

SPECIAL CHALLENGES OF WEED CONTROL IN MEDIANS

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Worker Safety

■ Weed control at any application site requires compliance with worker safety regulations, however, pesticide application in medians has another layer of safety issues due to the working proximity to traffic. The narrow margin of protection between the applicator and moving vehicles compound the opportunities for injury to the applicator, particularly in areas where the design and size of the median do not accommodate the application equipment, necessitating equipment to be positioned in the traffic lane. Pesticide applicators, then, are protected only by the safety delineation, the applicator's ability to watch for oncoming traffic while applying, and the level of alertness of motor vehicle operators utilizing the roadway.

The mechanical removal of green waste weeds also necessitate the use of delineation. Equipment access for the weed removal also may require more man/equipment hours than applications at non-median sites. The additional set up, take down time, for delineation, the cost of delineation equipment, and the constraints for equipment access, lead to application costs being higher for weed control in medians.

Efficiency of Application

■ Applicators performing operations in medians must take into consideration the standard environmental concerns about wind, rain, and inversion layers, but also must take into consideration, traffic pattern concerns. The efficiency of pesticide application on medians can be influenced not only by the normal wind velocity but can also be influenced by individual sporadic traffic generated wind bursts. This challenge can increase the potential of drift to non-target species, to off-site locations, and to the applicator himself. Frequently, lane closures are not possible when optimum environmental conditions exist, further narrowing the window for safe and efficient pesticide application.

The size and design of some medians may increase the opportunity for run off to occur. Medians that have berms or smaller planter cut outs, may experience run off when pre-emergent herbicides are applied and then deeply irrigated to activate the herbicide. In these situations, monitoring the application of short cycles of irrigation is crucial.

Addressing the Challenges-New Medians

■ The greatest tool available for planning safe and efficient pesticide application in new medians is to actively participate in the design and plan review process. Frequently, aesthetics and cost factors are the primary factors in median design. Professionals knowledgeable of the special challenges of weed control in medians can assist in the development of a landscape plan which addresses practical solutions to issues of maintenance, including pesticide application.

Addressing the Challenges-Existing Medians

■The majority of the weed control challenges faced by pesticide application personnel, will be in existing medians which may not have been effectively designed to address maintenance issues. Addressing weed control in these areas may mean that options for changing design obstacles may be limited. To effectively control the weeds means that knowledge of the site's incumbent weed population is critical. This will determine the scheduling of regular, timely pre-emergent herbicide applications as well as any needed post- emergent applications.

In order to optimize the growing environment for the desired establish species, it is critical to monitor the irrigation schedule. Plants under stress from too much water or drought conditions, will be unable to be competitive with emerging weeds. Replanting of areas which fail to provide competition to weed populations may be required. At this time, groundcovers, and clean mulch materials may be installed. Composted green wastes are more frequently being used in established medians as weed barriers.

Summary

■Pesticide application in medians necessitate additional measures to protect the pesticide worker during application operations. Pesticide application in medians can require a greater time for the operation than areas outside traffic flow patterns. Run-off is frequently a greater issue in medians than at other sites. Overall costs for median applications are greater than for equivalent size non-median sites. The greatest tool we as pesticide professionals have is planning for limiting weeds on the new sites and providing applicator safe accessibility. On the established medians, our knowledge of plants and their ecology will help us to limit the need to future pesticide operations.

Attachment: City of Salinas Median Design Criteria

Starting with the basics of the soil, landscape architects must specify use of only high quality, weed free soil amendments. Specifications should require the use of pre-emergent herbicide applications in the amended native soil mix.

A plant pallet should be developed which can aggressively compete with weed populations known to be a problem near the new landscape median site. Plant materials that grow rapidly will get a head start on weed populations that may later come in through wind or incorporation by means external to the native soil or soil amendments. Groundcovers such as ice plant, ivy, gazanias, selected junipers, myoporum, and some newer varieties of bedding roses are some examples of aggressive plant materials capable of quick and efficient establishment. Their ability to compete for space, light, nutrients and water, are conducive to weed population establishment. The installation of sod rather than seeded turf, can also be utilized to discourage weeds. Sod which has mesh backing material is thought to be somewhat more efficient for inhibition of some weed species. Aggressive grass species such as Kikuya and Bermuda can play a role in competition with weeds. However, some of these species, themselves, become the weed thus choosing these species require caution in placement near other desirable species, particularly if the adjacent desirable species are also monocots. Placement of an aggressive grass species next to a less aggressive grass species will ultimately result in invasive weed control conflicts. Plants which provide shade or form allotropic perimeters may be selected to inhibit weeds.

Weed barriers can be specified in new median designs. Used in conjunction with a pre-emergent herbicide, these can be some of the most effective means of limiting median weed problems. These weed barriers can be a variety of woven fibers, some of which are impregnated with herbicide. The plan can also utilize clean, organic mulch made of compost, bark, or other forms of recycled wood waste. Some inorganic barrier materials are effective. These products include decomposed granite, gravel, and decorative stones and boulders.

A median design which limits bare, open areas of ground will ultimately experience less need for weed control. Designs which utilize a mix of hardscape and planting areas can be both aesthetically pleasing and practical. A wide variety of materials, colors, and textures of hardscape, provide opportunities for planting medians and providing barriers to weed emergence. Cut out planter areas within hardscape islands have become common for median plantings. Larger islands with open planting areas alternating with bands of decorative paving materials also address aesthetics, traffic separation, and reduction of areas where weed control is required. Whatever paving/ planting design combination is utilized, the plan should have areas provided for equipment placement, and paved shoulders to accommodate maintenance operation personnel and equipment wherever possible. This can reduce some of the need for applicators to place equipment in traffic lanes during pesticide application operations and provide some measure of protection for workers.