Hints On Growing Spring Oats

TOM ZUNDEL

Mercer County Extension Agent As the title infers, I am going to spend alot of time writing about oats and ways that can effect an increase in

yields in your fields.

Now I know that oats are not nor will they ever be, a major crop such as com, soybeans, or alfalfa. However, Mercer County is a major producer of oats in Pennsylvania. Also, there are certain markets in the area that growers of oats can do very well in, if they have good, clean, quality oats to sell.

Growth And Development

Oats are an annual grass that does best growing a cool, moist climate. They require more moisture to produce a given unit of dry matter than any other cereal, except rice. Oats are especially vulnerable to injury by hot,

dry weather, particularly from the early heading stage through the kernel production. These are several of the reasons that the highest grain yields come from early planted spring oats.

The oat plant has two root systems, the seminal and the adventitious. The seminal roots originate during the development of the embryo. They consist of the primary roots (radicle) and two or three lateral roots that arise in the first node. Adventitious roots arise in the nodes of the main stem and of the tillers just beneath the surface of the ground. The adventitious roots constitute the major root system of the oat plant. A subcrown internode grows between the two root systems on an oat plant. This structure is able to elongate to place the coleoptile node, from which the adventitious

roots grow, about one inch below the soil surface. This is similar to the root growth pattern in corn. Like corn, the depth of planting does not have a great influence on the depth of the main root system of the plant.

The life cycle of the oat plant, from germination to the mature seed, can be divided into four stages. They are the vegetative, transition, reproductive, and seed stages. Each of these stages can be distinguished from the other by its morphological characteristics and the developmental events that occur in

In the vegetative stage, leaves, axially shoots (tillers), and the permanent root system (adventitious roots) are initiated and develop; the stem internodes are usually very short. The transition stage is of short dura-

tion and difficult to identify in the oat since it consists only of a slight elongation of the shoot top preceding the initiation of the panicle (head). During the reproductive stage, the panicle and its parts differentiate and develop and the internodes of the stem elongate. The seed stage begins with fertilization of the flowers and terminates with the maturation of the seed.

Factors That Influence Growth

Growth in the oat plant depends upon moisture, temperature, light, and soil. Mc_sture and temperature are the most important factors in the growth and development of oats. Light is important in the flowering process of the plant. Oats can grow in almost any type of soil, if the soil has adequate fertility.

Moisture

Oats require more moisture for producing the stalk and grain than any other cereal, except rice, and is the least efficient in the use of water. The precipitation that is received in the months of April to June principally determines oat yields. The height of the oats is likely to be short when the precipitation during this period falls below 8 to 12 inches. However, total precipitation alone usually means little if it does not come at the right

The critical stages of growth for having adequate precipitation are: (1)

(Turn to Page 20)



EASTBROOK SEED CO.

308-487-5365 308-760-1006 308-487-3769 7260 Dodge Road • Hemingford, NE 69348

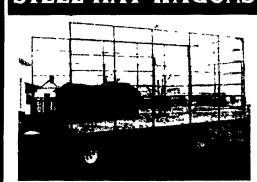
Barenbrug Group "World's Finest Forage Seed for Hay Crop and Pasture" Baralfa 54 Leading Alfalfa in

Penn State Trials 800-680-3167

Also carrying a full line of pasture products... **PASTURES UNLIMITED**

P.O. Box 490, Little York, NY 13087

STEEL HAY WAGONS

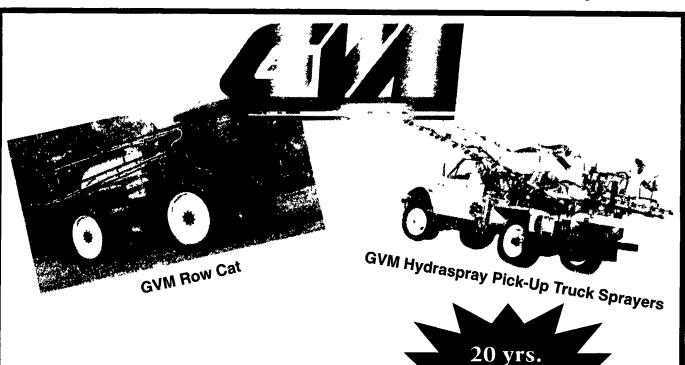


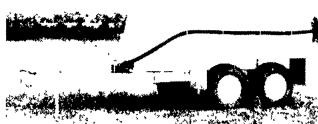
Also sides to bolt on your bed, sizes 16'-18'-20'x8' or 9' wide

ALSO ROUND BALE FEEDERS

ELIMSPORT WELDING

RR #1 Box 99, Allenwood, PA 17810 1-888-462-4124 or 717-547-2476

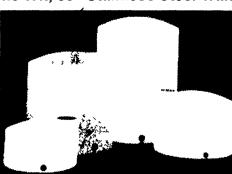




1025 Nurse Dot Trailer



4.5 ton, 33" Stainless Steel Transpread



MANUFACTURERS OF:

Hydraspray Line of Floater & Pick-up Sprayers

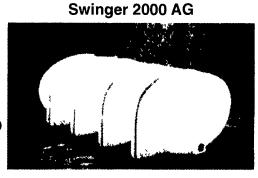
TranSpread Floater, Truck & Pull Spreaders

* All Ground Drive Pull Spreaders

Row-Cat & AgriCat

 Foam Markers Nozzle Alerts

Norwesco Tanks...



Servicing the

Northeast

DISTRIBUTORS OF:

- Norwesco Tanks
- A wide variety of pumps, valves, coupling, fittings
- Spraying Systems Accessories
- Rayman Tenders
- Melroe Spra-Coupes
- Swinger Loaders & Mobility Spreaders
- Layco Blenders & Conveyors
- Precision Pull & ATV Sprayers



374 HEIDLERSBURG ROAD **BIGLERVILLE, PA 17307** 800-345-3546

OR MIKE MACHEK 800-899-5502

Visa & Mastercard accepted with all orders Web Site: http://www.gvm.inc.com **INCORPORATED**

CALL TODAY FOR OUR NEW 300 PAGE 1998 PRODUCT CATALOG