Case Study: Midwest Agrivoltaics Program – Grazing Expansion

Executive Summary

KerTec completed comprehensive planning for a Midwest agrivoltaics program that will integrate managed grazing, array-safe custom mowing equipment, and targeted chemistries with drone spraying in arrays. The grazing plan was developed to meet vegetation height thresholds and satisfy siting board expectations, including those of the Ohio Power Siting Board (OPSB).

While the grazing plan was under development, KerTec successfully executed a mechanical and chemical vegetation management campaign that complied with all the same agency permit requirements and regulatory conditions.

Volume of Work:
KerTec has serviced over 2 GW of solar capacity across the United States (~5 million panels traversed) with fewer than 20 panels damaged (<0.0004%) across its total portfolio to date.
All mowing and vegetation management operations—including transportation, equipment deployment, and chemical application—were performed entirely in-house by KerTec, with no subcontracting.

Regulatory Context and Agency Engagement

OPSB requirements included vegetation height control in arrays, documented clearance around equipment, stabilization and erosion control aligned with permit and stormwater commitments, and audit-ready monthly reporting with geo-referenced observations, corrective actions, and performance triggers. KerTec engaged early with owner teams and aligned vegetation plans with siting board conditions. Reporting packages included UAV imagery, fixed-point height sampling, and chemistry logs suitable for regulatory review.

Methodology

Mechanical Vegetation Management
KerTec deployed custom mowing equipment designed for solar arrays, featuring low-profile decks, compact wheelbases, and optimized cutting geometry to maintain vegetation height thresholds without damaging infrastructure.

Targeted Chemistries and Drone Spraying
Species-selective formulations were applied using precision drone spraying in arrays to control non-desirable species and maintain compliance during rapid growth periods.

Compliance Alignment
All activities were documented in QA/QC logs and monthly reporting packs to meet OPSB and permit requirements.

Future Grazing Implementation
Infrastructure planning, stocking-rate modeling, and fencing layouts have been finalized to support future grazing expansion.

Results

- Vegetation height thresholds were maintained across arrays and infrastructure corridors during surge periods.
- Mowing frequency reduced by 20–40%.
- Overall man-hours reduced by ~66.7%, lowering hand trimming and zero-turn effort from 3,000 to 1,000 hours.
- Non-desirable species controlled to 90%.
- Serviced ~5 million panels across 2 GW of solar sites nationwide with fewer than 20 panels damaged (<0.0004%).
- OPSB compliance audits completed with no corrective action requests.

Lessons Learned

Early engagement with compliance agencies ensured smooth approvals and zero corrective actions. Mechanical and chemical vegetation management provided a strong compliance foundation while grazing infrastructure was being developed. Drone spraying in arrays improved precision and reduced chemical footprint in constrained corridors.