Nothing costs less than Subdue. Because so little goes so far.

Subdue gives turf the best protection against Pythium blight and damping-off for the least cost.

Nothing costs less to use than Subdue® to control Pythium blight and damping-off. Because it only takes 1 1/2 fluid ounces of Subdue to cover 1,000 square feet for 10 to 21 days on established turf.

And nothing works as well because Subdue has two-way action against Pythium blight and damping-off. First, Subdue works systemically, to protect your turf from the inside out. Second, Subdue works on contact to control Pythium in the soil.

Subdue will give you control in both established turf and newly-seeded turf. And Subdue's systemic action gives you longer-lasting control than other fungicides. So you not only save on Subdue's low rate, you also save on maintenance and labor costs.

That's why Subdue is the best protection you can get. Because so little goes so far.

Ciba-Geigy, Ag. Div., Box 18300, Greensboro, NC 27419
Rain Dampens Seed Harvest: Yields Are Off One Third

A strange weather pattern called El Nino hampers drying and harvesting of seed in the field. Growers ask for disaster assistance.

Imagine you just finished mowing an overgrown lawn when it starts pouring. It rains for two solid weeks. But, you still have to pick up the clippings.

Now you know how the growers of turf seed in Oregon, Washington, and Idaho feel this year.

They face crop reductions of 30 percent or more in 1983 because it rained for two weeks after many acres of seed-laden grass were cut and left in the field to dry. Furthermore, next year's crop will also be affected.

Hardest hit were annual ryegrass, Linn perennial ryegrass, and some of the fine fescues. Tall fescue, perennial ryegrass and Kentucky bluegrass crops were also hurt by the wet weather during harvest. Bentgrasses were not hurt since they are later maturing grasses which had not yet been cut when the rain started falling.

All indications before the rain were that 1983 would be a bumper year. Some growers expected yields of 30-40 percent over 1982. Instead, they weighed their loads after combining to find 600 to 800 lbs. of seed per acre rather than 1,200 lbs. Much of the seed is darker in color from lying in the wet fields. Germination rates are down below 80 percent for some lots of annual ryegrass.

Field burning has been complicated by regrowth and matted straw in the fields after harvest.

Linn County Extension Agent Hugh Hickerson shows magazine staff shattered and germinated seed beneath the windrows.

Combines are jammed by windrows which are entwined with green regrowth.
When you buy a new John Deere 318 or 420 Lawn and Garden Tractor, you get maneuverability in a strong package that stands up to the daily abuse of big mowing jobs.

Strength begins with a beefy drivetrain that delivers smooth, dependable power. Heavy-duty gasoline engines develop 18 and 20 hp in the 318 and 420, respectively. These reliable twin-cylinder engines feature an aluminum block with cast-iron cylinder liners plus full-pressure lubrication to keep them running cooler for longer life.

Hydrostatic drive makes it easy to match travel speed to the job. You control speed and direction with one lever; there’s no clutching or gearshifting to slow you down.

Power steering permits even easier handling. It’s standard on both tractors to speed mowing in cramped areas. And the 318 and 420 have a 26-inch turning radius. Individual rear-wheel brakes give you quick stops and let you make tight turns.

There’s a full line of mowers: a 46-inch center-mounted mower for the 318, a 60-inch center-mounted mower for the 420, and a 60-inch rear-mounted grooming mower for both. There are also more than 50 attachments available for jobs from snow removal to tillage.

Easy servicing increases productivity. So does the human-engineered operator’s platform. It features an adjustable high-back cushioned seat and conveniently located color-coded controls.

Visit your John Deere dealer to take a closer look at these maneuverable tractors. Their strength will really show up. So will the dealer’s expertise.

For the name of the nearest dealer, or free folder on the 318 and 420 Lawn and Garden Tractors, call 800-447-9126 toll free (Illinois, call 800-322-6796). Or write John Deere, Dept. 50, Moline, Illinois 61265.

Nothing Runs Like A Deere®
Dave Doerfler, a member of the Silverton Hills Growers Association, explains the effects of the rain on his acreage and seed cleaning operation to Shank.

"This has been the wettest July on record," said Dave Nelson, executive director of the Oregon Seed Council. "Some growers in the Willamette Valley and the Silverton Hills lost entire fields because of the rain. Bad burns are common which will affect next year's production."

