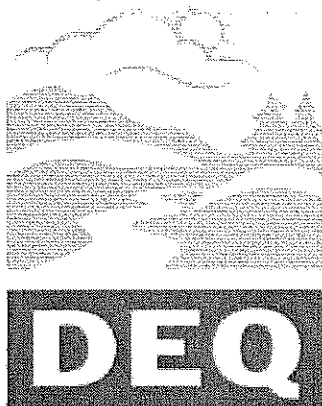


3/17/1978

**OREGON
ENVIRONMENTAL QUALITY
COMMISSION MEETING
MATERIALS**



State of Oregon
**Department of
Environmental
Quality**

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Special Meeting
of the
ENVIRONMENTAL QUALITY COMMISSION

March 17, 1978
Third Floor Conference Room, DEQ Offices
Yeon Building
522 S. W. Fifth Avenue
Portland, Oregon

- 9:00 am A. Field Burning Rules - Continuation of February 24, 1978 EQC meeting agenda item to consider adoption of permanent rule revisions to OAR 340-26-005 through 26-025 pertaining to agricultural burning. (A public hearing was held February 24, 1978 and the record was held open until March 6, 1978 for written comments. Additional testimony is not anticipated).

Patterson

MINUTES OF THE SPECIAL MEETING
OF THE
OREGON ENVIRONMENTAL QUALITY COMMISSION

March 17, 1978

On Friday, March 17, 1978, a special meeting of the Oregon Environmental Quality Commission Convened in conference Room 3A of the Department of Environmental Quality Offices, 522 S.W. Fifth Avenue, Portland, Oregon.

Present were all Commission members: Mr. Joe B. Richards, Chairman, Dr. Grace S. Phinney, Vice-Chairman; Mrs. Jacklyn Hallock; Mr. Ronald Somers; and Mr. Albert Densmore. Present on behalf of the Department were its Director and several members of the Department staff.

The staff report presented at this meeting, which contained the Director's recommendation mentioned in these minutes, is on file in the Director's Office of the Department of Environmental Quality, 522 S.W. Fifth Avenue, Portland, Oregon.

FIELD BURNING RULES - CONTINUATION OF FEBRUARY 24, 1978 EQC MEETING AGENDA
ITEM TO CONSIDER ADOPTION OF PERMANENT RULE REVISIONS TO OAR 340-26-005
THROUGH 26-025 PERTAINING TO AGRICULTURAL BURNING. (A public hearing
was held February 24, 1978 and the record was held open until March 6, 1978
for written comments.)

Mr. E. J. Weathersbee, Administrator of the Department's Air Quality Division presented the staff report on this matter. Mr. Weathersbee said that the staff report evaluated and responded to testimony received during and since the February 24 public hearing.

Commissioner Somers said that one of the findings the Commission had to make was that there would be no violation of state or federal law in the rules they adopted. Mr. Weathersbee said the staff was caught between writing regulations to either violate state or federal law. He said that the regulations could be made universally applicable to not violate either.

Commissioner Somers asked how the 50% moisture content was arrived at. Mr. Richard Vogt of the Air Quality Division, replied that that was 50% relative humidity derived from the study on the California rice fields. Mr. Vogt said that study was cited as a reference and was also in material received from the City of Eugene. Mr. Weathersbee said that the 50% relative humidity was only proposed to be applied on north wind situations. He said that the south wind conditions were usually accompanied by high relative humidity, and were also some of the better burning days from the standpoint of protecting the South Valley. In response to Commissioner Somers, Mr. Vogt said that was a 50% relative humidity and 20% fuel moisture content. Commissioner Somers asked who would make the tests to determine the fuel moisture content. Mr. Weathersbee replied that a test had to be developed by September 1 that the farmers could use. Mr. Weathersbee said that the 12% fuel moisture content cited in the California studies and proposed by the City of Eugene applied only to the straw. He said that the

staff felt that the 20% fuel moisture content was more applicable to the grass seed fields, including the regrowth.

Mr. Weathersbee presented the following Summation and Director's Recommendation from the staff report.

SUMMATION

As required by law, the Commission must:

1. After consulting OSU and the Department, establish the maximum amount of acreage which may be open burned during 1978.
2. Establish the method of allocating burning permits should acreage registration exceed the limitation established in (1) above.
3. Adopt rules incorporating (1) and (2) above to minimize emissions and field smoke impact on air quality.

