electric lawn mowers (8 percent in the survey). However, electric string trimmers and electric leaf blowers were very popular among members of the focus group and survey respondents. These results suggest that the public is willing to purchase electric LGE in general, but not electric lawn mowers.

The focus groups clearly revealed that the public remains significantly uninformed and skeptical about the capabilities, operating characteristics, and benefits of electric lawn mowers. As a result, they make their buying decisions based on the "perception" that electric mowers are inferior to gasoline mowers.

Electric mowers generally are viewed as quieter, easier to start, more environmentally friendly, and less costly to maintain. On the other hand, focus group participants were concerned with the durability, power, safety, and lack of versatility of electric mowers. Even when confronted with positive messages from fellow focus group members, there remained pervasive doubts in the groups.

It was clear that few people are willing to change their behavior based solely on other people's assessments. This is paradoxical, given the overwhelming influence of peer pressure from neighbors and so-called "experts" in other areas of lawn care. However, it is also consistent with this phenomena since there is most likely heavy peer pressure to use gasoline equipment and perpetuate the perception of electric mowers' inferiority. This has implications for communications initiatives which are discussed below.

One pervasive problem in gaining acceptance of electric mowers is that too few are in use to generate a credible knowledge base. Because LGE users are influenced so much by informal, word of mouth communication, the lack of a large user group inhibits the dissemination of accurate information.

2. Availability and cost of LGE repair services

Participants in the focus groups raised few concerns over issues of availability and cost of LGE repair services. This is probably a result of the participant screening and selection process because one factor in selecting participants was whether they performed their own LGE maintenance. This was a screening factor because the quality of maintenance has a significant impact on the level of pollution.

The focus group members were not atypical in this regard; EPA's broader survey showed that 60 percent of the respondents performed their own LGE maintenance. Smaller percentages of respondents use either brand name dealers (18 percent) or lawn care equipment repair shops (19 percent) for maintenance and repair.

In general, focus group participants felt that lawn mowers could easily be maintained and repaired at home for minor problems, and that major problems usually meant it was time to take the equipment in for service or purchase a new unit.

3. Importance of LGE maintenance

Most people are performing their own LGE maintenance. When this issue was examined further, it was clear most participants considered regular maintenance to be yearly or semi-annual oil refill or change, checking spark plug, and overall equipment cleaning. When discussing the environmental aspects of LGE, participants accepted that badly maintained LGE was an environmental hazard.

Wider dissemination of the message that poorly maintained equipment is an environmental risk is one area to emphasize with a reasonable expectation of achieving behavioral change. This message relating to LGE could be tied to the widely disseminated and publicly accepted message that poorly tuned automobiles were environmental hazards. Presenting the LGE hazard in the same context will highlight the similarities and reinforce the need for change.

The focus group responses indicate that people would not mind small scale changes in their behavior if they believed that a significant environmental risk existed. The annual cleaning and checking of equipment takes very little time, energy, and cost and may fit well within an overall message campaign.

Recommendations for Consideration:

Product demonstrations and trial use periods would help to dispel some of the myths about the low power of electric equipment. People need to feel confident that electric lawn mowers are as durable and powerful as their gasoline counterparts.

- Develop informational brochures emphasizing the need for regular maintenance of LGE, highlighting the benefits of annual or semi-annual inspection and upkeep. The brochure should include information of LGE risks and tips on how to practice regular maintenance and minor repair. Since there are many people that already practice (or claim to practice) this activity, the message should be a reminder; for those who do not do regular maintenance, the message has to seek behavioral change.
- Distribution of maintenance brochure should include points of sale, especially the mass distributors such as discount, department, and hardware stores. Another channel would be lawn and garden shows, community and state fairs, and extension service facilities.
- Involved in any risk communication regarding regular maintenance should also be messages related to alternative LGE, such as electric mowers, and alternative landscaping techniques.
- Relate the LGE message to the success in reducing pollutants caused by automobiles. Campaign can capitalize on public's acceptance of the hazards of automotive emissions by showing that LGE similarly generates pollutants. They do not now consciously relate mowers to the same hazards.