"Some seed growers will go under this year," states Hugh Hickerson, Linn County extension agent. "Many of the younger farmers are heavily mortgaged to buy land and get started. One bad year can wipe them out."

Seed growers in Oregon are asking for disaster assistance since

### Seed Supply Report

Listings are by cultivar name, company, and supply condition.

A represents supplies to be near surplus, B adequate, and C possible shortage.

**Kentucky Bluegrass**
- Adelphi, Adikes, A
- Admiral, International Seed, B
- America, Pickseed, C
- Aquila, Northrup King, C
- Banff, Pickseed, C
- Baron, Lofts, C
- Bensun, Warrens, A
- Birka, Burlingham, C
- Columbia, Turf Seed, B
- Eclipse, Garfield Williamson, B
- Enmundi, International Seed, B
- Enoble, International Seed, B
- Fylking, Jacklin, B
- Georgetown, Lofts, C
- Haga, Burlington, B
- Merit, Full Circle, A/B
- Midnight, Turf Seed, C
- Mystic, Lofts, C
- Nassau, Lofts, B/C
- Nugget, Northrup King, C
- Parade, Northrup King, C
- Park, Northrup King, B
- Ram I, Lofts, C
- Rugby, Northrup King, B
- Scenic, International Seed, B
- Shasta, Turf Seed, C
- Sydsport, Burlingham, B
- Touchdown, Pickseed, C
- Vantage, International Seed, B

**Creeping Red Fescue**
- Dasher, Pickseed, B
- Delray, Northrup King, B
- Derby, International Seed, B
- Elka, International Seed, C
- Eton, Northrup King, C
- Fiesta, Pickseed, B
- Gator, International Seed, B
- Galoie, Northrup King, C
- Manhattan, Turf Seed, C
- Manhattan II, Turf Seed, B
- NK 200, Northrup King, C
- Omega, Turf Seed, B
- Palmer, Lofts, B
- Pennant, Burlingham, B
- Pennfine, Northrup King, B
- Prelude, Lofts, B
- Repell, Lofts, C
- Yorktown II, Lofts, B

**Tall Fescue, Turf Type**
- Adventure, Warrens, C
- Brookston, International Seed, B
- Clemfine, Lofts, C
- Falcon, Burlingham, C
- Galway, Northrup King, C
- Houndog, International Seed, B
- Jaguar, Garfield Williamson, C
- Mustang, Pickseed, C
- Olympic, Turf Seed, C
- Rebel, Lofts, C

**Chewings Fescue**
- Adonis, International Seed, B
- Agram, Pickseed, B
- Atlanta, Northrup King, B
- Checker, International Seed, B
- Highlight, International Seed, B
- Jamestown, Lofts, B
- Shadow, Turf Seed, B
- Wintergreen, Northrup King, A

**Overseeding Blends, Mixtures**
- CBS, Turf Seed, B
- Dixie Green, International Seed, B
- Futura Plus, Pickseed, B
- Marvelgreen, Lofts, B
- Medalist, Northrup King, B
- Oregreen, Turf Seed, B
- Ph.D., International Seed, B
- Showboat, International Seed, B
The fields a second or third time using propane torches at considerable expense. It appears likely that yields for next year will be down because of bad burns.

Doyle Jacklin of Jacklin Seed Co. in Post Falls, Idaho, estimates rain in his area has reduced Kentucky bluegrass yields by ten percent. He blames winter rains for causing fertility problems and another 20 percent loss in yields.

All seed companies report increasing demand for seed brought about by renewed construction and dramatically improved sales to sod growers. “Sod growers in many sections of the country sold out this spring and needed to replant quickly,” said Jacklin. “Severe heat in the Midwest this summer should improve renovation business this fall.”

Weather conditions for field burning are provided twice a day by Oregon Seed Council Meteorologist “Irv” Tillung.

Losses are estimated above 30 percent, the requirement set by the government to qualify for low interest loans.

More than 300,000 acres in Oregon are used for production of turf seed, primarily ryegrasses and fescues.

Carryovers from last year of Kentucky bluegrass and perennial ryegrass may help growers meet demand this year, but turf type tall fescues and some fine fescues will be in short supply.

The rain causes a series of production problems. Once the seed crop is cut and placed in windrows to dry, the moisture content of the seed is too high to process. The grower has to wait for the moisture content to drop to 12 percent before combining to pick up the seed. Rain slows the drying of the seed in the field, causes combines to jam when the seed is finally harvested, and encourages seed which has shattered and fallen to the ground to germinate. The regrowth makes the windrows difficult for the combines to pick up. The newly germinated grass is undesirable since only the parent grass produces the right genetic combination.

