

TECHNICAL NOTES

U.S. DEPARTMENT OF AGRICULTURE

BERKELEY, CALIFORNIA

SOIL CONSERVATION SERVICE

TN - Agronomy - 15

December 1966

LEGUME SEED INOCULATION BY SEED PELLETING

Technical Note Agronomy - 11 entitled, "Nitrogen Fixation and Legume Inoculation" describes the process of nitrogen fixation by legumes and the importance of properly inoculating legume seed. Tests by the University of California have shown that in cases where vetch seed was not inoculated, bacteria nodules were found on practically none of the plants, whereas in cases of inoculation by pelleting, good nodules were found in almost 100 percent of the cases.

The attached leaflet, "Seed Pelleting as an Aid to Legume Seed Inoculation" is published by the University of California. This copy is supplied for your reference. Additional copies may be obtained by farmers and ranchers from the local Agricultural Extension Service office.

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Attachment

UNITED STATES DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

2828 Chiles Road, Davis, California 95616

SUBJECT: AGRON - Legume Inoculation

DATE: September 17, 1976

TO: Lockeford PMC and All California SCS Area and Field Offices

For review and attachment to California Agronomy T.N. No. 15

The technical article following, taken from University of California Extension Publication "Range and Wildlands", 9/76, was written by Dr. Milton B. Jones. It suggests that a new legume inoculating procedure may be superior to the pelleting procedure described in CA Agronomy TN-15 for Range Clover Seedings.

Inoculating Range Clover Seed

Dr. Milton B. Jones

The importance of using properly inoculated seed for clover plantings on Mendocino County rangelands has been demonstrated many times. These demonstrations have consisted of carefully conducted tests by the University of California and by observations of rancher plantings. Success in establishing productive clover pastures has been greatly increased by using seed strains of rhizobia glued to the seed and coated with lime. In spite of our best efforts, we are seeing some failures of commercially pelleted seed due to improper inoculation.

Every precaution should be taken to insure that high numbers of the most effective rhizobia are alive on the seed coat at the time of germination.

During the past three years we have tested a new simplified do-it-yourself inoculation method developed by the Nitragin Company, called the "Pelinoc System". It has the following advantages:

1. It greatly increases the number of bacteria attached to the seed;
2. Bacteria survive in greater numbers;
3. Clover growth has been greater than from lime pelleted seed in two out of three years and equal in the third year;
4. It only increases seed weight by 5% compared with about 60% for the lime coated seed;
5. It is not abrasive to seed drilling equipment as is lime coated seed;
6. It is less messy and simpler to do than lime pelleting; and



7. Therefore, it can be done by the rancher a few days or hours before seeding, assuring him that fresh "WR" type inoculum is used.

How is it done?

The "Pelgel" glue is dissolved in water and about 1/3 of the peat inoculate powder is mixed into the glue solution, which is then poured over the seed. Mix with a shovel (or your hands) until all the seed is coated with the glue-inoculant mix, then add the other 2/3 of the peat inoculant and mix again so that the additional peat can contact all the seed, helping to absorb the moisture.

Allow the seed to become dry to the touch (3+ hours or overnight) in a shady place and sow in the fall before the first germinating rain. Get the seeding job done in the last week in September or the first half of October, depending on your location in the County.

Recipe

<u>Pelgel</u> <u>glue</u>	+	<u>Water</u>	+	<u>WR Peat</u> <u>Inoculant</u>	+	<u>Seed</u>
4 oz.		1 pint		1 lb.		20 lbs.
1 lb.		2 quarts		5 lbs.		100 lbs.

It is possible that current commercial pelleting before seed is delivered creates too much of a time lag between processing and seeding for the rhizobia bacteria to retain maximum viability. On farm inoculation is preferable when time and circumstances permit.

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State Conservation Agronomist



SEED PELLETING

*as an Aid to
Legume Seed Inoculation*

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