Perceptions of the LGE industry

CONCLUSIONS:

1. LGE industry innovations

Focus group participants clearly expressed their desire to have lawn mower manufacturers produce better and more efficient engines. The general perception was that LGE was further behind other mechanical equipment in terms of cleanliness and efficiency. Few participants seemed willing to consider purchasing electric lawn mowers until technological advances ensured that electric equipment would be as durable and easy to use as gasoline engines.

Electrical cords were considered a nuisance by most, and participants had major concerns over the weight, cost, and performance of battery powered units.

One innovation that was enthusiastically supported was for clear plastic filler tanks that make fluid levels visible and permit more accurate and cleaner refills.

2. Availability of cleaner gas-powered equipment

Focus group participants were not aware of significant technological advances in the LGE industry. They did not know of newer products or engines being marketed or under development. If there are cleaner and more efficient engines available or being developed, no one seems to be informing the public.

The respondents also seemed to feel that manufacturers probably would fail to upgrade their equipment without a significant demand from LGE consumers. This seemed to indicate an overall reliance on the free-market principle that suppliers will make changes only when demanded by the consumer....unless there is some external intervention by governmental authority.

Recommendations for consideration:

- Encourage the LGE industry to develop more efficient and cleaner products and develop more effective marketing of "greener" product lines already in the marketplace. While people are aware of newer features such as self-propelled and quick start features, they seem genuinely unaware of any technological improvements in terms of efficiency or pollution control.
- Encourage the use of features that enable the public to use the equipment in a more environmentally sensitive manner. Examples may include the use of clear plastic tanks, or adding spill-pour nozzles to plastic and metal gasoline carrying containers.
- Recognize that consumer pressure on the industry may be just as important as government intervention in moving the LGE industry toward newer technology. The public, regardless of whether they use electric or gasoline engines, has come to expect the industry to move forward with their products. The task for EPA may be rooted in developing messages that increase consumer awareness of existing or developing innovations.

- One initiative which appears to hold great potential and which the EPA should pursue aggressively is in helping the LGE industry develop standards for labeling LGE regarding power, consumption, and environmental information. This has been very successful in the automobile (fuel mileage) and large appliances (electricity consumption/ efficiency ratings).

The public may be much more willing to accept a government role in making better information available to the consumer. Clearly, some people already look to consumer groups and publications for this information. However, the development of standards measures and "green labeling" would further increase the information available to the individual consumer who then can make an informed decision.

Perceptions of landscaping alternatives

CONCLUSIONS:

1. Alternative landscaping

There seems to be some support among the public for scaling back the size of lawns. This sentiment was expressed in both focus groups and is further substantiated by the survey results. The survey indicated that two-thirds of the respondents already expect to or have replaced grass with natural landscaping/groundcover or planting low growing trees/shrubs. However, most people felt strongly that some lawn should be retained for appearance and family use.

Participants also were unsure about the up-front costs, time, and appearance of alternative landscaping. In addition, they were not aware of the variety of alternatives available. Most understood alternative landscaping to consist principally of replacing lawns with rocks, decorative gravel, shrubs, and the like. They were unaware of demonstrations of alternative landscaping books and courses.

However, some people already have begun to add trees and shrubs to help reduce home heating/air conditioning costs.

Recommendations for consideration:

- Develop informational brochure containing information on alternative landscaping and highlighting the benefits of natural techniques and enhanced tree/shrub shade. Include information on the variety of alternatives; how to blend with traditional landscaping; *estimates of needed materials*; costs and time; and tips on how to implement and care

for your new yard. The message should include how this benefits both the homeowner and environment.

- Since one of the "perceived" obstacles in this area is the negative perceptions of neighbors or the local code enforcement officers, any information on alternative landscaping should dispel existing "myths" that such practices might violate local codes or ordinances.
- Encourage people to work with residential developers who are increasingly using alternative landscaping because of land price growth and the need to build on smaller lots.

D. Public Awareness and Information Dissemination

CONCLUSIONS:

1. Public awareness of non road emission problems

Generally, the focus group participants were not very well informed about the environmental hazards caused by LGE. They believed that they learned most about this area during the focus group sessions. Participants seemed genuinely shocked and concerned when they learned of the dramatic impact that lawn and garden practices and equipment had on the environment. This area needs focused communication campaigns.