After the fields are combined, they are burned to destroy unwanted straw, harmful fungi, second generation seed, and to encourage branching of the parent grass during regrowth. The additional branches help produce more seed the following year.

If the farmers don’t get a satisfactory burn they can try to burn the fields a second or third time using propane torches at considerable expense. It appears likely that yields for next year will be down because of bad burns.

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If the farmers don’t get a satisfactory burn they can try to burn
Plants require at least 16 elements for proper growth and development. Three of the elements—carbon, hydrogen, and oxygen—are provided by air and water; the other essential elements are obtained from the soil.

The macronutrients; nitrogen, phosphorus, potassium, calcium, sulfur, and magnesium; are used in greater quantities than the other mineral elements absorbed from the soil. (see Table 1) Nitrogen, phosphorus, and potassium are often called the primary nutrients because of the amount used by the plants and their importance in supplemental fertilizers.

The micronutrients; iron, manganese, copper, zinc, boron, molybdenum and chlorine; are required in smaller quantities but are no less important. The so-called “acid-loving” plants have a relatively high requirement for certain micronutrients, and chlorosis caused by an iron deficiency is a common ailment when these plants are grown in alkaline soils (over pH 7.0). Because of reserves normally found in the soil, the addition of supplemental micronutrients is not often necessary unless the soil is excessively alkaline or sandy.

### Table 1. The amount of Essential Elements Contained in Higher Plants*

<table>
<thead>
<tr>
<th>Element</th>
<th>Percent of Plant Tissue**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxygen</td>
<td>45</td>
</tr>
<tr>
<td>Carbon</td>
<td>45</td>
</tr>
<tr>
<td>Hydrogen</td>
<td>6</td>
</tr>
<tr>
<td>Nitrogen</td>
<td>1.5</td>
</tr>
<tr>
<td>Potassium</td>
<td>1.0</td>
</tr>
<tr>
<td>Calcium</td>
<td>0.5</td>
</tr>
<tr>
<td>Phosphorus</td>
<td>0.2</td>
</tr>
<tr>
<td>Magnesium</td>
<td>0.2</td>
</tr>
<tr>
<td>Sulfur</td>
<td>0.1</td>
</tr>
<tr>
<td>Iron</td>
<td>0.01</td>
</tr>
<tr>
<td>Chlorine</td>
<td>0.01</td>
</tr>
<tr>
<td>Manganese</td>
<td>0.005</td>
</tr>
<tr>
<td>Zinc</td>
<td>0.002</td>
</tr>
<tr>
<td>Boron</td>
<td>0.002</td>
</tr>
<tr>
<td>Copper</td>
<td>0.0006</td>
</tr>
<tr>
<td>Molybdenum</td>
<td>0.00001</td>
</tr>
</tbody>
</table>


** These percentages vary from different species and for the same species grown under different conditions.

Fertilizers

Fertilizer is any material that supplements the soil’s supply of elements required for plant growth and development. Fertilizers may be categorized as natural organic, synthetic organic, or inorganic based on their source and chemical structure.

**Organic fertilizer** consists of nutrient elements derived from compounds with a carbon structure. The term organic when applied to fertilizer should include only organic materials that are insoluble in water.

All living matter—plant or animal—is composed of compounds with a carbon structure. Proteins, fats, carbohydrates and other compounds synthesized by an organism have one common factor—a carbon structure. Any of these materials could be considered as organic fertilizers when placed in the soil. Common examples of **natural organic** fertilizers are animal manure, bonemeal, sewage sludge and plant refuse.

Scientists have synthesized compounds with a carbon structure which are also organic. Examples of **synthetic organic** fertilizers are ureaformaldehyde and isobutylidene diurea.

**Inorganic fertilizers** are nutrient elements derived from
sources which are not organic, those which have neither a carbon structure nor which have been derived from living matter. Examples of inorganic fertilizers are ammonium nitrate, ammonium phosphate, potassium nitrate and potassium chloride.

A complete fertilizer contains sources of nitrogen, phosphorus, and potassium. An incomplete fertilizer contains one or two of these elements in any combination, but never all three. Other fertilizer nutrients such as iron or magnesium may be present but are not considered in the definition of "complete" and "incomplete" fertilizers.

