Control 15 major turf pests with versatile SEVIN® carbaryl insecticide.

They nip, munch, burrow and bite. As sure as grass is green, turf pests will try to make life miserable.

You can end the misery with SEVIN carbaryl insecticide. And protect the turf you manage from as many as 15 different problem pests.

Both the most common ones and the worst: ants, bluegrass billbugs, chiggers, chinch bugs, cutworms, earwigs, European chafer, fall armyworm, fleas, green June beetle, leafhoppers, millipedes, mosquitoes, sod webworms (lawn moths) and ticks.

Broad registration only starts the list of SEVIN benefits.

It's also compatible with many other commonly used insecticides, miticides, fungicides and foliar nutrients. And residents can resume using the grounds or yard as soon as the spray dries.

There's a choice of
four formulations—sprayable, wettable powder, flowables and SEVIMOL® 4, a liquid blend of SEVIN and molasses. Granules, dusts and baits are also available for certain specialized uses. Plus, SEVIN isn’t harsh on the environment. It is bio-degradable; and when compared with other insecticides, it ranks low in toxicity to people, animals, birds and fish.

So it’s probably no surprise to hear that SEVIN carbaryl is one of the largest selling insecticides in the United States today.

For more information about SEVIN, contact your pesticide supplier or Union Carbide at the address below.

Make SEVIN carbaryl insecticide your answer to pest control too.
Which one will cost you less?

If you're only concerned with initial equipment costs, then the obvious answer is the sod shovel.

But the real cost of cutting sod also includes the labor time involved. And at today's wages, elbow grease can be a very expensive accessory.

That's why the Ryan Jr. Sod Cutter makes sense for even the smallest turf management operations.

Working at up to 135 feet per minute, one man can cut more sod in an hour than six men used to cut by hand in six hours. Add up the labor cost savings and you begin to see the Jr. Sod Cutter might easily pay for itself in just one season.

But the Jr. Sod Cutter also lets you take advantage of the benefits of sodding versus seeding. You can replace dead grass or plant a new stand almost instantly, preventing erosion and enhancing the appearance of your grounds.

The Jr. Sod Cutter is self-propelled, simple to use and easy to handle. And like all Ryan equipment, it's built to last. You may never need a replacement.

So whether you manage a small golf course, cemetery, landscape service, school grounds, industrial complex, or park, the Jr. Sod Cutter can help you trim costs.

Write for your Ryan catalog today. And find out more about all the time-and money-saving equipment Ryan offers.

Ryan Jr. Sod Cutter
The turfman's timesaver.
CONTENTS

JANUARY 1978/VOL. 17, NO. 1

Bruce F. Shank
Editor
Ron Morris
Assistant Editor
Ray Gibson
Graphics Director
Hugh Chronister
Publisher
Richard J.W. Foster
General Manager
David J. Slaybaugh
Executive Editor
Stephen Stone
Advertising Director
Dick Gore
National Sales Manager
Jack Schabel
Circulation Manager
Clarence Arnold
Research Services
Patricia J. Kelley
Production Manager

Copyright® 1978 by the Harvest Publishing Co., a subsidiary of Harcourt Brace Jovanovich, Inc. All rights reserved. No part of this publication may be transmitted or reproduced in any form or by any means, electronic or mechanical, including photocopy, recording, or any information storage and retrieval system, without permission in writing from the publisher. Address: 9800 Detroit Ave., Cleveland, Ohio 44102.

Single copy price $1.25 for current and back issues. Foreign $1.50. Subscription rates: WEEDS TREES AND TURF is mailed free, within the U.S. and possessions and Canada, to qualified persons engaged in vegetation care and related industries in controlled circulation categories. Non-qualified subscriptions in the U.S. and Canada are $10.00 per year, $12.00 in other countries. Controlled circulation postage paid at Cleveland, Ohio 44101.

Member, American Business Press, Business Publications Audit

Viewpoint 6

People 8

GREEN INDUSTRY NEWS 10

Velsicol Indictment Comes as Shock . . . Ohio Turf Show . . . Watson Presented Agronomic Service Award . . . Cal Poly Nursery Course Planned . . . Andrus Agrees with Irrigation Rule Delay

FEATURES

Selecting the Proper Spray Application System
Speed and cost are just two considerations that must be made in choosing spray application equipment. .........................14

Dr. William Daniel is completing a new turf handbook for managers. This is a preview excerpt from the book............26

Steel Piling Stops Muskrats, Erosion
A golf course superintendent discovers the advantages of sheet steel piling to stop erosion when used as shore guards. ........36

Vegetation Management 46

Proscapes 51

Products 52

Events 54

Classifieds 60

Advertiser Information 62
As promised, we have provided you with an improved journal. What do you think? We'd really like to know. Just write down your comments on this or any matter on the new postpaid, reader comment card and send it to us.