2. Availability of government publications and information concerning environmental issues

Focus group participants expressed concern regarding the availability and complexity of government reports and publications. There also was some underlying *skepticism in information published by the government*. This may be reflective more of the current political climate, and is consistent with the popular American tradition of blaming the government. It should not deter efforts to disseminate useful information. The participants' clearly expressed support of government standards indicates an understanding that government has a key role in protecting the environment and citizens' health.

3. Sharing the burden between consumers and manufacturers

The message from the respondents in the focus groups is clear. They are not convinced that LGE pollution is a major concern and are not willing to radically alter established purchasing patterns or lawn care practices.

However, it appears that people are willing to make minor behavioral adjustments if they are provided convincing information about LGE pollution and the ways to reduce it. The focus group participants indicated a sincere willingness to take steps to reduce gasoline spillage (most liked the "Sure Pour" spout if it fit their gas cans. They also saw the value, and with some encouragement, will do more to maintain their equipment so as to reduce pollution.

However, people must believe that everyone, including people in other towns and states and the private sector, are doing their share as well. Trying to change public behavior will not be effective if people feel they are being singled out unfairly. They must believe that will be made to limit air pollutants across geographic boundaries and economic sectors. The message of a "shared commitment" may go far in getting the public to make minor behavioral modifications.

4. Is LGE pollution worth the effort?

Focus group participants clearly thought that reducing pollutants and achieving cleaner air were worth the effort. However, the challenge for EPA is to convince the public that LGE pollution is a significant problem that deserves priority among other societal problems, and that there are identifiable solutions with a probability of success.

Participants in the focus groups reacted very unfavorably to user based LGE regulations. However, they recognized the need for a combined consumer-government effort to change the marketing and products of lawn mower manufacturers. They responded favorably to initiatives that would result in cleaner burning and more efficient equipment; they supported the availability, at the point of sale, of comprehensive information on the relationship of equipment to the environment. Standardized labeling of LGE that details such information as fuel efficiency and pollution control appeared to be welcomed.

Recommendations for consideration:

- Develop and disseminate the facts about non-road emission risks. The message that clearly came across in the focus groups is that the public is willing to get involved and make minor behavioral modifications if they are convinced that a significant problem does exist. The participants seemed relatively uninformed of the serious environmental degradation produced by lawn and garden practices.
- Develop and disseminate the message of a shared commitment by manufacturers and the public. The focus group reactions indicated a feeling that there is not equal treatment among different geographic areas and economic sectors. They felt that they were being unfairly asked to shoulder the "perceived" burden.

ATTACHMENTS

1. Focus Group Moderator Guide
2. Sample Screening Questionnaire for Selecting Focus Group Participants

ATTACHMENT 1

Focus Group Moderator Guide

MODERATOR'S GUIDE FOR CONDUCTING FOCUS GROUP

EPA Qualitative Evaluation of Lawn and Garden Equipment Risk Communication

Introduction

This guide is to obtain information for assessing the knowledge, attitudes, and practices of users of lawn and garden equipment, and determine effective media and channels for risk communications to this audience.

Three specific behaviors for which information is being sought is: (i) preventing spillage; (ii) switching to an/or using alternative-powered equipment; and (iii) using xeroscaping.

During discussions, use a blackboard or easel chart to record comments and serve to focus discussion.

1/11/95

EVENT	TIME	ACTIVITIES
1/Welcome	S: 00:00 F: 00:15	<p>Create a relaxed atmosphere and use center staff to get administrative matters settled [participant payment; refreshments - no meals; will run about two hours; name tags with first name].</p> <ol style="list-style-type: none"> 1. Introduce self as moderator, citing credentials as professor, specializing in business management. State that you are conducting focus group for U.S. Environmental Protection Agency (EPA). State that the purpose of the focus group is to obtain their views, opinions, and suggestions regarding the air quality risks of using lawn and garden equipment. EPA needs to understand their feelings and views if it is to effectively communicate with the public. 2. Inform participants that officials of EPA and Wisconsin Department of Natural Resources (DNR) may, from time to time, observe proceedings to monitor META's conduct of focus group and assess possible need for changes in future sessions. Advise them that the session will be audiotaped and video taped for use in preparing final report to EPA. Assure them of full confidentiality...that no one's name or other identification will be linked to any comments. 3. Emphasize that this is their session -- that your function is to obtain their views, not to answer questions or influence their discussions/conclusions. Urge them to be candid, open, creative, and to offer constructive criticism. [Compare session to a town meeting where everyone has an opportunity to speak out.] 4. Have them introduce themselves. Keep it light and informal; first names only; kind of lawn mower they use (gasoline, electric).

