

## AL 106 / DRONE – PLANTING COVER CROP

**PURPOSE** - Using a drone to seed cover crops offers a fast, precise, and low-impact method to improve soil health and manage land more efficiently. Drones can access fields even when the soil is too wet for heavy machinery, minimizing soil compaction. They allow for targeted seeding between rows of standing crops or over existing ground cover, helping to establish cover crops like rye or clover. This approach enhances soil health, reduces erosion, and supports sustainable land use.

**RESOURCE CONCERN** - The purpose of this conservation practice is to improve soil health and reduce erosion using drone-based cover crop seeding. Specifically, this method allows for:

- Efficient and timely seeding without compacting wet soils
- Better soil health through reduced erosion and increased organic matter
- Improved land resilience to environmental stress

**MANAGEMENT** - To ensure successful establishment of cover crops, several key elements must be considered. Timing and crop selection are critical — choosing the right species, such as rye or clover, and seeding at the appropriate time based on climate and soil conditions helps support effective growth. Field assessment is also essential to identify suitable areas for drone seeding, whether over bare soil or between standing crops. Proper drone operation is necessary for precise seed delivery, requiring calibration of flight paths, seed rates, and altitude to achieve optimal coverage. Finally, follow-up monitoring is important to evaluate germination success, plant establishment, and overall crop performance.

### REQUIREMENTS –

- Assess field suitability (soil, slope, drainage, vegetation) and ensure drone access without obstacles.
- Use regionally adapted species (e.g., cereal rye, clover) seeded at proper times (late summer–early fall).
- Follow recommended seeding rates for broadcast, use shallow-seeding species, and calibrate drones for even distribution.
- Ensure cover crops provide  $\geq 70\%$  soil cover during vulnerable seasons and improve soil health by reducing erosion and enhancing infiltration.
- Maintain records of seeding details and monitor crop establishment and soil protection effectiveness.

**COST ESTIMATE** - The applicant will provide the District Administrative Coordinator with a detailed cost estimate for the proposed conservation practice.