Analysis and Ratio
Fertilizer analysis or grade is the minimum guaranteed percentage by weight of nitrogen (N), phosphorus (expressed as P₂O₅ equivalent), and potassium (expressed as K₂O equivalent), and is printed on the container in that order.

For example, a 100 lbs. bag of 20-10-5 fertilizer is formulated from a nitrogen source(s) that contains 20 lbs. of elemental nitrogen, a phosphorus source(s) that contains the equivalent of 10 lbs. of P₂O₅, and a potassium source(s) that contains the equivalent of 5 lbs. of K₂O. Any of these elements missing from the formulation would be represented by a zero in the analysis. Ammonium nitrate, for example, which does not contain phosphorus or potassium, has an analysis of 33-0-0.

In addition to the total nitrogen, water insoluble nitrogen (WIN), if present, is also printed on the label as a percent of the total weight. For example, if half of the nitrogen of a 20-10-5 fertilizer is in a water insoluble form, the WIN content is 10%. Although WIN indicates the portion of nitrogen in a controlled-release fertilizer that is slowly soluble, it is not appropriate for coated fertilizers that encapsulate soluble nitrogen. In this case, the controlled-release nitrogen may be expressed in terms of dissolution rate. See Slow-Release Nitrogen for a more detailed description.

Fertilizer ratio is the relative amounts of nitrogen, phosphorus and potassium. A fertilizer with an analysis of 20-10-5 would contain four times as much nitrogen as potassium and twice as much phosphorus as potassium. The ratio then would be 4:2:1.

Table 2. The essential elements and the forms available to green plants.

<table>
<thead>
<tr>
<th>Elements</th>
<th>Available forms</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Macronutrients</td>
<td></td>
</tr>
<tr>
<td>Nitrogen (N)</td>
<td>NO₃—, NH₄+, Urea (some)</td>
</tr>
<tr>
<td>Phosphorus (P)</td>
<td>HPO₄²—, H₂PO₄⁻</td>
</tr>
<tr>
<td>Potassium (K)</td>
<td>K⁺</td>
</tr>
<tr>
<td>Calcium (Ca)</td>
<td>Ca++</td>
</tr>
<tr>
<td>Magnesium (Mg)</td>
<td>Mg++</td>
</tr>
<tr>
<td>Sulfur (S)</td>
<td>SO₄²—, SO₃⁻</td>
</tr>
<tr>
<td>2. Micronutrients</td>
<td></td>
</tr>
<tr>
<td>Iron (Fe)</td>
<td>Fe+++</td>
</tr>
<tr>
<td>Manganese (Mn)</td>
<td>Mn+++</td>
</tr>
<tr>
<td>Copper (Cu)</td>
<td>Cu++, Cu++</td>
</tr>
<tr>
<td>Zinc (Zn)</td>
<td>Zn++</td>
</tr>
<tr>
<td>Boron (B)</td>
<td>BO₂⁻</td>
</tr>
<tr>
<td>Molybdenum (Mo)</td>
<td>MoO₄²—</td>
</tr>
<tr>
<td>Chlorine (Cl)</td>
<td>Cl⁻</td>
</tr>
</tbody>
</table>

Absorption
All fertilizer nutrients, regardless of the source, are absorbed by plant roots as charged atoms or groups of atoms called ions—nutrient salts (see Table 2). These ions exhibit either a positive or a negative charge which is essential for root absorption by electrical attraction.

Inorganic fertilizers form ions readily when dissolved in water and therefore are quickly available for root absorption. Organic fertilizers—both natural and synthetic—must be hydrolyzed (decomposed) by soil microorganisms from complex compounds to the same nutrient salts provided by inorganic fertilizers. The rate of decomposition is dependent upon soil factors such as temperature, moisture and pH.

Burn
Fertilizer burn is the visible symptom of insufficient water in a plant associated with an overapplication of fertilizer salts.

The movement of water across the root cell membrane is regulated by the concentration of dissolved fertilizer salts in soil solution relative to the dissolved salts within the cell. As fertilizer salts dissolve in water, they raise the osmotic pressure of the solution. Water always moves from the side of the membrane with the low osmotic pressure to the side with higher osmotic pressure. Root cells actively absorb fertilizer salts from soil solution, and under normal conditions, maintain a higher osmotic pressure.