I hope you will use the new problem solving columns, Vegetation Management and Proscape, to help you in your business. Or if you have a remark on any industry subject we'd like to see if others feel the same way. This can be accomplished in a letter column, which will premiere in the February issue.

We have had some feedback in regard to our desire to help bring a national affiliation of green industry associations to reality. It is apparent that to do this properly, months and years of planning and working together are needed. We urge everyone to avoid the temptation to rush into such an organization without the patient consultation of all industry groups and entities. We are certain that manufacturers would like to help, and of course all the trade publications. To build a solid and respectable foundation for lobbying efforts in Washington, D.C., there must be no taint of opportunism by any one organization or entity.

We urge the Golf Course Superintendents to sponsor discussions on such an organization at its national meeting in San Antonio. GCSAA has appointed a group to study such a cooperative effort for the green industries. The discussions should be many and held at all the various industry associations. Formation should occur as a result of cooperation among all the associations, and not by the efforts of just one group. To work it has to be comprehensive.

BRUCE SHANK
Editor
For football fields and/or shady glens Glade Kentucky bluegrass is the seed to specify for excellent performance. In full sun or cool shade (up to 60%) you can depend on Glade to germinate quickly, establish fast. Forms a thick rhizome and root system, dense, low-growing, fine-textured turf of medium to deep green in color. Glade Kentucky bluegrass has proven resistance to many troublesome diseases including stripe smut and leaf rust. Better than average resistance to today's Fusarium blight has made Glade a vital fortifying ingredient in many professional turf grass mixtures. A higher level of resistance to powdery mildew in moderate shade. A Rutgers University selection (tested as P-29), Glade Kentucky bluegrass is your guarantee of physically pure and genetically true seed. Specify the sun-n-shade elite Glade Kentucky bluegrass seed for your next lawn seed mix, available at your local wholesale seed distributor.
The Board of Directors of The Davey Tree Expert Company announced the election of Jack W. Joy as president and chief operating officer. Joy succeeds Alexander M. Smith, who remains chairman and chief executive officer.

In a concurrent move, the board also elected Martin L. Davey, Jr., to the position of vice chairman of the board.

Prior to his election, Joy had been senior vice president-operations. A veteran of 31 years with Davey Tree, Joy joined the company in May, 1946 in field operations. He was elected to the Davey Board of Directors in 1964 and was appointed vice president and sales manager in May, 1965. He is a member of the International Society of Arboriculture and the National Arborist Association.

Martin L. Davey, Jr., grandson of company founder John Davey, held the office of vice president-operations coordinator before his election as vice chairman of the board. Davey is also president of the Davey Investment Company and will continue in that office. He served the company as president from 1946 through 1981 and as chairman of the board from 1988 until 1992. He is a member of the Board of Directors and the son of the late Martin L. Davey, who was president of Davey Tree for 23 years and a former governor of Ohio.

Dr. Lynne C. Thompson has been named an extension specialist and assistant professor in the department of entomology at Kansas State University, Manhattan. Thompson, was a Postdoctoral Research Associate at the University of Minnesota.

In announcing the appointment, Dr. Richard Sauer, entomology department head, said Thompson will add important expertise in forest, ornamental, and shade tree entomology to the department's extension entomology programs.

A native of Minnesota, Thompson, earned a Ph.D degree in entomology from the University of Minnesota in 1976. He received an M.S. degree in entomology in 1973, also from the University of Minnesota. He received his B.S. degree in entomology in 1970 from Kansas State University.

Terry Anstett has been named Outdoor Power Equipment Group director of manufacturing by Toro Company Group Vice President K. B. Melrose. Anstett has been general manager of the Toro plant in Windom, Minn., since 1975.

Anstett was previously director of manufacturing engineering for the outdoor power equipment group. Before joining Toro he was manager of manufacturing engineering for Wheel Horse Co., South Bend, Ind., and a quality control engineer for General Electric.

Thomas M. Carter has joined Jacobsen Manufacturing Co., as manager of engineering for the Turf Products Div., according to Howard L. McPherson, vice president and general manager of the division.

Carter will be responsible for the design and development of new products, improving current equipment, field and in-plant testing, experimental programs, and cost analysis and comparison.

Carter was previously chief engineer for Van Dale, Inc., Long Lake, Minn., a farm equipment firm. He is a member of the American Society of Agricultural Engineers.

John F. Frawley, vice president of AMAX Inc., has been elected chairman of the board of the Potash/Phosphate Institute, Atlanta, Ga. Frawley is also a director of Roan Consolidated Mines Ltd.

