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Research Summary

Evaluation of Aquatrols Sixteen90® for the Management of Soil Water Repellency

(University of Georgia, Athens, 2001 & 2002)

Research Cooperator: Dr. Keith Karnok

Objective: To evaluate the effectiveness of Aquatrols Sixteen 90 for long-term management of soil water repellency and turfgrass appearance.

Study Details

Location:
University of Georgia, Athens, GA

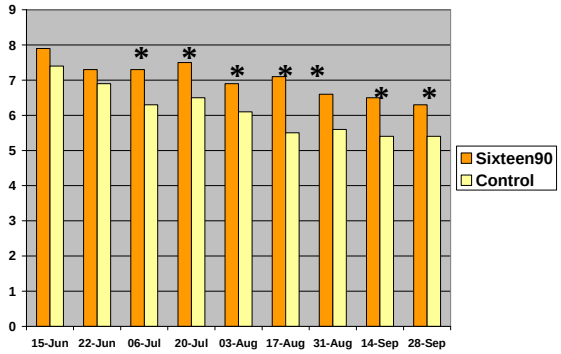
Site Conditions:
- Established USGA spec research green with history of water repellency
- Bentgrass maintained to greens conditions.

Treatments:
- Aquatrols Sixteen90 – 8 oz/1000 ft^2 in 2 gal water (25 L/Ha in 815 L water) applied twice - 1 week apart
- Untreated control
- Treatments were watered in with approximately .25 in (6 mm) irrigation immediately following application.

Test period:
- June to October 2001 and 2002
- Applications were made in early June 2001 and 2002

Evaluations:
- Turfgrass color
- Turfgrass quality
- Soil water repellency (MED)

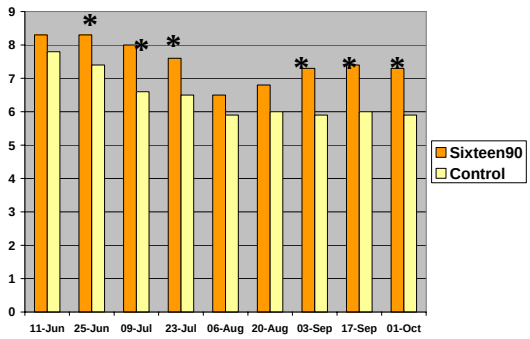
Bentgrass Quality Rating 2001



Results

- **Turfgrass Quality** - Sixteen90 plots had higher quality ratings in both 2001 and 2002. Control plots began to decline in early July in 2001 and late June in 2002. In both years, quality in the Sixteen90 plots remained significantly higher than controls on most evaluation dates into October. *=p<0.05

Bentgrass Quality Rating 2002



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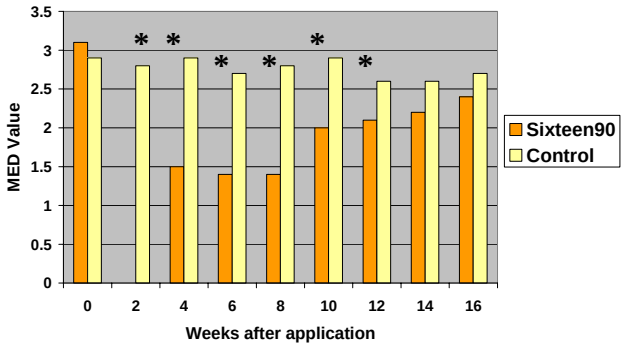
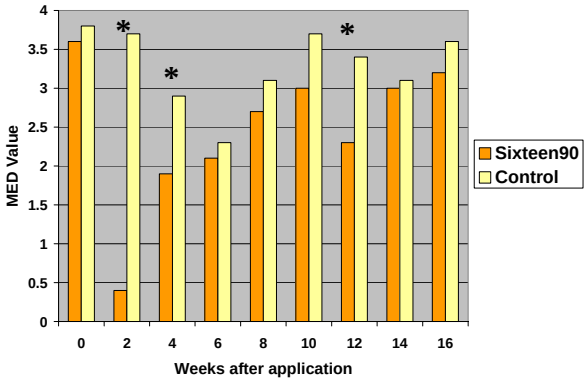
- **Turfgrass Color -** Sixteen90 plots had higher color ratings in both years. Control plots began to decline in early July 2001 and late June 2002. In both years color ratings remained higher in treated plots on most evaluation dates into October.

- **Soil Water Repellency** - Sixteen90 plots exhibited lower soil water repellency from July into October in both years of the study. *=p<0.05

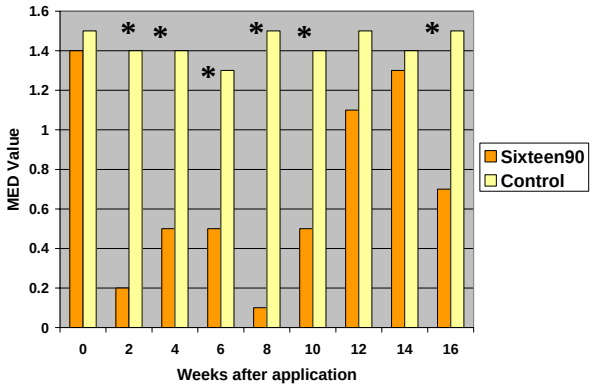
Soil Water Repellency 2002 - 0-1 cm



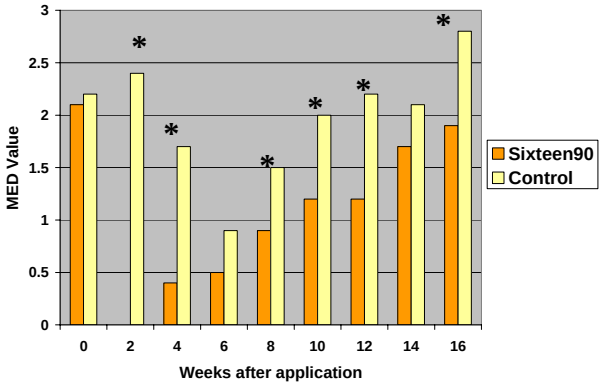
Soil Water Repellency 2001 - 0-1 cm



Soil Water Repellency 2002 - 1-2 cm



Soil Water Repellency 2001 - 1-2 cm



Note: The MED Values for Sixteen 90 were 0 at week 1-2 cm depth on week 2 of 2001 and 0-1 cm depth on week 2 of 2002.

Conclusion

Early season application of Aquatrols Sixteen90 effectively controls soil water repellency for at least three months and results in higher color and quality ratings compared to untreated turf.