Since the EQC is presently bound by the 180,000 acre limit in complying with a formal opinion issued by the State Attorney General, discussion of rule revision center on points (2) and (3) above.

The two important factors influence drafting and adopting of the proposed rules are:

1. Public testimony, and
2. The need to develop and support a one year interim control strategy to be submitted to EPA and which shall include a 180,000 acre limitation.

The Department proposes the attached rule changes to meet the following needs:

1. To adopt permanent rules for operation of field burning and other agricultural burning programs as required by 1977 Oregon Laws, Chapter 650 (HB 2196).
2. To establish acreage allocation procedures, the acreage for which permits may be issued and the maximum acreage that may be open-burned in 1978.
3. To provide rules to facilitate improvements in smoke management and air quality in time for the 1978 field burning season.

In addition, the attached proposed rules contain the following specific additional changes as a result of public hearing:

4. A fee of \$3.50/acre to off-set the costs of experimental open burning programs. Fees, so collected are proposed to be established in a separate account for experimental open burning efforts.
5. Relative humidity (RH) is adopted as a measure of fuel moisture content such that when RH is greater than 50 percent, under north wind conditions, burning would be prohibited due to high fuel moisture content.

6. After September 1, 1978, no field shall be burned with a average fuel moisture content greater than 20 percent, wet weight basis.
7. All south priority acreage burned upwind of Eugene-Springfield shall be burned using backfire or into-the-wind striplighting techniques.

DIRECTOR'S RECOMMENDATION

It is the Director's recommendation that the Commission take the following actions:

1. Acknowledge as of record the consultation with and recommendations of Oregon State University and the Department pursuant to ORS 468.460(3) as revised by HB 2196.
2. Find that reasonable and economically feasible alternatives to the practice of annual open burning have not been developed.
3. Find that practices developed from experimental burning conducted under Department supervision:
 - a. Can, in theory, reduce the adverse effects on air quality or public health from open field burning; and
 - b. Is necessary in order to obtain information on air quality, public health or the agronomic effects of an experimental form of open field burning.
4. Adopt the proposed amendments to OAR, Chapter 340, Section 26-005 through 26-030 (Attachment 1).

Commissioner Somers MOVED that the Director's Recommendation be approved and that ORS 340-26-013(1)(a) be amended as follows:

- (a) "During 1978, shall not exceed 180,000 acres" add "and further shall not exceed applicable state and federal laws and regulations."

Commissioner Hallock said that she agreed with Commissioner Somers that in view of the Attorney General's opinion and the letter received from the environmental Protection Agency, the report should be amended. She asked Department's legal counsel, Ray Underwood, if a number should be left in the language. Mr. Underwood said it would be his recommendation to omit the specific number and have 340-26-013(1)(a) read: "During 1978, shall not exceed the maximum number of acres permitted by law."

Commissioner Somers withdrew his motion. He asked Mr. Weathersbee what the Commission would be doing by adopting this language, and how would the Department enforce it. Mr. Weathersbee replied that the Department would do the best it could. Commissioner Somers asked how many acres would be allowed to be burned. Mr. Weathersbee said that would come out of the one-year control strategy which would come before the Commission March 31. He said the proposed rules would be part of that one-year strategy.

Commissioner Somers said he realized that the Commission was bound to follow the guidelines set by the Legislature, but the Commission also has a responsibility to uphold the United States laws and regulations. He asked Mr. Underwood if it was correct that the Commission was limited to 50,000 acres stated in the federal Clean Air Plan. Mr. Underwood replied that that was what the Attorney General's opinion of March 16, 1978 stated. In response to Commissioner Somers, Mr. Underwood read from the Attorney General's letter of March 16, 1978, as follows:

"Until approval is secured from the EPA to burn more than 50,000 acres, the EQC is subject to the acreage now specified in the State Implementation Plan."

Commissioner Somers asked if by adopting the language now proposed for 26-013(1)(a) the Commission or Department would have no personal liability to the federal government for violation of their regulations. Mr. Underwood replied that that was his opinion.

