

QUESTIONS AND ANSWERS ABOUT PRILLCOTE SEED

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1. Q. WHAT IS PRILLCOTE SEED?

A. Prillcoting is a unique process which coats each seed with a combination of the additives needed for improved germination and seedling establishment.

2. Q. WHAT DOES THE COAT CONTAIN?

A. There is no universal coat. It must be tailored to the type of seed, the soil and the growing conditions in each area. Generally, however, the legume coats contain rhizobia, a nutrient for the rhizobia, trace elements and fertilizers, such as phosphorus and lime. For grasses, the coat is basically a nutrient coat to promote seedling establishment.

3. Q. WHAT IS THE ADVANTAGE OF PRILLCOTE SEED OVER BARE SEED?

A. Prillcoted seed contains highly concentrated rhizobia and nutrients which, due to their strategic placement surrounding the seed, have a multiplier effect in the soil. Also the viability of the rhizobia is greatly prolonged by the coating and is, therefore, much more effective than present methods used. The coating also improves the water relationships of the seed in the soil, and further aids germination particularly under stress conditions. The coating also protects the seed from diseases, insects and birds.

4. Q. WHAT SEEDING RATE SHOULD I USE FOR PRILLCOTE SEED?

A. Use the same weight of Prillcote seed per acre as you would use for bare seed.

5. Q. HOW MUCH ACTUAL SEED IS IN A POUND OF PRILLCOTE SEED?

A. This varies with the species; but generally for legumes it is two-thirds seed to one-third coat, and for grasses it is 50 per cent seed and 50 per cent coating material.

6. Q. HOW MUCH DOES PRILLCOTE SEED COST?

- A. The price per pound of coated weight is approximately the same as bare seed, but since the seeding rate is the same the cost per acre is also identical with bare seed. Therefore, with the improved rate of establishment and survival, the actual cost per established plant is significantly less.

7. Q. WHERE SHOULD PRILLCOTE SEED BE USED?

- A. Prillcote seed will show benefits under any application where bare seed is now used, even on the best arable soils. However, it is especially advantageous when seeding under unfavourable or stress conditions such as:

Roughland pasture renovation
Revegetation projects
Mine and quarry seedings
Surface overseedings
Range reseeding
Right-of-way seedings.

8. Q. WILL PRILLCOTE SEED CARRY?

- A. The shelf life of Prillcote seed is unchanged from bare seed. The only concern is the rhizobia which should survive under cool dry conditions such as we have in Eastern Canada for a twelve to eighteen month period. However, we suggest sowing within six months.

9. Q. WHEN WAS PRILLCOTE SEED FIRST INTRODUCED?

- A. Trials were started by the University of Guelph in 1969 and the first commercial distribution was in spring, 1975 by Oseco Limited of Brampton, Ontario.

10. Q. WHAT ARE THE RESULTS SO FAR?

- A. The work carried on by the University of Guelph is summarized in the publication of ARDA Project #85045 "An Assessment of Shallow Soil Pastures in Ontario", which comments in part as follows:

10. A. (continued)

"Seeds were sown on the surface and at 6 millimeters depth in the Guelph loam soil. There were ten seeds for each of four replicas. At both seeding depths, germination was more rapid and the percentage of seeds establishing was greater with pelleted than non-pelleted seed. Seedling vigor of pelleted seed was also greater than non-pelleted seeds in the surface sown treatment."

Comments from farmers and extension workers who sowed Prillcote seed in the spring of 1975 range all the way from:

"Saw no difference between Prillcote seed and bare seed".

to: "Our test site was very dry this year and Prillcoted seed was the only thing that grew".

11. Q. DO I NEED TO CHANGE MY SEEDER CALIBRATION WITH PRILLCOTED SEED?

A. Since Prillcote increases the seed size by about 15% - 20%, the seeder calibration should, therefore, be opened by about 20%.

12. Q. CAN I USE PRILLCOTE SEED IN A HYDRO SEEDER?

A. Yes. However, as with bare seed, the Prillcoted seed should be added to the tank last and should not be allowed to stay in the tank for any prolonged period of time, as the coating will wash off in time under agitation. (Special harder coatings for this application will be available in the future).

13. Q. DOES THE LIME IN THE LEGUME PRILLCOTE AID THE ESTABLISHMENT OF ALFALFA IN ACID SOILS?

A. Yes - since alfalfa once established will survive on soils normally too acid for alfalfa establishment. A New Zealand study has shown that ten pounds of lime on the seed coat is equivalent to one ton of lime broadcast per acre for nodulation response.

14. Q. HOW IS PRILLCOTE SEED ANALYSED?

A. For germination, it is tested the same as bare seed. For purity, the coating must be washed off, which can be done quite simply in the laboratory.