Boyd R. Willett, president of Kalium Chemicals Div. of PPG Industries, Canada, was elected vice chairman of the board of PPI.

The announcements were made by outgoing board chairman D. R. Gidney, president of the Potash Co., of America.

Joel H. Stonecipher has been named Western district sales manager for specialty and technical products for Elanco Products Company, the agricultural marketing division of Eli Lilly and Company. He will be located in the Dallas, Texas area according to R. W. Collins, sales manager.

Stonecipher has been serving as a marketing planning advisor for Spike® at Elanco's corporate headquarters in Indianapolis, Indiana. He joined the company in 1965 as a sales representative, was promoted to a district manager in 1967, and named a marketing communications advisor in 1972.
Weeds Trees & Turf  FREE INFORMATION

Want free information on products and services advertised and featured in this issue? Use this card. Circle the numbers on which you want information and mail today.

<table>
<thead>
<tr>
<th>101</th>
<th>102</th>
<th>103</th>
<th>104</th>
<th>105</th>
<th>106</th>
<th>107</th>
<th>108</th>
<th>109</th>
<th>110</th>
<th>111</th>
<th>112</th>
<th>113</th>
<th>114</th>
<th>115</th>
<th>116</th>
<th>117</th>
<th>118</th>
<th>119</th>
<th>120</th>
</tr>
</thead>
<tbody>
<tr>
<td>121</td>
<td>122</td>
<td>123</td>
<td>124</td>
<td>125</td>
<td>126</td>
<td>127</td>
<td>128</td>
<td>129</td>
<td>130</td>
<td>131</td>
<td>132</td>
<td>133</td>
<td>134</td>
<td>135</td>
<td>136</td>
<td>137</td>
<td>138</td>
<td>139</td>
<td>140</td>
</tr>
<tr>
<td>141</td>
<td>142</td>
<td>143</td>
<td>144</td>
<td>145</td>
<td>146</td>
<td>147</td>
<td>148</td>
<td>149</td>
<td>150</td>
<td>151</td>
<td>152</td>
<td>153</td>
<td>154</td>
<td>155</td>
<td>156</td>
<td>157</td>
<td>158</td>
<td>159</td>
<td>160</td>
</tr>
<tr>
<td>161</td>
<td>162</td>
<td>163</td>
<td>164</td>
<td>165</td>
<td>166</td>
<td>167</td>
<td>168</td>
<td>169</td>
<td>170</td>
<td>171</td>
<td>172</td>
<td>173</td>
<td>174</td>
<td>175</td>
<td>176</td>
<td>177</td>
<td>178</td>
<td>179</td>
<td>180</td>
</tr>
<tr>
<td>181</td>
<td>182</td>
<td>183</td>
<td>184</td>
<td>185</td>
<td>186</td>
<td>187</td>
<td>188</td>
<td>189</td>
<td>190</td>
<td>191</td>
<td>192</td>
<td>193</td>
<td>194</td>
<td>195</td>
<td>196</td>
<td>197</td>
<td>198</td>
<td>199</td>
<td>200</td>
</tr>
<tr>
<td>201</td>
<td>202</td>
<td>203</td>
<td>204</td>
<td>205</td>
<td>206</td>
<td>207</td>
<td>208</td>
<td>209</td>
<td>210</td>
<td>211</td>
<td>212</td>
<td>213</td>
<td>214</td>
<td>215</td>
<td>216</td>
<td>217</td>
<td>218</td>
<td>219</td>
<td>220</td>
</tr>
<tr>
<td>221</td>
<td>222</td>
<td>223</td>
<td>224</td>
<td>225</td>
<td>226</td>
<td>227</td>
<td>228</td>
<td>229</td>
<td>230</td>
<td>231</td>
<td>232</td>
<td>233</td>
<td>234</td>
<td>235</td>
<td>236</td>
<td>237</td>
<td>238</td>
<td>239</td>
<td>240</td>
</tr>
<tr>
<td>241</td>
<td>242</td>
<td>243</td>
<td>244</td>
<td>245</td>
<td>246</td>
<td>247</td>
<td>248</td>
<td>249</td>
<td>250</td>
<td>251</td>
<td>252</td>
<td>253</td>
<td>254</td>
<td>255</td>
<td>256</td>
<td>257</td>
<td>258</td>
<td>259</td>
<td>260</td>
</tr>
<tr>
<td>261</td>
<td>262</td>
<td>263</td>
<td>264</td>
<td>265</td>
<td>266</td>
<td>267</td>
<td>268</td>
<td>269</td>
<td>270</td>
<td>271</td>
<td>272</td>
<td>273</td>
<td>274</td>
<td>275</td>
<td>276</td>
<td>277</td>
<td>278</td>
<td>279</td>
<td>280</td>
</tr>
</tbody>
</table>

NAME
COMPANY
ADDRESS
CITY STATE ZIP

Do you want to receive Weeds Trees & Turf?  □ YES  □ NO
Are you interested in receiving or continuing to receive WEEDS TREES & TURF? If you are, complete all the information on this card and mail today.