Chairman Richards clarified that after the Commission took action on March 31 the one-year control strategy, and submitted it to EPA, if EPA said that 180,000 acres could not be burned, the Commission would then be bound by the acreage number submitted by EPA. Commissioner Somers replied that that was correct. Chairman Richards said that because the Commission had been advised by the Attorney General that the federal law was preeminent, the Commission would have no choice if EPA said a lesser number of acres than 180,000 would be burned.

Commissioner Densmore asked if there was any assurance that EPA would give the Commission guidance on a reduced number of acres. Mr. Weathersbee said that there was no assurance, however if the State could arrive at a program that the principals involved on either side of the issue could accept, than EPA would be inclined to accept that as well as a one-year strategy.

Chairman Richards said the Department knew that it would be taking a risk when it submitted a plan to EPA, but there was not time to go over the entire Implementation Plan before the next deadline in January 1979.

Chairman Richards read into the record the following policy statement in regard to OAR 340-26-015(4)(e).

"The Department shall conduct experimental burning by requiring areas to be burned using into-the-wind striplighting and back-burning techniques during the period July 1, to August 31, 1978. During such period research shall be conducted on the effect of such techniques on characteristic emissions and plume behavior. The Department shall determine whether such techniques reduce low level smoke emissions.

If the Department finds such techniques reduce the total amount of particulate emissions and will not adversely affect air quality, it shall require the use of such techniques for burning stubble of those grasses specifically not susceptible to damage by use of such techniques."

Mr. Weathersbee said that the policy statement accurately described what the Department intended to do.

It was MOVED by Commissioner Somers, seconded by Commissioner Hallock and carried unanimously that the above policy statement be adopted as the intent of the Commission.

Commissioner Phinney suggested, and Mr. Weathersbee agreed, that in 26-015(5) the word "fuel" should be inserted between "average" and "moisture". The section would then read:

"(5) After September 1, 1978, no field shall be burned which has an average fuel moisture content of greater than 20 percent wet weight basis, as determined by using the Department of Environmental Quality fuel moisture test procedures."

It was MOVED by Commissioner Phinney, seconded by Commissioner Hallock, and carried unanimously that the above amendment to OAR 340-26-015(5) be adopted.

Chairman Richards asked for an assessment of the impact of the adoption of the proposed alternative section 26-015(d)(C) in Attachment II of the staff report pertaining to the burning of south priority acreage. Mr. Vogt said a crude estimate would be that approximately 50% of the registered acreage in the south valley priority would not be burned.

Mr. Dave Nelson, Oregon Seed Council, said that in looking at the proposed section (c), the Commission should consider that the Portland Area was a non-attainment area.

Chairman Richards noted that the staff had not recommended adopting this amendment. He said that if the Commission was interested in this amendment it would be saying that for those areas such as Albany and Lebanon whose residents have not really protested burning conditions this would impact those areas more intentionally to keep smoke out of the Eugene-Springfield non-attainment area.

He asked if the Portland non-attainment area had ever been impacted by field smoke to a substantial degree. Mr. Weathersbee said the impact of it could be measured, but he didn't know if it would cause intolerable conditions on a one-season basis. Mr. John Kowalczyk of the Department's air quality staff, said that because of the distance involved, he doubted that a significant impact would be made upon the Portland non-attainment area.

Commissioner Hallock MOVED and Commissioner Phinney seconded that the proposed substitution to 26-014(4)(d) as stated in Attachment II be made; and the language be amended as follows:

"No south priority acreage may be burned on north wind days upwind of the Eugene-Springfield or other non-attainment area."

Commissioner Phinney asked why the reference to "other non-attainment area." Mr. Vogt replied that he did not think it would hurt to remove that reference.

Commissioner Somers said that by removing that reference, they would be giving the Eugene-Springfield area preferred treatment.

Mr. Vogt said it was the intent of the staff to have the alternate subsection in addition to the proposed rule.

Commissioner Hallock amended her motion to add instead of substitute the above subsection to 26-015(4)(d) as subsection (D).

Chairman Richards asked Mr. Underwood if the record could be left open, and if the Commission could take action on the rest of the rules except this proposed subsection; then defer action on the proposed subsection until the March 31 meeting. Mr. Underwood said that the Commission could adopt everything else and leave the record open on the subsection under discussion.