15. Q. ARE THERE OTHER SEED COATING PROCESSES AVAILABLE BESIDES PRILLCOTE?

A. Yes, several companies are doing a pre-inoculation coating and a lime coating. However, only Prillcote combines all the necessary rhizobial and nutrient additives necessary for improved seedling establishment.

16. Q. WHY IS INOCULATION SO IMPORTANT ON SOILS WHERE LEGUMES HAVE BEEN GROWN BEFORE?

A. Recent research has shown that rhizobial bacteria can be quite specific not only to species but in some cases to the variety used. Also, native rhizobia in the soil can be ineffective, antagonistic or even parasitic. The inoculant used in Prillcote seed is of the correct strain and is highly concentrated and, due to its strategic placement, it has the best chance of infecting the root nodule with the correct strain of bacteria, which can result in vastly improved nitrogen fixation.

17. Q. HOW MUCH NITROGEN WILL WELL-INOCULATED LEGUMES ADD TO MY SOIL EACH YEAR?

A. Various studies, summarized by Al Jensen of the North Dakota Extension Service, report that legumes can fix up to 200 pounds of nitrogen per acre per year.

18. Q. CAN PRILLCOTE SEED BE MIXED WITH FERTILIZER?

A. Yes, since the Prillcoting insulates the seed from the fertilizer they can be sown together without harm.

19. Q. WHAT KINDS OF PRILLCOTED SEED WILL BE AVAILABLE FROM RETAILERS IN EASTERN CANADA FOR SPRING 1976 SEEDING?

A. At present, Oseco Limited are planning to make available the following kinds and varieties:

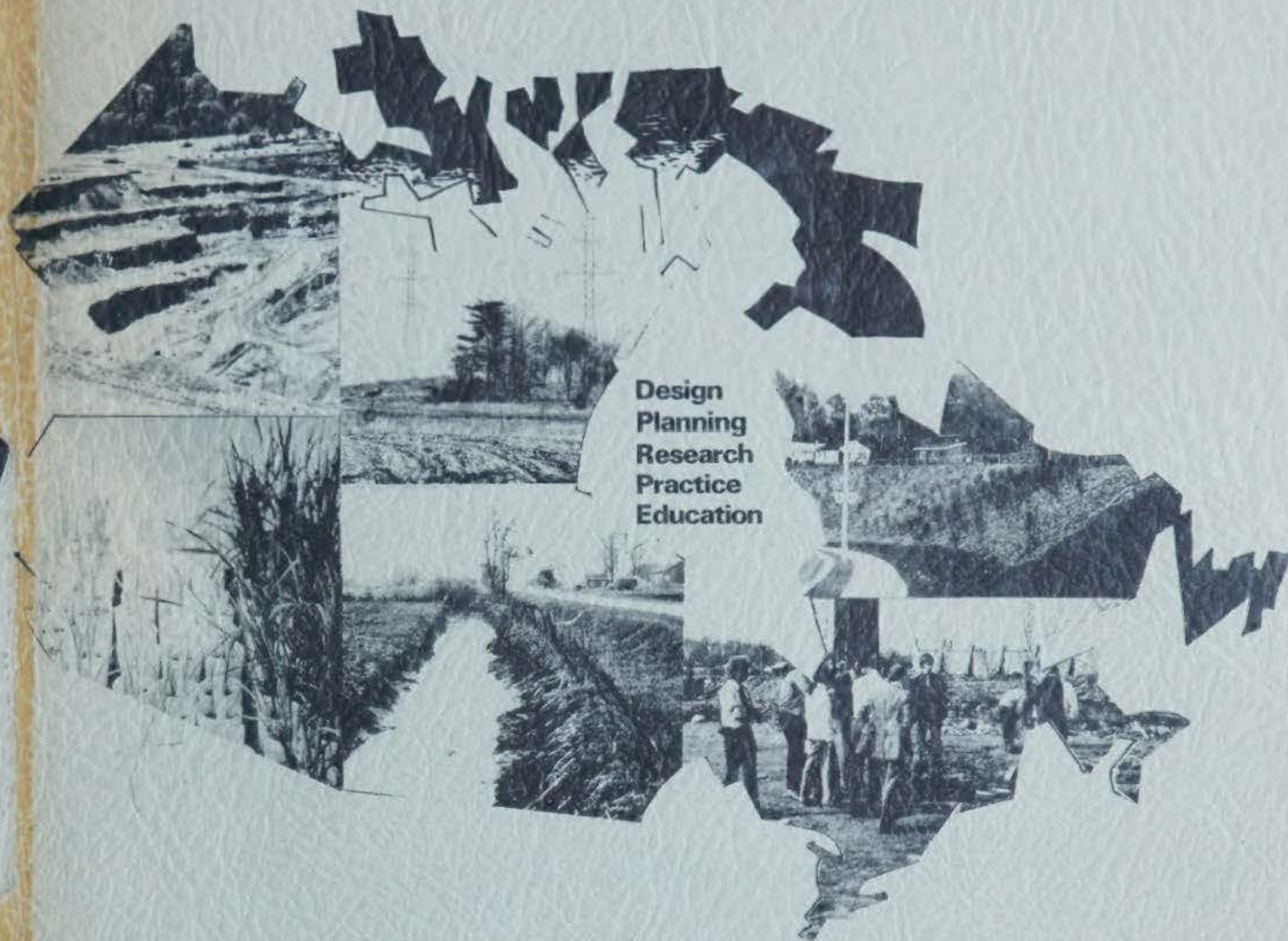
Anchor Alfalfa	Leo Birdsfoot Trefoil	Toro Timothy
Tital Alfalfa	Empire Birdsfoot Trefoil	Baylor Bromegrass
WL215 Alfalfa	Penngift Crownvetch	Tetra Alsike

