**CEREAL GRAIN STUBBLE BURNING MEMORANDUM OF UNDERSTANDING AND AGREEMENT (MOU)**

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## I. Purpose

The MOU sets emission reduction timeframe and targets for cereal grain stubble burning in Washington State and establishes the means to achieve the reductions.

The MOU specifies the roles and responsibilities of Washington State Association of Wheatgrowers (WAWG), Washington State Department of Agriculture (Agriculture), and the Washington State Department of Ecology (Ecology).

## II. Objectives

- Establish roles and responsibilities of WAWG, Agriculture and Ecology.
- Establish an emissions baseline and specific emission reduction timeframe and targets that are quantifiable and verifiable.
- Provide framework for development of specific processes, procedures, and conditions to ensure achievement of emission reductions.
- Establish framework and objectives for agricultural research designed to measure emissions associated with cereal grain stubble burning.
- Establish framework and objectives to reduce the need for the use of fire as a management tool.
- Commit to the development and use of effective, scientifically-based best management practices (BMPs) related to agricultural burning.

- Further establish and describe processes, procedures, conditions, assignments and timelines referenced in the MOU in a companion workplan to the MOU.

## III. Background

In general terms, the Washington State Clean Air Act limits cereal grain stubble burning to cases where all of the following conditions are met

- Permits must show that burning is the most reasonable procedure to follow or is otherwise reasonably necessary to carry out the enterprise
- Proper weather and air quality conditions exist
- A permit designed to minimize air pollution in so far as practical has been obtained from the air quality agency or a delegated permitting authority prior to burning.
- Best management practices to reduce emissions are followed.

The Washington State Clean Air Act establishes a state policy to achieve reductions in air pollution from small sources whose aggregate emissions contribute significantly to air pollution in a particular region. The law requires Ecology to adopt rules that establish reasonably available control methods for all significant sources or source categories of air pollution.

The law establishes an advisory Agricultural Burning Practices and Research Task Force to help set best management practices (BMPs) related to agricultural burning and air quality. BMPs are used as one way to address the legal requirements for reasonably available control methods.

One or more of the following management methods can be used to reduce emissions and the overall impacts of smoke: burning less residue, burning fewer acres, burning more cleanly, using crop rotations and other integrated pest management alternatives, using agrononmic practices shown by research to reduce smoke, and better smoke management. When these strategies work in concert, we provide the best overall air quality result.

This MOU represents the best efforts of the parties to resolve apparent conflicts and balance seemingly competing interests in a way that meets the needs of growers and addresses concerns with smoke caused by cereal grain stubble burning.

Our mutual goal is to significantly reduce emissions in the least intrusive and most cost effective manner through a combination of agronomically sound changes in agricultural practices, educational and informational efforts, permits, inspections, independent reviews and by applying the results of research.

WAWG, Agriculture, and Ecology are pleased to have voluntarily entered into this agreement that allows us to move forward with a positive, progressive and substantive plan that provides flexibility and local decision-making while improving air quality.

Ecology, working closely with the other parties to the MOU and the delegated permitting authorities, is primarily responsible for oversight of the plan.

## IV. Roles, Responsibilities and Agreements

Emission Baseline and Reduction Targets

The parties have voluntarily entered into the MOU to reduce emissions from cereal grain stubble burning. On average, a minimum 7% reduction in emissions per year will be achieved reaching a minimum 21% reduction in three years and 50% reduction over seven years. The agreement begins with calendar year 1999. The 50% emission reduction goal will be reached by June 30, 2006.

The Department of Ecology has established the baseline from which emission reductions will be measured. The baseline emissions will be calculated using the following factors:

- Acres Burned: 229,000
- Residue Level: 5 tons/acre
- USEPA emission factors for cereal grain field burning from AP 42

Relationship to Best Management Practices (BMPs)

Best management practices (BMPs) are developed and revised by the Agricultural Burning Task Force. BMPs are agricultural practices based on sound agricultural science that provide the tools used to achieve emission reductions.

WAWG, Agriculture, and Ecology will remain active participants on the Task Force.

Growers will use the most current (1999 or later) version of the cereal grain BMPs.

Ecology will actively enforce and encourage growers to use BMPs to reduce emissions, and will communicate this goal to their delegated permitting authorities. Compliance is expected of the cereal grain industry as it is for all industries.

Monitoring Performance

Tracking progress is an essential component of the MOU and critical to its success. The MOU envisions three layers of accountability.

1. Acres permitted are equal to acres burned
2. BMPs are followed

3. BMPs are effective at reducing emissions

Ecology will establish procedures and protocols for data collection and analysis to ensure that accurate, timely information is available to the agricultural community and the public.

WAWG in conjunction with Cooperative Extension and delegated permitting entities will develop an emissions reduction allocation system subject to the approval of Ecology after it consults with Agriculture.

The parties to this agreement will jointly conduct an annual review of actual emission reduction achieved and barriers to success, if any, and modify the workplan associated with the MOU as appropriate to ensure success. Results of the review will be reported to the Agricultural Burning Task Force.