Commissioner Hallock withdrew her motion. Chairman Richards stated for the record that by unanimous consent the Commission would consider the subsection, now to be numbered (D) under 26-015(4)(d) at their meeting March 31, 1978.

Commissioner Densmore invited further written information from the public on this matter. Chairman Richards said that by unanimous consent the record would permit written input prior to and until March 27, 1978 at which time the record would be closed.

It was MOVED by Commissioner Hallock, seconded by Commissioner Phinney and carried unanimously that the following amendment be made to the proposed OAR 26-015(4)(d)(C):

"(C) All south priority acreage located upwind of the Eugene-Springfield priority area shall be burned using backing fire or into-the-wind striplighting techniques, except as provided by 26-015(4)(e)."

It was MOVED by Commissioner Hallock, seconded by Commissioner Phinney and carried unanimously that the rules as amended be adopted.

There being no further business, the meeting was adjourned.

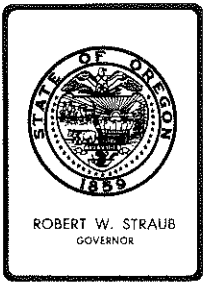
Respectfully submitted,


Carol A. Spletstaszer
Recording Secretary

State of Oregon
DEPARTMENT OF ENVIRONMENTAL QUALITY

R E C E I V E D
MAY 23 1978

AIR QUALITY CONTROL



Environmental Quality Commission

POST OFFICE BOX 1760, PORTLAND, OREGON 97207 PHONE (503) 229-5696

MEMORANDUM

To: Environmental Quality Commission
From: Director
Subject: Special EQC Hearing, March 17, 1978

BACKGROUND

The present field burning law requires the Environmental Quality Commission to receive recommendations of the Department and Oregon State University and to establish an annual acreage limitation, an acreage allocation scheme, and to adopt field burning rules after receipt of public testimony. In partial response to these requirements, the Commission received recommendations from staff and OSU agricultural experts at the EQC meeting on February 24, 1978.

An informal opinion from the State's Attorney General said there was no demonstrated basis for the Commission to reduce the acreage below the 180,000 acre limit established by HB2196 unless, economically feasible alternative methods to open field burning have been developed. Since no testimony was presented which showed availability of economically feasible alternatives, no testimony was received regarding this acreage limitation.

Testimony was received on the allocation scheme and field burning rules from representatives of the seed industry, the City of Eugene, and agricultural and environmental groups on these subjects. Further, the Commission required the record be held open for an additional ten days after the February 24 hearing to allow for any additional testimony to be submitted regarding the proposed field burning rules (Attachment 1). The Department's summaries and responses are included in this staff report.

As discussed in the February 24 staff report, some of the proposed rule changes are prompted by the Environmental Protection Agency's return of the Department's State Implementation Plan submittal and EPA's accompanying suggestion that the Department might develop a "one year control strategy" with regard to field burning. As a result of testimony received at the hearing, the Commission formally directed the staff to develop and submit such an interim strategy.

STATEMENT OF NEED

The Environmental Quality Commission intends to adopt the Agricultural Field Burning Rules (OAR, Chapter 340, Section 26-005 to 26-030).

- a. Legal Authority: ORS 468.020 and ORS 468.460.



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b. Need for Rule:

1. To provide permanent operating rules to comply with 1977 Oregon Law, Chapter 650 (HB 2196).
2. To provide rules to facilitate improvements in smoke management and air quality.
3. To establish acreage allocation procedures and the acreage for which permits may be issued.

c. Documents Relied Upon:

1. Letter from the U. S. Environmental Protection Agency (EPA), Region X, Regional Administrator, Donald P. Dubois, to the Department of Environmental Quality (DEQ), Director, William H. Young, January 27, 1978, including attached legal analysis.
2. Carroll, John J., George E. Miller, James F. Thompson, and Ellis F. Darley, "The Dependence of Open Field Burning Emissions and Plume Concentrations on Meteorology, Field Conditions and Ignition Technique," Atmospheric Environment, Vol. 11, pp. 1037-1050, Pergamon Press, 1977.
3. Communication from Lane Regional Air Pollution Authority to DEQ on January 24, 1978.
4. Staff report from William H. Young, Director, Department of Environmental Quality, presented at the February 24, 1978, EQC Hearing.
5. Communication from Oregon State University to the Environmental Quality Commission presented at the February 24, 1978, EQC Hearing.
6. Public testimony received at the February 24, 1978, EQC Hearing.
7. Written testimony submitted by the City of Eugene, March 7, 1978.
8. Written testimony submitted by the Oregon Seed Council, March 7, 1978.
9. Written testimony submitted by Oregon State University, March 3, 1978.
10. Letter from Robert G. Davis, Public Affairs Council, received March 1, 1978.
11. Opinion No. 7575 from Oregon Attorney General, received February 28, 1978.

