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Windbreaks An Old System with a New Look

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Brandle, James R., "Windbreaks An Old System with a New Look" (2000). *Papers in Natural Resources*. 1133.

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From the data it is apparent that yield increases of as little as 5-7% result in positive net present values and indicate that the windbreak investments are economical. Given the assumptions of profit-maximization, and complete certainty, one should accept those investment alternatives where net present values are positive, and reject those where net present values are negative.

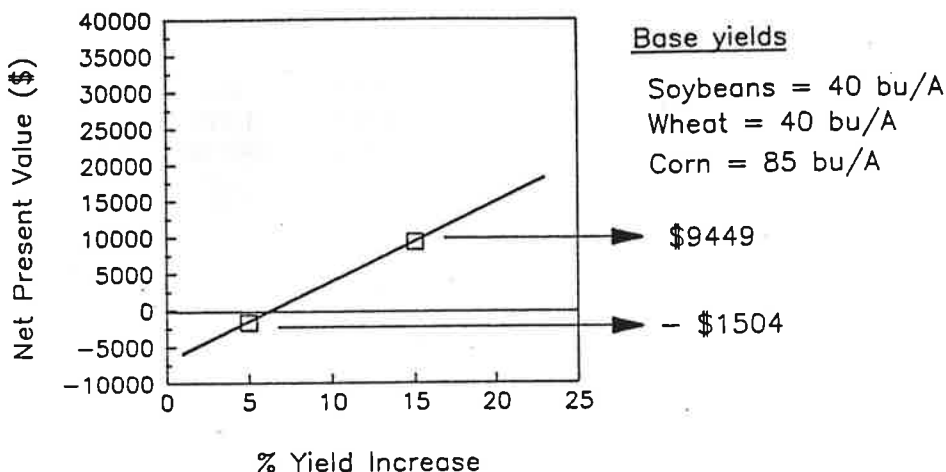


Figure 2. Net present value after 50 years of a soybean, wheat, corn, corn rotation over a range of average yield increases resulting from the protection of the windbreak described in Fig.1.

Wind Erosion Benefits

In addition to the benefits received from increased yields, the value of wind erosion control must be added to the economic analysis. The net present value of lost production per year due to soil erosion is illustrated in Figure 3. Total economic losses over the 50 year rotation can add as much as \$2500 to the net present value of the windbreak investment with as little as a 0.1% loss in production. As erosion losses increase, the net present value of the windbreak system increases. Furthermore, windbreaks are a recognized practice in CRP and will be considered as conservation compliance begins to influence eligibility for programs.

Other Benefits

Other benefits also flow from the inclusion of windbreaks and other tree plantings on the farm: 1) Energy conservation at the farmstead; 2) Snow control; 3) Livestock protection; 4) Wildlife habitat; and 5) Aesthetics. The value of some of these benefits in dollars is much harder to assess and perhaps is best left to the individual.

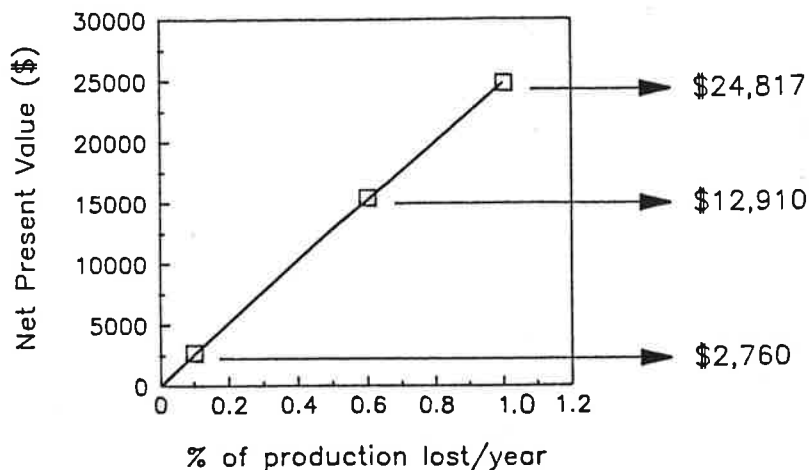


Figure 3. Net present value of the production lost to wind erosion over a 50 year period.