

Appendix A.
Pima County Board of Supervisors Briefing

BUFFELGRASS CONTROL
PROJECT BACKGROUND INFORMATION

July 28, 2009

Why care about buffelgrass?

Across southern Arizona, an invasive non-native plant has introduced a new fire risk and threatens to irrevocably alter our Sonoran Desert. Buffelgrass, (*Pennisetum ciliare*) is a fire prone and shrubby grass introduced from the African savannah. Buffelgrass grows in dense stands that can crowd out native plants, and creates a fire regime in the desert that never existed before. This potentially leads to devastating fires that can convert the ecologically rich Sonoran Desert into a more monotypic exotic grassland environment.



Buffelgrass spreads aggressively by seed and establishes itself readily in areas that have been disturbed. Once established in the disturbed areas the invasive grass can then move into native desert habitats on hillsides and along drainages. Buffelgrass stands can burn at over 1,400 degrees and are almost three times hotter than fires generated by flammable native vegetation. Buffelgrass fires are highly detrimental to cacti and native trees and can eliminate them from the landscape. The fires don't significantly impact the buffelgrass stands which can come back more vigorously than before the fire.

Over the past five years, the buffelgrass invasion in the Southwest has been the subject of considerable outreach, extensive media coverage and nearly-unanimous consensus over the need to aggressively control this invader grass. Despite the best efforts of a growing group of volunteers, and a growing public investment, control activities have not kept pace with buffelgrass spread. Because this spread is almost exponential- populations of this grass and the costs of controlling it may be doubling every year- time is of the essence and requires working collaboratively and decisively to implement effective control programs.

Where do I learn more about the buffelgrass invasion?

A multi agency/organization web site has been established to help communicate about buffelgrass as an issue and is a source of information on the ongoing control efforts. Go to www.Buffelgrass.org. Other sources are available and you can contact or stop by Pima County Natural Resources Parks and recreation for a copy of the brochure Buffelgrass – Wanted Dead and Gone.

Is Glyphosate safe?

Glyphosate was specifically selected because it is an effective herbicide and has been proven safe when applied correctly according to guidelines approved by the manufacturer and EPA. One primary reference that was used to establish product safety parameters and guide application considerations was the body of research referenced in the report Glyphosate-Human Health and Ecological Risk Assessment prepared for the USDA, Forest Service in 2003. The link to that report can be found at: <http://www.fs.fed.us/foresthealth/pesticide/risk.shtml>.

For humans, the greatest risk from glyphosate comes as a result of improper and extended handling of the material at high levels of direct exposure. The herbicide is very poorly absorbed across the skin. There is no scientific basis to assert that glyphosate is likely to pose a substantial carcinogenic risk. As noted in the Forest Service's risk assessment, "For members of the general public, none of the longer-term exposure scenarios exceed or even approach a level of concern."

The herbicide is designed to work by inhibiting synthesis of aromatic amino acids in plants and this metabolic pathway does not occur in humans or other animals. The Forest Service's risk assessment generally supports the US. EPA conclusions that "Based on current data, it has been determined that effects to birds, mammals, fish and invertebrates are minimal." A recent study done for the City of Tucson as part of its Habitat Conservation Plan, Wildlife Research Report # 2007-07, concluded that there is no apparent glyphosate affect on burrowing owls in the Avra Valley where glyphosate is routinely applied.



Will the spray damage plants that have not emerged yet?

Glyphosate is not a pre emergent herbicide. It does not affect seeds in the ground. Native plants that sprout immediately after the treatment should not be affected. It will also not impact underground rhizomes or rootstock of perennial plants. This also means that the buffelgrass seed in the ground will sprout under the right conditions requiring future treatments to fully control it. Current research indicates the potential viability of any Buffelgrass seed to be at 3-5 years. Fortunately, following effective treatments the next generation of buffelgrass is far smaller in numbers and generally density thereby allowing native plants a chance to reestablish themselves as well.

How long will the herbicide stay active?

Glyphosate was chosen because it has a short active life span and degrades quickly. In our environment, we expect the glyphosate spray to dry upon surfaces within minutes of application and become relatively immobile. Once the spray comes in contact with a plant it immediately goes to work inhibiting its growth. Because the spray is poorly absorbed through the skin of animals, potential effects are further minimized. Before an animal can ingest enough treated plant material to raise any contact toxicity concerns the material will have been degraded even further. The material applied is strongly absorbed to soil and will not runoff into drainages and water systems even if rains occurs within several hours of application. The herbicide is relatively non-persistent and does not stay residually within the soil or move through the food chain.



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