EVALUATION

The purpose of this section is to review and analyze testimony received during and since the February 24 public hearing and to preliminary discuss the interim strategy.

Evaluation of Testimony

1. Testimony of the Oregon Seed Council (OSC)

The Seed Council suggested four specific rule changes at the public hearing:

a. Emergency Burning (Hardship Burning)

Seed Council representatives indicated that in their estimation, the Commission has misinterpreted the intent of the statute. The OSC representative indicated that the present EQC position requiring a showing of extreme hardship, disease or insect infestation, etc., (greater than that normally expected in a reduced burning scenario) is incorrect and does not properly address the present and predicted emergency needs of farmers. A sample of an acceptable hardship (emergency burning) application was also requested.

Staff believes the present rules are adequate for identifying existing hardship situations and provide for timely responses to requests. It is further the staff's opinion that each grower will undergo some hardships as a result of the acreage restrictions imposed by the Legislature. If the Commission did not limit approvals to applications showing extreme emergencies (greater than those normally expected as a result of non-burning) then virtually every application would have to be approved which would not comply with the present understanding of the intent of the law.

b. Quota Size

Dave Nelson, representing the Seed Council indicated that acreage quotas (an amount of acreage, specific to each fire district, allowing convenient designation of the acreage to burn during a given period) should be enlarged because some fire districts (particularly in the north Valley) have been unable to burn substantial percentages of the acreage for which permits have been issued.

Staff has reviewed quota sizes and quota releases each year and generally has found that adequate numbers of usable quotas have been released. The 1977 season was an exception when the summer drought period prohibited burning for much of August and an insufficient number of days were available to complete the burning. Quota sizes were not the cause of this shortfall, however, and no further changes in quota sizes are included in the attached rules.

c. Experimental Acreage Limitation

Mr. Nelson, after presenting a portion of transcript from a legislative hearing regarding experimental open field burning, indicated that no arbitrary acreage limit should be imposed on experimentation. He further indicated that decisions to allow experimental open burns should be made by DEQ staff and should be based on experimental needs.

In general, staff agrees that the need for an experimental burn should have a technical basis. The proposed attached rules contain new language outlining the criteria for, and experimental data to be collected from such burning. In addition, the upper limit on acreage is retained to:

- 1) Indicate in the rules the amount to be available for experimental open burning, and
- 2) Identify, by inclusion in the rules, the total amount of acreage to be open burned as part of the "one year control strategy."

d. Experimental Burning Acreage Fees

The Seed Council indicated support for a fee on experimental burning identical to that required for other burnings. Such a fee would tend to make such experimental efforts self-supporting. The opinion has been expressed that establishment of a fee program would tend to stabilize the field test efforts and put them on a more scientific footing since the costs of better organization, planning and documentation could be at least partially offset.

Last year no fees were required of growers to promote participation in the experimental programs. However, based on these experiences, which showed continued interest by growers, and strong assurances from the OSC, staff supports the fee program and the development of an ongoing field study program. The fee rate may be set by the Department and is proposed to match the existing fee structure or \$3.50/acre. Such fees collected as a result of experimental burning will be segregated and used solely to offset the costs of the program. Staff believes additional monies will be required from the research budget to finance the total experimental open burning program.

2. Testimony of the City of Eugene

Public testimony submitted by Mr. Terry Smith representing the City of Eugene suggests two factors should be considered by DEQ to reduce emissions from open field burning, fuel moisture content and burning techniques.

a. Moisture Content of the Fuel.

It has been observed that emissions from open burning increase as the fuel moisture increases. The important variables affecting fuel moisture content are:

1. Amount of time after harvest/swathing.
2. Amount of time after rain.
3. Atmospheric relative humidity.
4. Amount of growing plant material.