Q. CAN I GET OTHER KINDS OF SEEDS PRILLCOTED?

A. Requirements for other seeds in 1976 will be filled provided sufficient quantities can be generated to meet the minimum-batch requirements of the Prillcoting plant. These are approximately one ton per batch. Trial quantities can also be coated for research purposes in a laboratory unit. Present plans call for the construction of a Prillcoting plant in southern Ontario in 1976, so that by the spring of 1977 a full range of Prillcoted seed can then be offered.

**Proceedings of the Inaugural Meeting
Canadian Land Reclamation Association**

DECEMBER 1975



**Design
Planning
Research
Practice
Education**

**Crop Science Department
Ontario Agricultural College
University Of Guelph
Guelph, Ontario, Canada
March 1976**

**FORMERLY
PROCEEDINGS OF
THE ONTARIO COVER CROP COMMITTEE**

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PROCEEDINGS OF THE INAUGURAL MEETING
OF THE
CANADIAN LAND RECLAMATION ASSOCIATION

Table of Contents

	<u>Page</u>
President's message	i
Aims and objectives of the C.L.R.A.	ii
Chairman of the Membership Committee's message.	iii
Sample of Application for Membership.	iv
Editor's message.	v
Minutes on meeting attended by a group of persons interested in forming a Canadian Association for Land Reclamation (Dec.9/75). .	vi
Minutes of meeting held on Wednesday, December 10, 1975, during the 5th Annual Workshop, Ontario Cover Crop Committee, at the Arboretum Centre, University of Guelph.	vii
Canadian Land Reclamation Association - 1st business meeting - Thursday, December 11, 1975, Arboretum Centre, University of Guelph, Guelph, Ontario	xi
Proposed Constitution of the Canadian Land Reclamation Association, for ratification at the 1st Annual Meeting, late November/early December, 1976, Guelph, Ontario, Canada . . .	xiii

(continued)

Table of Contents (continued)

<u>Papers presented at the Ontario Cover Crop Committee, December, 1975</u>	<u>Page</u>
<u>Stable seed sheets - an alternative approach to revegetation</u>	F.D.Bayles & M.A.Dudley, Canada Wire & Cable Technology Dev.Dept.,Pointe Claire, P.Q. 1
<u>Seeds for reclamation.</u>	J.M.Curtis,Kemptville College of Agricultural Technology,Kemptville,Ont. 18
<u>The application of processed organic waste to acid mine tailings.</u>	G.Courtin, Department of Biology, Laurentian University, Sudbury, Ont. 26
<u>Questions and answers about Prillcote seed</u>	G.Eros, Oseco Ltd., Brampton,Ontario 28
<u>Growth of plant cover on an electric power underground transmission prototype - the effect of thermal stress.</u>	F.S.Spencer, Ontario Hydro, Toronto, Ont.33
<u>Reclamation research at a mine site in north coastal British Columbia - a five-year progress report</u>	J.V.Thirgood, Faculty of Forestry, University of British Columbia, Vancouver, B.C. 47
<u>Properties of slow-release fertilizers</u>	R.W.Sheard, Land Resource Science, University of Guelph, Guelph, Ont. 58
<u>Reclamation studies on industrial barrens in the Sudbury region - a progress report.</u>	Keith Winterhalder Department of Biology, Laurentian University, Sudbury, Ont. 65
<u>Reclamation research methods on coal mine wastes with particular reference to species evaluation and assessment</u>	Paul Ziemkiewicz, Faculty of Forestry, University of British Columbia, Vancouver, B.C. 69
<u>Reclamation of mined lands, Great Canadian Oil Sands, Ltd., - lease site - Tar Island, Alberta</u>	D. J. Klym & C.B.Berry Great Canadian Oil Sands Limited, Fort McMurray, Alberta 77
<u>List (only) of papers presented before the Ontario Cover Crop Committee,1971/1974.</u> . . .	85