EVENT	TIME	ACTIVITIES
<p>2/ Background on how group feels about their lawns.</p>	<p>S: 00:15 F: 00:30</p>	<p>["First, let's talk about lawns. Do you have a close, personal relationship with yours, or is it cold and distant....an onerous task that takes time you would rather spend elsewhere? One study has said that lawns are the great American obsession, and that people are judged by the care taken of their front lawns."]</p> <p>1. Is that a fair statement of how you feel about your lawn? How close does it fit the way your neighbors feel about your lawn? Do your neighbors influence how you care for your lawn? ["Did Charlie ever give you advice and a slight nudge.... on how to get rid of your dandelions?"] In general, is your neighborhood more or less concerned about the appearance of lawns than they were 2-3 years ago? Discuss how often you cut your grass. What are some of the factors that affect your cutting practices?</p> <p>[Purpose is to obtain responses that indicate (i) how important lawn care is to members of the group; and (ii) the degree to which they are influenced by external opinions regarding their lawn...is it a source of peer pressure?]</p> <p>2. Where do lawn care expenses fall in your family budget? Do you think that you spend too much, not enough, just about right? If you had more money, would lawn care be a priority in deciding how you would spend it? Compared to other maintenance around your home, where does lawn care fall in terms of time and money that you spend on home maintenance? About how much time do you spend on lawn care? If you were to buy additional lawn equipment, what would you buy first [another mower; trimmer; fertilizer]?</p> <p>[Purpose is to obtain information on relative importance of lawn care in home maintenance, and where it ranks in terms of maintenance expenses. This can be correlated with later questions regarding willingness to buy pollution prevention devices or a new and/or different mower (i.e., electric).]</p>

EVENT	TIME	ACTIVITIES
<p>3/ Explore reasons group members chose present mowers, and how they feel about using alternative (electric) mowers.</p>	<p>S:00:30 F:01:00</p>	<p>[Let's discuss your thoughts on why you picked the lawn mowers you now have, and how you feel about considering alternatives.]</p> <ol style="list-style-type: none"> 1. Lets start by ranking the mower features that are important to us. [Discuss, and write on board or easel; come back to these features as you discuss other subjects/ issues, and during summary.] 2. Which of these are found on gasoline mowers? Which are found on electric mowers? 3. What have you heard or read about improvements in gasoline mowers? Where did you get the information? 4. Do you do your own maintenance on lawn mowers? How much? How often? If not self, who does it? How much? How often? Is the price they pay for maintenance fair? How is the quality of service? [Find out whether they obtain service from the store where they purchased; handymen; other sources. Find out how they feel about each.] Are the operating instructions provided by manufacturers adequate for you to do most of the required maintenance? How could they be improved? What are the best ways to learn how to maintain lawn mowers (library; distributor; community classes)? Have any of you sought such help..attended classes? What do you think are the best approaches? What are the drawbacks? 5. Discuss any modifications you have made, or had made, to make your mowers perform better. How has that changed performance of your mowers? 6. What do you think would be the difference in annual maintenance requirements between gasoline and electric mowers? What about maintenance costs? What are the differences? 7. When you bought your last mower, did you consider buying an electric mower? What are some of the reasons that made you consider buying an electric mower? What are some of the reasons that you did not buy one? [See how these compare to earlier list of features.]