If excess fertilizer salts are applied and raise the osmotic pressure of soil solution, water cannot enter the cell and may actively move out of it. The resulting injury is known as fertilizer burn or physiological drought.

Salt index values are a measure of a fertilizer's relative tendency to increase the osmotic pressure of the soil solution. Sodium nitrate has been given a salt index value of 100 and the value for all other fertilizers is relative to an equal weight of sodium nitrate. The higher the salt index, the greater the potential for a fertilizer to raise the osmotic pressure of soil solution and, thus, cause burn. See Table 3 for salt indexes. Because some nutrient sources are more concentrated than others (have higher percentages of N, P, or K) the actual increase in burn potential is affected by the application rate as well as the salt index. The partial salt index is calculated per unit of each nutrient and compares the rela-
Table 3. Salt indexes of common fertilizer sources*

<table>
<thead>
<tr>
<th>Fertilizer</th>
<th>Formula</th>
<th>% N</th>
<th>% P₂O₅</th>
<th>% K₂O</th>
<th>Salt Index</th>
<th>Partial Salt Index</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Nitrogen Sources</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ammonium nitrate</td>
<td>NH₄NO₃</td>
<td>35.0</td>
<td>—</td>
<td>—</td>
<td>104.7</td>
<td>2.99</td>
</tr>
<tr>
<td>Ammonium sulfate</td>
<td>(NH₄)₂SO₄</td>
<td>21.2</td>
<td>—</td>
<td>—</td>
<td>91.3</td>
<td>2.33</td>
</tr>
<tr>
<td>Sodium nitrate</td>
<td>NaNO₃</td>
<td>15.0</td>
<td>—</td>
<td>—</td>
<td>90.0</td>
<td>3.03</td>
</tr>
<tr>
<td>Potassium nitrate</td>
<td>KNO₃</td>
<td>13.8</td>
<td>—</td>
<td>—</td>
<td>73.8</td>
<td>5.34</td>
</tr>
<tr>
<td>Urea</td>
<td>H₂NCONH₂</td>
<td>46.6</td>
<td>—</td>
<td>—</td>
<td>54.4</td>
<td>4.06</td>
</tr>
<tr>
<td>Natural organic</td>
<td></td>
<td>5.0</td>
<td>—</td>
<td>—</td>
<td>3.50</td>
<td>0.70</td>
</tr>
<tr>
<td>Monoammonium phosphate</td>
<td>NH₄H₂PO₄</td>
<td>12.2</td>
<td>—</td>
<td>—</td>
<td>29.9</td>
<td>2.45</td>
</tr>
<tr>
<td>Diammonium phosphate</td>
<td>(NH₄)₂HPO₄</td>
<td>21.2</td>
<td>—</td>
<td>—</td>
<td>34.2</td>
<td>1.61</td>
</tr>
<tr>
<td><strong>Phosphorus Sources</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Superphosphate</td>
<td>Ca(H₂PO₄)₂+CaSO₄</td>
<td>—</td>
<td>20.0</td>
<td>—</td>
<td>3.90</td>
<td>—</td>
</tr>
<tr>
<td>Triple superphosphate</td>
<td>Ca(H₂PO₄)₃</td>
<td>—</td>
<td>48.0</td>
<td>—</td>
<td>0.21</td>
<td>—</td>
</tr>
<tr>
<td>Monoammonium phosphate</td>
<td>NH₄H₂PO₄</td>
<td>—</td>
<td>61.7</td>
<td>—</td>
<td>3.05</td>
<td>—</td>
</tr>
<tr>
<td>Diammonium phosphate</td>
<td>(NH₄)₂HPO₄</td>
<td>—</td>
<td>53.8</td>
<td>—</td>
<td>3.52</td>
<td>—</td>
</tr>
<tr>
<td>Monopotassium phosphate</td>
<td>K₂HPO₄</td>
<td>—</td>
<td>52.2</td>
<td>—</td>
<td>4.42</td>
<td>—</td>
</tr>
<tr>
<td><strong>Potassium Sources</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Potassium chloride</td>
<td>KCl</td>
<td>—</td>
<td>60.0</td>
<td>16.3</td>
<td>1.94</td>
<td>—</td>
</tr>
<tr>
<td>Potassium nitrate</td>
<td>KNO₃</td>
<td>—</td>
<td>46.6</td>
<td>73.6</td>
<td>1.58</td>
<td>—</td>
</tr>
<tr>
<td>Potassium sulfate</td>
<td>K₂SO₄</td>
<td>—</td>
<td>54.6</td>
<td>46.1</td>
<td>0.85</td>
<td>—</td>
</tr>
<tr>
<td>Monopotassium phosphate</td>
<td>K₂HPO₄</td>
<td>—</td>
<td>34.6</td>
<td>5.81</td>
<td>0.24</td>
<td>—</td>
</tr>
</tbody>
</table>