Mr. Smith has suggested that the DEQ require a minimum time constraint be placed on burning after harvest or rain. The time required would allow drying of the fuel before burning resulting in lower emissions. Normal practices meet the need to allow for drying after harvest as this activity is conducted during periods of low straw moisture to accommodate seed handling needs. The many factors influencing rainfall and fuel moisture can vary significantly over the Willamette Valley. Currently, the smoke management personnel collect and coordinate field observations from fire districts and growers as well as personal inspection to identify areas receiving rainfall and to restrict burning of damp fields. As a result, staff is not proposing rule changes to incorporate time constraints after harvest or rain.

Research data show that high atmospheric relative humidity can correlate with high fuel moisture. Likewise, low fuel moisture follows a drop in relative humidity. The staff has analyzed data to determine the effects of field burning on days with high relative humidity. Unfortunately, high humidities accompany the pre-frontal southerly winds that allow major acreages to be burned in the South Valley. North winds generally produce low humidities almost exclusively. The Department believes that burning conducted on north winds and high humidities should be restricted by rule. The proposed attached rule would restrict burning under north winds when the forecast relative humidities are above a specified value of 50 percent. The Department believes a similar relative humidity constraint under south burning conditions would essentially eliminate burning during these periods of good ventilation and therefore is not recommending this alternative.

Plant moisture is highly influenced by new, green growth plant material which generally increases with time after rainfall. Since this succulent plant material has a very high moisture content the average moisture content of the fuel increases as growth continues. Experience indicates that the adverse effects of regrowth are not evident until September each season. When regrowth becomes serious, particulate emissions are increased and plume rise is reduced. The combined effect causes increased smoke problems when compared to dry fuel conditions.

The attached rules propose to eliminate open burning of fields with moisture contents higher than 20 percent, wet basis after September 1, 1978. Though Mr. Smith proposed a 12 percent limitation, staff believes the 20 percent limitation to better reflect grass field conditions. The limitation is expected to produce significant reductions in particulate emissions since late season field moisture contents may exceed 25 percent.

This rule is proposed to go into effect after September 1, 1978, to allow the Department to develop flame spread-moisture content relationships through field tests. Results of these experiments are expected to be available prior to late season burning of green regrowth which traditionally causes particularly smokey conditions. The maximum moisture limit stated above is a best estimate based on data gathered from other crops and in other climes. This value may be adjusted as a result of experimentation correlating fuel moisture and flame front propagation-- a measure of burning efficiency thus lower emissions.

b. Alternative Lighting Techniques

Mr. Smith proposes the adoption of alternative burning techniques, primarily backfiring and strip-lighting, to reduce emissions from open burning. This information, like that relating to moisture content, is derived from field and laboratory testing conducted in California, primarily on annual cereal grain straw. It is expected that the applicability of these studies' results will be best for annual grasses and poorest for perennial grasses. It is also generally expected that some reduction in plume rise will accrue as a result of incorporating these techniques.

Taking these factors into consideration, the staff believes the most practical application of these techniques is to require its use on priority acreages in the south Willamette valley. It is expected that the reduced emissions from this burning, which most directly impacts Eugene-Springfield, will provide significant particulate reductions in that area though overall benefits of the technique from a given fire will depend on the distance to the city and the plume rise deficit, if any.

It should be recognized that some grass species and/or varieties are reportedly susceptible to damage using backfiring techniques due to the somewhat higher soil temperatures attained.

The Department is also supporting research proposed by Mr. Chuck Craig of the OSU Air Resources Center. The proposed study would quantify the various firing techniques as to their characteristic emissions, plume behavior as they may vary for local grass types. The information gained from this experiment is critical to designing an improved smoke management program incorporating alternative burning techniques.

3. Testimony of the Cascade Foothills, Grass Seed Growers Association and Marion Soil and Water Conservation District

Testimony from these two groups offered photographic and other documentation of soil erosion problems now occurring primarily in East Marion County. Removal of perennial grasses due to the inability to burn was named as a major reason for current soil loss problems since the alternative crops are small grains requiring annual cultivation.

The erosion problem associated with annual cropping in the Silverton Hills area has been well reported previously before the Commission. At present it appears there are two options available to the Commission addressing the problem:

- a. The Commission may allocate acreage with a priority to areas or individuals suffering from soil erosion problems.

