Machinery costs, costs per bushel and net returns for direct seed wheat production: Results by agroecological class (AEC) and year, based on a grower survey

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Survey Results:

Average winter wheat yield by AEC, 2011 - 2013

Costs per Bushel for Winter Wheat by AEC and Year

Total Production Costs by AEC and Year

Net Returns for Wheat Production by AEC and Year

Variable costs are directly related to production, for machinery costs these include fuel, lubricants, repairs, and labor.

Fixed costs are incurred regardless of production levels. These include depreciation, interest, insurance, licenses, and housing.

Introduction

Costs and returns for winter wheat production differ significantly across the inland PNW wheat production region. Based on a longitudinal survey of direct seed producers, machinery costs account for 16% – 18% of total production costs, including both operating and ownership costs. Typical costs by AEC are described below, plus survey results grouped by year and AEC.

The Farmers of the Longitudinal Survey

This group of wheat growers were invited to participate in the REACH project based on their willingness to collaborate with previous research projects. These producers are characterized by being leaders in their communities, having a long farming history, and by their willingness to adopt new practices.

Agroecological Class (AEC)

Agroecological classes divide the wheat growing region in the Inland PNW based on cropping intensity. The Annual AEC is characterized by annual production, while the Transition AEC produces a crop in two of every three years. The Wheat-Fallow AEC typically has a two-year rotation of winter wheat and summer fallow. There are 20 survey participants in the Annual AEC, 11 in the Transition AEC, and 14 in the Grain-Fallow AEC.

Typical Direct Seed Winter Wheat Machinery Costs by Agroecological Class ($ per acre)

Machinery costs are calculated using the University of Idaho Machinery Cost Calculator found at http://web.cals.uidaho.edu/IdahoAgBiz/management-tools/. Necessary machinery information was entered into the calculator. Data needed included current value, age, annual hours of use, salvage value, repair costs, fuel use, and acres finished per hour.

Conclusions

Costs per bushel for dryland winter wheat production are highest in the grain-fallow AEC, and revenue must be spread over two years. While per acre costs are lowest for this AEC, lower yields and thus revenue combine to make this region the least profitable.

Typical Costs & Operations by AEC:

Machinery Costs for Winter Wheat ($/acre) for Annual AEC

Machinery Costs for Winter Wheat ($/acre) for Transition AEC

Machinery Costs for Winter Wheat ($/acre) for Grain-Fallow AEC

Note: Farm size is assumed to be 2500 acres for the purposes of machinery cost calculations.

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Regional Approaches to Climate Change for Pacific Northwestern Agriculture

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