** Calculated per unit of N, P₂O₅, or K₂O.

Effects of Soil pH
The term pH expresses the relative concentration of hydrogen (H⁺) and hydroxyl (OH⁻) ions in solution. A pH of 7.0 means the hydrogen and hydroxyl ions are equal and the solution is said to be neutral. A pH below 7.0 means the solution contains more hydrogen ions than hydroxyl ions and is said to be acid. Similarly, a pH above 7.0 means the solution contains more hydroxyl ions than hydrogen and is alkaline.

Soil pH may influence nutrient absorption and plant growth through the effect of hydrogen ions and their indirect influence on nutrient availability. In most soils the latter effect is the most significant.

The presence of an element is no guarantee it is available to plants.

The soil is no guarantee that it is in a soluble form available for absorption. The concentration of hydrogen and associated ions affects soil reaction and the formation of soluble and insoluble compounds. All nutrients must be soluble to be available for root absorption.

Each nutrient has a pH where it is most available because it forms a large proportion of soluble compounds at that particular pH range. See Figure 2 for pH ranges and availability of nutrients.

Plant species differ in their response to the soil acidity
Because it grows on you.

When the growing gets tough, the Ransomes Motor 180 gets going. With a big 71' cutting width, ideal for golf courses, large public lawns and playing fields. Plus a low center of gravity and wide wheel track for stability on slopes. When you've got a real mowing job, get the reel advantage.

See your Ransomes Bob Cat distributor or call Ransomes, Inc., One Bob Cat Lane, Johnson Creek, WI 53038, (414) 699-2000.

RANSOMES

The grass machine.
There's a fine line between good turf and better turf.

It's the fine line of Turf Care™ products from SDS Biotech. These quality products give you first-rate weed and disease control with real economy all season long. Taken together, there's just no better way to get better turf.

**Daconil 2787® fungicide.** Unmatched spectrum of disease control. No other fungicide works as effectively on turf and a variety of ornamentals. Daconil 2787 provides unsurpassed control of 9 major turf diseases plus common diseases on 45 ornamentals. Daconil 2787 is also available in wettable powder.

**Dacthal® W-75 herbicide.** The leader is back on the market. It's the standard of excellence in turf preemergence weed control and it's readily available for the '84 season.

Whether it's crabgrass, spurge or 21 other annual grasses and broadleaf weeds in turf and ornamentals, nothing works better than Dacthal W-75.

Go with the best in 1984. Dacthal W-75.

**Dacamine® 4D herbicide.** Kills perennials better than ordinary 2,4-D. Dacamine 4D virtually eliminates the possibility of weed regrowth. It works particularly well on plantain and 70 other tough perennials.

Dacamine 4D also delivers broader spectrum weed kill than ordinary 2,4-D.

And since Dacamine 4D is non-volatile, it won't vaporize even in hot weather. So there's no risk of injury to nearby ornamentals from vapors.

**2 Plus 2 (MCPP + 2,4-D Amine).** Tough on weeds, easy on the pocketbook. Designed in a convenient package mix, 2 Plus 2 delivers economical control of pesky common broadleaf weeds such as clover and dandelion on turf and fairways.

For broad spectrum control that's tender on grass and non-harmful to tree roots, use 2 Plus 2.

**Daconate® 6 and Bueno® 6 post-emergent herbicides.** Proven performers. Especially effective on such tough weeds as nutsedge, chickweed, wood sorrel, crabgrass and many other grassy weeds.

Both products are ready-to-use liquids with built-in surfactants for uniform wetting (Bueno 6 is sold only in western states for use on turf).

**Turf Care from SDS Biotech. Order now for better turf.**

Your hard work and expertise along with our fine line of Turf Care products are the perfect combination for healthier, more vigorous, more beautiful turf.

So see your SDS Biotech distributor and place your order today.

Always follow label directions carefully when using turf chemicals.