Special allocations to affected areas could help relieve the current erosion problems especially where soil loss problems are prevalent as in Eastern Marion County. However, some erosion problems exist throughout the Valley and it is likely some acreages which could benefit from such additional allocation would go untreated.

Efforts by the Department to collect meaningful individual grower data resulted in very incomplete data. Such data was essentially useless in developing recommendations for allocation procedures.

Such special allocations would be part of the 180,000 acres allowed for burning this year.

- b. The Commission could provide additional acreage for burning to individuals with erosion problems through allowing emergency burning of such acreages after filing of an emergency burning request. This would allow the Commission to respond to individual grower problems and would place the responsibility for documentation with the applicant. Such erosion problems, which are not typical throughout the seed industry, might qualify as an emergency beyond that normally expected from reduced burning. Review of such cases may, however, prove time consuming even after summarization by the staff.

It is the staff's opinion that this procedure can be handled under existing rules therefore, no rule changes are foreseen to implement this option.

4. Testimony of Bill Rose, Seed Grower

Mr. Rose stated that because of his concern with serious soil loss problems due to reductions in perennial grasses he and associates have formed the Save Our Soil (S.O.S.) Committee. The committee was formed to reduce soil loss and permanent damage to the land. Mr. Rose indicated that reductions in acreage to be open burned have eliminated perennial grass cropping as an economic alternative and consequently soil erosion has increased in areas where annual crops have been substituted.

Mr. Rose also stated that during 1977, valuable burning time was lost because of unduly restrictive fire safety criteria currently used by the state fire marshal's office.

A discussion of soil erosion problems and Commission alternatives is included in (3) above, Testimony of the Cascade Foothills Grass Seed Growers Association and Marion Soil and Water Conservation District.

The Department has been in contact with the state fire marshal's office. The state fire marshal has indicated a willingness to meet with DEQ, local RFPD's and seed grower representatives to discuss existing fire danger criteria, in particular the fire weather factors. This meeting will be held prior to the burning season.

5. Other Testimony

Testimony of the Oregon Seed Trade Association, Oregon Environmental Council (OEC), League of Women Voters of Oregon and other individuals did not propose changes which would require rule changes.

Restrictions on Burning South Priority Acreage

Certain acreages due to their proximity to smoke sensitive areas or facilities have been given priority status compared to other fields not so located. Such priority status gives these fields first priority to be burned under wind conditions which protect the adjacent smoke sensitive area. Many times the wind conditions which successfully protect the local smoke sensitive area or facility take smoke into another smoke sensitive area further downwind.

Currently approximately 50,000 priority acres are registered in the south Valley adjacent to major highways, major cities (Albany, Corvallis, Lebanon, Eugene, and Springfield) and the Eugene Airport. Much of this acreage has been burned under North and Northeast wind conditions with primary regard toward prevention of intrusions from field burns on the west and south sides of these smoke sensitive objects. As a result, smoke from these fires often enters the Eugene-Springfield area.

Though a given priority field has a preferred or "safest" wind direction for burning, some are burnable under calm or near calm conditions. Further some of these fields may be burnable using alternative lighting techniques to slow burn rates and smoke production and thereby minimize visibility impacts.

In further researching the need to take all reasonable measures to reduce impact in the Eugene-Springfield area, staff is considering the further restriction of burning acreages located in south priority areas to meteorological conditions which would prevent smoke intrusion into the Eugene-Springfield non-attainment area as well as local smoke sensitive areas. There are, of course, advantages and disadvantages to implementation of this change.

The advantage is that impact on the Eugene-Springfield area from field burning within approximately 40 miles of Eugene is virtually eliminated. Also, some emission reductions are expected to result from priority allocations not being transferred to other non-priority fields. Only field smoke from north Valley burning would be expected to impact the Eugene-Springfield area. Since greater dispersion of smoke occurs from more distant sources overall impacts from field burning smoke will be much reduced. This revision does not preclude the possibility of smoke intrusions due to an unforecasted weather change.

