

Alternative Three—Varying Methods of Environmentally Targeting Funds

The third alternative analyzes the effects of different fund allocation methods which target natural resource issues and concerns. The methods are:

- Homogenous evaluation process (NOFA)—A standardized allocation formula is applied to every application in every location.
- Spatial evaluation process—More points are given based on proximity to an identified natural resource (*i.e.* an impaired stream, underground aquifer, etc.), but no participants are excluded.
- Allocation and evaluation by natural resource concern—More points are given based on an identified natural resource concern, *ie.* water quality, soil erosion, or wildlife habitat development.
- Variable cost share rates—Rates vary by practice based on effectiveness or other criteria.
- Allocation formula—Established criteria are evaluated based on a weighted formula.
- Holdback option—Funds are set aside to be allocated at a later point to locations that achieved higher levels of program efficiency based on measures which have yet to be determined.

Conclusions

Tier One—Comparison of 1996 EQIP to EQIP as Outlined in the NOFA

The EQIP Benefit Cost Analysis compares the EQIP program created in 1996 (“old program”) with those changes associated with the 2002 program implemented through the NOFA. Additionally, several alternatives associated with the proposed rule were then compared with the NOFA.

Based upon this analysis, if EQIP is implemented as described in the NOFA, it is estimated that 63 million acres of agricultural land will be treated, categorized by 44 million acres of cropland, 10 million acres of grazing land, and 9 million acres for wildlife habitat improvement if the proposed program is implemented. This results in \$6.8 billion in total benefits, including \$3.6 billion due to animal waste treatment and \$3.2 billion due to non-animal waste land treatments.

The treatment level is expected to increase when compared to the old EQIP. An additional 0.9 million acres for sheet and rill water erosion (USLE) reduction, 2.3 million acres for wind erosion, 8.5 million acres for non-waste nutrient management, 9.6 million acres for net irrigation water reduction, 3.1 million acres for grazing productivity, and 4.1 million acres for wildlife habitat

could be expected to occur on the landscape. In addition, 4.8 million animal units, and 2,755 animal feeding operations could be treated and total soil loss from agricultural land decreased by 7.5 million tons/year.

Under the assumption of the old program continuing at level funding and not accounting for the effects of the EPA CAFO rule, the net present value of benefits over the period of 2002–07 was estimated to be \$2.2 billion with \$0.3 billion coming from waste treatment and \$1.9 billion from land treatment. Net benefits were \$1.2 billion above EQIP funds and –\$0.2 billion if total costs were accounted for.

Net benefits under the new program were \$2.3 billion above EQIP funds and \$0.2 billion if total costs were accounted for.

The difference between the net benefits estimates of the two scenarios is due to three factors:

- Scale effect associated with increased funding;
- Practice mix effect as a larger share of funds are allocated to livestock waste treatment and efficiencies; and
- Cost effect, since with cost share buy down eliminated, the government cost per treated unit is most likely increased.

Analysis suggests that implementation of EQIP outlined in the NOFA would provide substantial benefits and would help achieve program objectives of solving identified natural resource concerns while optimizing environmental benefits.

The option to include large AFOs, elimination of priority areas and discussion of increased payment limitation are discussed in detail in Tier Two of the benefit-cost analysis. Other proposed changes in EQIP are not quantified in this analysis due to lack of available data necessary to accurately evaluate effects. These include potentially shorter average contract lengths due to the fact that single practices will be allowed and contracts may terminate one year after completion of the last practice, allowing multiple contracts per tract of land, and providing higher cost share rates for limited resource producers or beginning farmers.

Tier Two—NOFA Compared to Policy Options

Alternative One: Alternatives to AFO/CAFO Funding

This analysis was generated before EPA has promulgated the CAFO rule, which regulates all large AFOs above 1,000 AUs. With the promulgation of this rule, EQIP can no longer claim

environmental benefits from treatment of large producers, since they must comply with CAFO regulations. Use of EQIP resources would therefore be most efficiently used in treating the next largest non-regulated class of producers.

Allocating funds based on share of total animal units (AUs) results in 42 percent of the funding going to the largest size class (>1,000 AUs), and achieves the greatest net benefits of \$2.03 billion and \$1.02 billion for EQIP funds and total costs. Conversely, the allocation based on share in numbers of operations, the largest size class would only receive 4 percent of the funding and would achieve net benefits of \$378 million and –\$315 million for EQIP funds and total costs, respectively. Clearly, some efficiencies are lost due to the fact that it costs more per animal unit to treat the smaller size class AFOs than the large farms.

The strategy generating the highest net benefits (of the six alternatives evaluated) is to allocate the funds across the size classes according to their proportionate share in total number of AUs. That strategy would result in treatment of 15.8 million AUs, compared to as low as 9.4 million AUs for the strategy with the lowest net benefits (allocation divided evenly to the 3 smallest size classes and excluding funding to CAFOs.) The more that funds are shifted towards the (non regulated) larger AFOs, the larger the number of AUs treated, the lower the TA cost, and the greater the estimated benefits.

By comparison, if farms with greater than 1,000 animal units remained excluded from EQIP funding for animal waste practices, a total of 11,400 farms, with a total of 23 million animal units, and an overall need of \$500 million in CNMP costs would remain ineligible for EQIP funding. In the scenario of not funding large CAFOs, this analysis shows that although net benefits would exceed the net EQIP costs, net benefits would be the lowest of all scenarios, with \$314 million for EQIP funds and \$–421 million for total costs.

Under the NOFA scenario, this analysis assumed that the 50 percent of EQIP funding designated for animal waste treatment would be divided equally across the four AFO size classes. However, from the total EQIP benefits, the benefits accruing from treatment of the largest class of AFOs, greater than 1,000 AUs, are excluded. This exclusion is appropriate now that the Environmental Protection Agency has formally published its revised CAFO rule and the benefits from treatment of those large AFOs are credited to the CAFO rule rather than the EQIP program. The definition of AFOs