EVENT	TIME	ACTIVITIES
<p>3/ Explore reasons group members chose present mowers, and how they feel about using alternative (electric) mowers.</p> <p>(Continued)</p>		<p>8. Of those of you who have or used to have an electric mower, what are its strong points? Weak points?</p> <p>9. Name [and discuss] three things that would absolutely make you buy an electric mower. [If it doesn't come up, ask about "rebates;" "trade-ins of old mower;" "credits on purchase of other lawn equipment (e.g., buy mower, get trimmer free).]</p> <p>10. Name [and discuss] three things that would absolutely make you not buy an electric mower. [If not raised, ask if safety is a factor in buying a mower? Do they know the relative safety of using gasoline and electric mowers? What are some of the hazards? Should safety be covered/ <i>emphasized in materials discussing mowers?</i>]</p> <p>11. Discuss and rank the sources of information you receive on lawn mower equipment? [Newspapers, TV ads, government publications, radio, public TV or radio, consumer groups.] <i>[This to follow up and focus on earlier discussions regarding sources of information. If earlier discussions provided good information, skip to next question.]</i></p> <p>12. <i>What are some innovations that you think that lawn mower manufacturers should consider in improving their mower's performance and reduce pollution? Do you get good information on improvements? What's the source?</i></p> <p><i>[In discussing sources of information, zero in on the confidence that they have in different sources (i.e., manufacturers' operating manuals; TV/magazine/newspaper ads; consumer groups publications; distributors; salespeople; government publications). "Have any of you attended open demonstrations of lawn equipment? Who conducted?]</i></p>

EVENT	TIME	ACTIVITIES
4/ Obtain views on alternatives to lawns.	S:01:10 F:01:30	<p data-bbox="584 370 1394 555">["I have a friend who, last year, dug up his entire lawn and put in gravel, decorative plants, and cedar chips. Research has shown that Americans are increasingly leaving their lawns behind for grass free landscaping. What are some of your views on that?"]</p> <ol style="list-style-type: none"> <li data-bbox="584 597 1394 740">1. How would you feel about getting rid of your lawn, and replace it with other kinds of landscaping? Part of your lawn? [Size of lawn may be a factor here, so follow up to get this information during the discussion.] <li data-bbox="584 783 1394 968">2. Have any of you explored the possibility of landscaping changes to do away with your lawn? What were the results of these discussions? Did you consider the affect such a change would have on the environment? Do you think there would be an impact on the environment? In what way? <li data-bbox="584 1010 1394 1187">3. What are some of the reasons you haven't explored this alternative? [Try to get expressions about fear of cost; peer pressure against changing; lack of information; etc.] Where can you get information on alternative landscaping? Is it easy or difficult to obtain? <li data-bbox="584 1229 1394 1332">4. What are some of the factors that would be important to you in considering alternative landscaping [cost; maintenance; neighbors acceptance]?

EVENT	TIME	ACTIVITIES
<p>5/ Obtain group understand- ing of how lawn care contributes to pollution, and if this knowledge would influence their purchase of lawn mowers.</p>	<p>S:01:30 F:02:00</p>	<p>[Purpose is to obtain understanding of group's knowledge, perception, and feelings regarding lawn care's impact on environment, and how important it is that it be fixed. This can be correlated with willingness to change to lawn care alternatives.]</p> <p>1. What impact do you think lawn care practices have on the environment? Tell me what the big problems are and how they should be fixed.</p> <p>Generate discussion by providing information such as:</p> <ul style="list-style-type: none"> a. "The average lawn owner uses a higher concentration of chemicals than farmers....70 million pounds a year and growing at 5-8%." b. "Using a lawn mower for one hour generates the same level of hydrocarbons as driving a car fifty miles." c. "Lawn equipment generates about 5% of all urban pollution? Does that surprise you?] <p>2. What do you think are the main ways in which using a lawn mower pollutes the air? [Let discussion flow, but probe with observations such as:</p> <ul style="list-style-type: none"> a. "Do you think spillage of gasoline is a problem? How many gallons of gasoline would you think is spilled each year?" (17,000,000 ...use this only after discussion has reached reasonable conclusion. Seek responses to this fact.) b. "What do you think the term 'evaporative emissions' means?" "What other kinds of emission pollution are you familiar with?" <p>3. What do you think are some ways of preventing emissions...either evaporative, exhaust, or other?</p> <ul style="list-style-type: none"> a. Discuss any special equipment or nozzles that you are familiar with.? How do they work? How much do they cost? If such a nozzle existed, how much would you be willing to pay for it? b. What kinds of gasoline containers do you use, and what steps do you take to prevent either spills or evaporation?

