

## Recordkeeping Costs

The *Comprehensive Nutrient Management Plan Technical Guidance* identifies a variety of recordkeeping activities that are expected to be included in a CNMP. These can be grouped into three categories:

### 1. Annual activities

- Results of manure tests for nutrient content
- Field records of crops planted and harvested and other annual activity records
- Records associated with evaluations by NRCS, third-party consultants, or regulatory agencies
- Records of land application equipment calibration
- Alterations to the CNMP
- Update of site information and production information, as needed.

### 2. Monthly activities

- Records of management of manure storage facilities (dates of emptying, discharge or overflow events, and record of monthly levels)
- Records of operation and maintenance

### 3. Per-event activities

- Application records for each land application event, including the amount applied, acres applied, application method, time and date of application, weather conditions during application, and soil moisture condition
- Off-site transfer records, including manure nutrient content, amount of manure transferred, date, and recipient of manure
- Activities associated with emergency spill response plan

Recordkeeping costs for annual, monthly, and per-event activities depend on the type and size of the animal feeding operation. Operations that handle manure as a solid would not typically incur a cost for monthly activities, except possibly maintenance, because waste would be stockpiled and would not require as much monitoring as a liquid holding pond or lagoon. Broiler operations typically would remove the crust from a house after each flock and perform a complete house cleanout only once a year. Operations with more frequent removal and land application would incur higher recordkeeping costs. Generally,

liquid systems would have greater recordkeeping requirements than solid handling systems. Larger systems would generally incur a higher monthly cost than smaller systems because of the greater complexity of the operation.

Recordkeeping costs were assigned as follows:

- \$80 per year for annual recordkeeping activities (8 hours per year at \$10 per hour). This cost would be incurred by all operations with more than 35 animal units.
- \$120 per year for monthly activities (1 hour per month at \$10 per hour) associated with liquid/slurry handling on small systems, and \$240 per year for monthly activities associated with liquid/slurry handling on larger systems (2 hours per month at \$10 per hour).
- \$120 per year for monthly activities (1 hour per month at \$10 per hour) for the larger fattened cattle operations with manure pack. For other solid systems, monthly recordkeeping is minor, and costs are incorporated into the per-event cost.
- \$40 per year for per-event activities (16 days per year for land application of manure, 15 minutes per day for recordkeeping, at \$10 per hour) for nonpoultry operations that land apply manure, including layer farms with shallow pit or flush-to-lagoon systems. For the remaining poultry farms, per-event recordkeeping costs were assumed to be \$20 per year (8 days per year for land application of manure, 15 minutes per day for recordkeeping, at \$10 per hour).
- Recordkeeping costs for pastured livestock farms and small farms with confined livestock types (less than 35 animal units) consisted of \$40 per year for annual costs and \$20 per year for monthly and per-event costs.

Most, if not all, of the costs associated with setting up recordkeeping would be covered in the technical assistance provided to the producer, and so setup costs are not included here. Setup might include establishing the necessary forms to document actions and activities and providing software programs to aid in more comprehensive recordkeeping activities.

Although many operators keep some records, most operators are not expected to be keeping sufficient records to provide adequate information for maintaining a nutrient management plan. It was thus judged

that CNMP needs would be 90 percent for record-keeping activities.

Overall, annual recordkeeping costs totaled \$30 million. The annual average cost was \$117 per farm (table 33). Recordkeeping costs were highest for swine farms, averaging \$224 per farm. Costs were lowest for poultry farms (\$90 per farm), small farms with confined livestock types (\$54 per farm), farms with pastured livestock types (\$54 per farm), and specialty livestock farms (\$54 per farm).

**Table 33** Annual average recordkeeping costs per farm, by livestock type and farm size

Dominant livestock type or farm	Number of farms	Record-keeping costs
Fattened cattle	10,159	142
Milk cows	79,318	160
Swine	32,955	224
Turkeys	3,213	90
Broilers	16,251	90
Layers/pullets	5,326	136
Confined heifers/veal	4,011	117
Small farms with confined livestock types	42,565	54
Pastured livestock types	61,272	54
Specialty livestock types	2,131	54
Large	19,746	168
Medium	39,437	150
Small	198,018	106
All CNMP farms	257,201	117

## CNMP development costs

A significant part of the cost of CNMPs is the cost of developing the CNMP for each livestock operation. CNMP development includes

- working with farmers to define objectives, develop and evaluate alternatives, and finalize a plan;
- designing the conservation practices identified in the CNMP plan;
- assisting with and inspecting the installation of the conservation practices and identified management activities; and
- following up with the producer to address questions and to assure that the practices are being carried out as intended.

Because of the technical complexities that must be addressed in developing and implementing a CNMP, most producers need assistance from technical specialists to ensure that sustainable systems will be installed and operated, and that those systems meet the objectives of a CNMP and are consistent with the production goals of the farmer. This assistance could be provided by technical specialists from either the public or private sectors.

**Alternatives development and evaluation** involves meeting with the livestock operator to determine resource concerns related to the operation, obtain pertinent operational data (such as the number of animals and plans for expansion), and identify present practices for handling manure. Resource concerns include potential environmental risks, such as runoff from feedlots, proximity to streams and lakes, and eroding cropland. Based on this information the planner would develop several alternatives the operation could use to meet CNMP criteria. The preparation of the alternatives would involve developing preliminary designs for structural practices, estimating the acres and cropping practices needed to utilize manure nutrients efficiently, and determining the conservation system needed to control erosion on acres receiving manure. The planner would then meet with the operator again to review alternatives and assist with the selection. A CNMP would then be prepared.