

Eastern Oregon Wheat League Report and Recommendations of the Production, Handling and Mar- keting Committee

Heppner, Oregon, December 4-5, 1936

WHEAT VARIETIES

Oregon is far in the lead in standardization upon better wheat varieties. We believe that we are growing some inferior and low producing ones to our disadvantage. Our handling, storage, and marketing problems will be simplified and our profits increased by eliminating some of them and standardizing on a few of the better ones. Forty Fold and Red Hybrid seem to have few if any advantages for eastern Oregon, and under present marketing conditions Hybrid 128 is outliving its usefulness.

We recommend the replacement of ordinary varieties of Turkey and the Redit with the smut resisting Oro and Rio. Soft Federation is an outstanding wheat where winter killing is not serious. Where there is danger of winter killing or serious smutting we recommend serious consideration of replacement of both Federation and Albit with the new smut-resisting variety of Rex. For lighter and dryer soils we recommend White Federation for spring planting. Soft Federation is best on average soils. Attention is called to two new and outstanding varieties tested at the Eastern Oregon Branch Experiment station at Union. The Forty Fold-Hybrid 128 cross is a stiff strawed upstanding wheat topping the yields of winter wheats that are suited to the better rainfall and heavier soil sections in northeastern Oregon. The new Union wheat has outyielded all spring varieties in this same region, even exceeding Federation by 20 percent. It is probably not suited to the lighter rainfall areas or the early frost sections as it is a few days later in maturing than Federation.

We particularly urge the use of the smut-resisting varieties in those areas where smut control is difficult.

SEED AND TREATMENT

Good seed free from damage and disease is essential to success. Broken or cracked seed is a waste and does not produce good stands in the fields. Dangerous weeds, like morning glory, fan weed and cockle have become distributed widely through seed supplies.

We recommend greater care in threshing seed wheat to avoid cracking and injuring the grain. Cylinder adjustment to eliminate play, use of fewer concaves and sharp cornered grate bars, and adjustment of grain augers will do much to correct this situation.

All seed wheat should be thoroughly cleaned to eliminate weed seeds, dockage and cracked grain and smut balls and to provide only sound well filled seed for planting.

SMUT CONTROL

Smut is probably the most serious source of loss in the production and marketing of the Oregon wheat crop. It causes most serious yield losses, creates a bad explosion hazard in threshers and elevators and brings discounts and dockages all out of proportion to the amount present. The only way to beat the smut discount and dockage racket seems to be to take greater pains and to organize methods of complete smut elimination.

From 15 to 69 per cent of the wheat reaching Portland grades smutty. Certain of the dusts used in seed treatment have not always been effective at normal rates, and when used in sufficient quantities to control the smut have been too expensive.

Research investigations at the Oregon Experiment Stations by the U. S. Bureau of Plant Industry, Division of Cereal Crops and Diseases, has proved that certain new dust treatments properly used make effective control and that there is no occasion to return to the old wet treatments with the general loss of stand resulting from seed injury.

We recommend the use of smut-resistant varieties and seed as free from smut as possible.

We recommend that all seed wheat

whether smut resistant or not, be treated preferably with New Improved Ceresan, Basic Copper Sulfate, or as a third choice, Copper Carbonate; and that in the case of Basic Copper Sulfate or the Copper Carbonate that only brands containing in excess of 50 per cent copper be used. Low grade copper compounds are not recommended.

Directions for using New Improved Ceresan and Basic Copper Sulfate should be secured from the county agent.

The following summarizes information on these three dusts:

Summary of Data on Control of Stinking Smut of Wheat by Seed Treatment in Oregon

Relative effectiveness? New Improved Ceresan: Very good; Basic Copper Sulfate: Very good; Copper Carbonate, 50% Copper: Fair to very good.

Cost in materials per bu. New Improved Ceresan, 1½¢ to 3¢; Basic Copper Sulfate, 2¢ (2-2½¢); Copper Carbonate, 50% Copper, 3¼-5¢. Rate of application in ounces per bushel?

1. Winter wheat: In the more moist parts of northeastern Oregon or where the grain is very smutty—Ceresan, 1 oz.; Copper Sulfate, 2 oz.; Copper Carbonate, 4 oz. In Gilliam, Morrow, Sherman, Wasco counties and central Oregon or where the grain is comparatively clean—Ceresan ½ oz.; Copper Sulfate 2 oz.; Copper Carbonate ¾ oz.
2. Spring-sown wheat—Ceresan ½ oz., Copper Sulfate 2 oz., Copper Carbonate 2 oz.
3. Barley smut—Ceresan ½-1 oz., Copper Sulfate ½, Copper Carbonate No.

Effect of treatment on the treater-operator?—Ceresan, Slight headaches; Copper Sulfate, Slight nausea; Copper Carbonate, Severe nausea.

Effect on the driller?—Ceresan, None; Copper Sulfate, Slight; Copper Carbonate, Fogging with resultant nausea.

Effectiveness on grain emerging in cold, wet, late fall weather?—Ceresan, Less effective; Copper Sulfate, Fairly effective; Copper Carbonate, Ineffective.

Equipment needed—Ceresan, 1. Accurate ratchet control on rotary treater, (2) Gravity treaters (less desirable); Copper Sulfate, Standard rotary treater; Copper Carbonate, Standard rotary treater.

Length of safe storage period after treatment?—Ceresan (10 days (several months with some injury)); Copper Sulfate, 1 year; Copper Carbonate, 1 year.

Best length of time after treatment and before sowing?—Ceresan, 2-3 days; Copper Sulfate, Seed at convenience; Copper Carbonate, Seed at convenience.