EVENT -----	TIME -----	ACTIVITIES
<p>5/</p> <p>Obtain group understanding of how lawn care contributes to pollution, and if this knowledge would influence their purchase of lawn mowers.</p> <p>(Continued)</p>		<p>c. Some of you may have received an EPA fact sheet on spillage. Was it informative/helpful? Have you changed the way you handle gasoline for your mower, as a result? Some of you also may have received a "Sure Pour" [show it] spout to prevent overfills; have you used it? does it work? What's your reaction to such items?</p> <p>4. What do you think about having standards controlling exhaust emissions? Do you have such standards in Wisconsin? Are you familiar with any such standards..local, state, or federal government? Would you welcome standards? Why? Why not?</p> <p>5. What do you think that manufacturers have done or should do to reduce pollution by lawn mowers?</p> <p>6. Where would you go to get information on preventing pollution by lawn mowers? Why do you think that would be the best source?</p> <p>7. Tell me what you know about efforts to reduce or prevent pollution by lawn mowers? What do you think that EPA has done and has planned? What is the Wisconsin DNR doing? How about equipment manufacturers? What have you heard that they are doing?</p> <p>[During discussion of these issues, probe with questions on whether they think more information is needed, and how it should be provided....from government, manufacturers, consumer groups...trade associations....There will be more on this later in the session.]</p> <p>8. Given the information that we've just discussed, would this make you seriously consider buying an electric mower? If so, why? If not, why?</p>

EVENT	TIME	ACTIVITIES
<p>6/</p> <p>Review of information sources... and closing.</p>	<p>S:02:00 F:02:15</p>	<p>["Let's go back to the sources of information about lawn and garden equipment, air pollution, and alternative landscaping. Let's critique each one.]</p> <ol style="list-style-type: none"> 1. Information provided by manufacturers of lawn equipment? What do you think about this as a good source of information on preventing air pollution? Accurate comparison of gasoline and electric mowers? 2. Information provided by consumer groups and magazines? Have you used these in deciding on what mower to buy? 3. Government publications. How are these? Where can you get the information? Is getting the information easy? Difficult? 4. What is well done in providing the public with information? What is poorly done? 5. When it comes to lawn and garden equipment, do you think that government regulations should be used to obtain compliance with air quality standards? Are you familiar with any such regulations? If you don't think government should issue regulations, what are some incentives that you believe would produce desired reductions in pollution? <p>-----</p> <p>["Before we call it a night, I would like everyone to sum up their views on the subjects we covered tonight. Of all that we've discussed this evening, what has been most important and/or most informative to you? What more can or should be done in lawn care to reduce air pollution? What should not be done?"]</p> <p>[In closing, thank everyone and make sure that you give them META's telephone number (703/243-3608 - Ms. Shawn Barget) if they have any questions about this session, or if they want help in finding more information or materials about lawn care.]</p>

ATTACHMENT 2

Sample Screening Questionnaire for Selecting Focus Group Participants

EPA SCREENING QUESTIONS

Name: _____ Telephone: _____

1. Do you work for a lawn or garden care manufacturer?

2. Are you interested/able to participate in a focus group on Friday, January 13, 1995?

3. Who does most of your lawn care?

Self _____ Other household member _____

Spouse _____ Commercial lawn service _____

Child _____ Age _____ Other _____

4. How large is your lawn?

Less than 1/4 acre _____

1/4 acre to 2 acres _____

Over 2 acres _____

5. What types of lawn care equipment do you own or use regularly?

Walk behind mower: _____; gasoline _____; electric _____; manual _____

Riding mower: _____

Trimmer: _____; gasoline _____; electric _____; string _____; blade _____

6. Who services your lawn care equipment?

Self _____

Other _____; Identify _____

7. Tentative commitment made?

Yes _____ No _____