The currently available data to measure emissions and progress toward reduction targets is less than perfect, in some cases incomplete or based on information from other regions. The parties agree that today's data, even with its imperfections, will provide the basis for setting initial baselines and tracking initial progress. Developing more accurate emissions information is a high priority in order to improve accuracy of baseline information and to provide data to address public health concerns. When more comprehensive or better scientific information becomes available, Ecology, in consultation with the other parties to the MOU, will refine the measurement processes and protocols.

Technical Assistance, Education and Training

Success of the MOU relies on modifying agricultural practices. Technical assistance to and education of farmers, agriculture extension agents and the public is an important part of ensuring success.

All parties will participate in educating, training and providing technical assistance to the farming community.

Agriculture, with the assistance of WAWG, will take primary responsibility for promoting the MOU and disseminating information to the cereal grain growers and through other agricultural organizations to increase the understanding and acceptance of new, agronomically sound agricultural practices designed to reduce emissions.

The parties shall use cooperative extension agents, conservation districts and field days to provide grower training and technical assistance on new management practices to reduce emissions.

Ecology will take the primary role in the drafting and production of educational materials, and will coordinate education and technical assistance programs for the growers.

WAWG will assist in the development of materials and programs. They will actively promote the emission reduction strategy and disseminate information to the agricultural industry.

Enforcement and Compliance

An active enforcement program is necessary to ensure that only permitted burning takes place, conditions in permits are followed and that best management practices (BMPs) to reduce emissions and burning are followed. Ecology, in concert with its delegated permitting authorities, is primarily responsible for enforcement of agricultural burning rules and regulations. Ecology, togethert with its delegated authorities, will develop compliance measures to ensure that acres permitted equal acres actually burned and that the most current BMPs are applied and followed.

Agriculture and WAWG support rigorous enforcement. Agriculture and WAWG will work with Ecology to help develop effective compliance measures, and will actively request assistance from their constituencies to help ensure all conditions of the MOU are met.

Research and Development

All parties agree to pursue and invest resources for research and development of the three areas listed below. Agriculture will take the lead to pursue additional research funding. Agriculture, WAWG and Ecology will ask federal and state agencies, commodity commissions and local entities to contribute additional funds for research beyond those provided through agricultural burning permit fees.

Research efforts will be focused on those areas most likely to provide timely and meaningful results so that new approaches and information can successfully used to further our mutual emission reduction goals.

Research needs fall into 3 major areas.

1. Emission Factors: Better information is needed to more accurately quantify emissions to determine how different agricultural practices affect emissions. New data will be used to improve emissions calculations and improve guidelines and techniques that reduce emissions. Ecology, in consultation with the other parties, will be primarily responsible for developing and guiding an emission research plan. All parties are committed to development of sound, scientifically based emissions measurement and see it as an essential, continuing commitment.
2. Agricultural Practices: Agronomically sound modifications to agricultural practices such as alternative crops and rotations, integrated pest management programs, and other system changes can reduce emissions, reduce the need for burning and improve the ability of the cereal grain industry to meet the emission reduction goals. WAWG, in consultation with the other parties, will be primarily responsible for developing and guiding an agricultural practices

research plan. WSU Extension and WAWG will use science and practical experience to develop and recommend future practices/systems that meet all environmental goals (air, animal, plant, soil, and water) in the most efficient and effective way.

3. Residue Utilization: Though Agriculture will take the lead, all parties will jointly and separately advocate and encourage initiatives and develop strategies that create incentives for and promote the utilization of residue and its conversion into valuable products. The parties will jointly and separately develop strategies to encourage the passage of such changes.

## V. Extraordinary Circumstances

Extraordinary Circumstance means an unforeseen catastrophic event or identified crisis affecting crop health such that burning is essential to control it.

The industry may petition the directors of Ecology and Agriculture for permission to exceed the emission reduction target in the event of an extraordinary circumstance such as a potentially catastrophic outbreak of disease, insect infestation, or other devastating agricultural crisis.

The College of Agriculture and Home Economics at Washington State University will be asked to verify the presence of the extraordinary circumstance and that burning is an essential tool to help alleviate the problem. The director of Ecology after consultation with the director of Agriculture must approve the extraordinary circumstance.

## VI. Defaults

Annual reviews conducted jointly by the parties will provide early identification of problems and barriers to success. Corrective action and appropriate adjustments to the MOU and its accompanying workplan will be made after each periodic review to help ensure success.

If the Agricultural Burning Task Force fails to reach timely agreement on revised cereal grain BMPs, all parties will work to complete the BMPs using recommended practices submitted by the Washington State University College of Agriculture as well as pertinent information previously submitted to the Task Force.

This MOU becomes effective upon signature by all parties and remains in effect until modified by mutual consent.

This MOU does not affect or modify existing regulations or agency responsibilities and authorities. It specifically does not commit any agency to activities beyond the scope of its mission and authority under its authorizing laws.

**SIGNATORY PARTIES**

We the undersigned parties have voluntarily entered into the MOU in good faith and we are committed to achieving its objectives.

2-9-99

**Washington Association of Wheat Growers** **Date**

2/8/99

**Washington State Department of Agriculture** **Date**

2-7-99

**Washington State Department of Ecology** **Date**