The improved Ceresan treatment appears best for barley and oats. It is important not to use too strong a treatment as germination may be hurt.

WEED-FREE TRASHY FALLOW

Trashy summer fallow now being widely recommended for erosion control does not differ in fundamental principle from the moisture and nitrate-saving methods of fallowing recommended for years by our experiment stations. It should be emphasized that the trashy fallow should be just as free from weeds, and that the cultural operations should be done just as early in the spring as in the methods which have long been used so effectively. The need for the maintenance of soil nitrates and the conservation of soil moisture is just as great as ever. These still depend upon early plowing and prevention of weed growth. Formerly it was necessary to turn the stubble and straw under so that cultivation could be done above it. With the trashy fallow, cultivation is below the straw and stubble which is incorporated in the surface layer. The use of the straw spreader on the

combine prevents the troublesome straw rows and makes possible the return of more organic matter to the soil under this plan, prevents runoff and causes more moisture to penetrate the soil during the winter months. The development of new and improved machinery has made this possible.

The use of new type implements and new methods has also introduced new problems. The production of a good trashy fallow is influenced by the depth of disking, the amount of straw and stubble on the surface, the texture of the soil, and the size of the disk. In general, the disking should be as shallow as possible so that the rod weeder may work under the trash rather than through it. Shallow disking lowers the cost of seed bed preparation in addition to making cultivation easier.

IMPROVED EQUIPMENT FOR LOWER PRODUCTION COSTS

The furrow drill offers some possibilities on light soils and in dry sections where the slopes are not too steep. Following the trashy fallow, stands can often be obtained earlier in the fall on less rainfall than by other methods. It now appears that there is less danger of winter killing of wheat sowed with the furrow drill or on a trashy fallow.

The proper use of the one-way disk, the shallow trashy fallow, and other improved equipment and methods often make possible substantial savings in production costs. They may, therefore, be the means of successful wheat production in some of the low-yielding, less profitable regions.

RESEARCH TO PREVENT CROP LOSSES

Field mice and other rodents, wire worms, and other insect pests are serious problems, reducing yields and increasing production costs. We urge state and county cooperation, more research in the control of these pests, and organization of the forces of the Extension Service, Experiment Station, Biological Survey, and the Bureau of Entomology in the control of outbreaks and in educational work to prevent losses of crop.

SUBSTITUTES FOR WHEAT AS A CASH CROP

We recognize that the production of wheat in Oregon and the Pacific Northwest is far in excess of local and Pacific coast needs and that drought conditions and short crops east of the Rockies are primarily responsible for present demand.

It appears that since foreign demand is not certain or dependable, we, as a state, should look forward to adjustment of our agricultural program, to grow less wheat and more of other feed or cash crops for which there may be a demand. We urge every possible diversion from wheat for market on present wheat farms to other crops. We further urge growers in irrigated and heavier rainfall areas to change from wheat to other crops for which such regions may be better adapted and thus secure a better utilization of land resources of Oregon.

We recommend careful study of feeding of wheat to livestock, both by growers of wheat and feeders of hogs, sheep, and cattle.

Present prices, as well as experimental results, indicate better returns for the wheat fed to livestock than sold as a cash crop.

We recommend seeding of more marginal and scab land and eroding areas to crested wheat grass, bulbous blue grass and other permanent grasses. We also recommend the use of Ladak alfalfa and sweet clover and other permanent meadow and hay plants on some of the lower areas subject to washing and where wheat tends to lodge.

We recommend diversion of wheat land adjacent to suitable canning factories to canning pea production. The pea crop to be followed by spring grain. Where canning peas are grown, we recommend that no peas be grown for seed in order to prevent the increase of pea weevils.

We call attention of wheat growers to the possibilities of growing canning peas for seed in areas where no green pea production for canning is contemplated.

Very successful flax seed production has been proved at the Eastern Oregon branch experiment station at Union. We believe more flax seed might be grown in Wallowa, Union,

and Baker counties, and relieve some of the wheat acreage. A steady demand exists in Portland for flax and other oil seeds at Chicago or Duluth prices with no freight differential as in the case of wheat.

WAREHOUSING

A state committee on revision of the Oregon warehouse law was appointed and authorized to cooperate with similar committees representing the states of Washington and Idaho. This committee has met several times and seems unable to reach effective agreement on much except the need for a uniform warehouse receipt.

We feel:

- (a) That the present Oregon warehouse law and its facilities for enforcement do not afford adequate protection to depositors of grain, and
- (b) That the present form of the proposed bill in the hands of the State Department of Agriculture is also complicated, confusing, inadequate, and in need of substantial revision.

We therefore recommend the strengthening of the Oregon warehouse law along lines providing for:

- (1) Licensing of all warehouse handling and storing grain and for the cancellation of licenses for cause.
- (2) Bonding individually or collectively to afford adequate and continuous protection for the depositor.
- (3) Inspection and checking of state licensed warehouses.
- (4) Uniform warehouse receipts with definite specifications described in the law to be issued to warehouses

by the State Department of Agriculture.

(5) Waiving of bonding requirements for municipal or state owned and operated warehouses.

(6) Waiving of bonding and inspection requirements for warehouses federally licensed for handling grain.

(7) Authorizing the Director of Agriculture to establish fees within certain limits and collect same for carrying out the provisions of the law.

(8) Issuance and cancellation of official receipts under rules and regulations of the Director of Agriculture.

(9) Access to grain in the warehouse and prompt delivery of all grain upon presentation of receipts by the owner.

(10) Keeping of records acceptable to the State Department of Agriculture.

(11) Authorizing the Director of the State Department of Agriculture to make and enforce rules and reg-

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