Some disadvantages of this proposal are as follows:

- a. Adoption of this burning plan as part of a one year control strategy would mean smoke impact data collected this summer by DEQ's surveillance system would not be meaningful should south priority burning be reinstated.
- b. Safety considerations with regard to airports, cities, and highways would tend to reduce burning in these priority areas.
- c. Such area based restrictions will place unequal restrictions on individual growers.
- d. Avoiding direct smoke impact on cities now protected by priority areas would tend to reduce or eliminate burning near these cities.
- e. Some smoke from priority areas will be redirected toward other cities in the south Valley.

Should the Commission choose to adopt this revision, wording of a proposed rule to implement the south priority restriction is included in Attachment II.

Development of a One Year Control Strategy

As instructed by the Commission at the February 24 meeting, the Department is developing a one year interim control strategy for field burning to be submitted to EPA in early April. The strategy will contain elements which cause both direct emission reductions and reductions in the impact of those emissions.

The proposed rules will be one part of the one year control strategy together with reduction of fugitive dust near sampling sites which most often violate federal particulate standards, quantified reductions in slash burning and other emission reduction which have occurred or will occur prior to the 1978 field burning season.

The attached proposed rules are expected to effect reductions in emissions and air quality impact as follows:

<u>Rule Change</u>	<u>Emission Reduction (Tons)</u>	<u>Reduction in Impact on A.Q.</u> <u>Ann. Geo. Mean (Health) (ug/m³)</u>
Restrict (20%) fuel moisture content	395	0.42
Backfiring S. Priority acreage	307	0.32
Elimination of S. Priority burning upwind of Eugene- Springfield	368	0.38

The above emission reductions are based on Department estimates of the applicability of California field burning emission studies and represents about 20 percent of the total particulate emissions from field burning.

SUMMATION

As required by law, the Commission must:

1. After consulting OSU and the Department, establish the maximum amount of acreage which may be open burned during 1978.
2. Establish the method of allocating burning permits should acreage registration exceed the limitation established in (1) above.
3. Adopt rules incorporating (1) and (2) above to minimize emissions and field smoke impact on air quality.

Since the EQC is presently bound by the 180,000 acre limit in complying with an informal opinion issued by the State Attorney General, discussion of rule revision center on points (2) and (3) above.

The two important factors influence drafting and adopting of the proposed rules are:

1. Public testimony, and
2. The need to develop and support a one year interim control strategy to be submitted to EPA and which shall include a 180,000 acre limitation.

The Department proposes the attached rule changes to meet the following needs:

1. To adopt permanent rules for operation of field burning and other agricultural burning programs as required by 1977 Oregon Laws, Chapter 650 (HB 2196).
2. To establish acreage allocation procedures, the acreage for which permits may be issued and the maximum acreage that may be open-burned in 1978.
3. To provide rules to facilitate improvements in smoke management and air quality in time for the 1978 field burning season.

In addition, the attached proposed rules contain the following specific additional changes as a result of public hearing:

4. A fee of \$3.50/acre to off-set the costs of experimental open burning programs. Fees, so collected are proposed to be established in a separate account for experimental open burning efforts.
5. Relative humidity (RH) is adopted as a measure of fuel moisture content such that when RH is greater than 50 percent, under north wind conditions, burning would be prohibited due to high fuel moisture content.

6. After September 1, 1978, no field shall be burned with an average fuel moisture content greater than 20 percent, wet weight basis.
7. All south priority acreage burned upwind of Eugene-Springfield shall be burned using backfire or into-the-wind striplighting techniques.

DIRECTOR'S RECOMMENDATION

It is the Director's recommendation that the Commission take the following actions:

1. Acknowledge as of record the consultation with and recommendations of Oregon State University and the Department pursuant to ORS 468.460(3) as revised by HB2196.
2. Find that reasonable and economically feasible alternatives to the practice of annual open burning have not been developed.
3. Find that practices developed from experimental burning conducted under Department supervision:
 - a. Can, in theory, reduce the adverse effects on air quality or public health from open field burning; and
 - b. Is necessary in order to obtain information on air quality, public health or the agronomic effects of an experimental form of open field burning.
4. Adopt the proposed amendments to OAR, Chapter 340, Section 26-005 through 26-030 (Attachment 1).

Bill

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3/8/78

Attachments:

- I Proposed OAR, Chapter 340, Section 26-005 to 26-030
- II Proposed Rule (OAR, Chapter 340, Section 26-015(4)(d)(B)) to Incorporate Restrictions on South Priority Burning