DATE ____________________________ SIGNATURE ____________________________

Please check the one item which best describes your primary type of business:

1. Rights-of-Way Maintenance
   □ a. Highway
   □ b. Utility
   □ c. Railroad
2. Chemical Applications (vegetation and structural)
   □ a. Commercial/Industrial ground applicators
   □ b. Aerial Applicators
3. Extension Services; Forestry; Federal and State Regulatory Agencies
4. Parks and Grounds Maintenance — Federal, State, Municipal (does not include Forestry)
5. Golf Courses
6. Cemeteries
7. Industrial Parks
8. Shopping Centers
9. Hospitals, Nursing Homes, Schools, Colleges and Universities (Grounds maintenance personnel only)
10. Athletic Fields
11. Race Tracks
12. □ Airports
13. □ Military Installations
14. □ Grounds or Landscape personnel in businesses not specified above
15. □ Mine Field Reclamation
16. □ Chemical lawn care companies
17. □ Landscape contractors
18. □ Landscape architects
19. □ Sod Growers
20. □ Seed Growers
21. □ Tree Service Companies/Arborists
22. □ Wholesale nurseries/Tree Farms
23. □ Irrigation and Water Drilling Contractors/Consultants
24. □ Chemical Dealers/Distributors
25. □ Equipment Dealers/Distributors
26. □ Other (Specify) ____________________________

My question or comment is . . .

Weeds Trees and Turf is glad to answer your questions or publish your comments on any green industry topic. Questions will be answered by industry experts in the Vegetation Management or Proscape columns. Comments will appear in the Letters or Viewpoint columns. Mail this postpaid card today.
There are 785 different tree species...

And they all thrive on
Ross Super Tree Stakes and
Ross Super Fruit Tree Stakes!

Dependable Ross Super TREE STAKES provide once-a-year feeding of trees, shrubs, and evergreens with a high food value analysis of 16-10-9 PLUS iron and zinc formulation.

New Ross FRUIT TREE STAKES contain 16-5-10 PLUS iron and zinc to provide precise, pre-measured feeding of all fruit trees: apple, pear, apricot, plum, peach, cherry, all citrus, berries and fruit bearing shrubs.

Each commercial case contains approximately 155 stakes ... enough to feed more than 35 trees of 3" diameter. There are 20 solid nylon pounding caps to simplify driving into the toughest soil.

For best results, place stakes at drip line of tree, using three stakes for every 2" of trunk diameter. Water does the rest, carrying plant food to the feeder roots.

Two great once-a-year formulas...
• 16-10-9 For Beautiful Trees & Evergreens
• 16-5-10 For bigger, better Fruit

Contact your nearest Ross Daniels distributor for Ross Super Tree Stakes and Ross Super Fruit Tree Stakes. If unavailable in your area, order direct from: ROSS DANIELS, INC., P.O. Box 430, West Des Moines, Iowa 50265. Use this coupon to order.

ROSS Super Tree Stakes
Commercial Pack,
Stock no. 1791
Please ship ___ cases,
check enclosed.
Approximately 155 stakes per case, weight 44 lbs.
1-3 cases, $35.00 per case
4-11 cases, $30.00 per case
12 or more cases, $25.00 per case
Each case includes
20 Nylon Pounding Caps

ROSS Fruit Tree Stakes
Commercial Pack,
Stock no. 1812
Please ship ___ cases,
check enclosed.

Your name ____________________________
Organization __________________________
Address __________________________________________________________________________
City ___________________ State _______ Zip ________
Make check payable to Ross Daniels, Inc.
CHEMICALS

Velsicol indictment comes as shock

A Federal grand jury in Chicago has issued an 11-count indictment against Velsicol Chemical Corp. and six of its attorneys and employees. The counts include conspiracy to defraud, concealment of material facts, and failure to submit animal data during the chlordane/heptachlor hearings.

A Velsicol spokesman said the indictments came as a shock and that they are "indictments," not convictions.

Among those charged were past and present employees and lawyers retained by Velsicol for the chlordane hearings. Possible penalties range from 20 years incarceration and $31,000 fine to 55 years incarceration and $83,000 fine.

The hearings in the cancellation phase of chlordane are in final stages with a final decision due in February. Talks to reach a settlement are now underway.

The general feeling in industries using chlordane is that the product is often the most effective for some uses and completely safe when used by a trained and competent applicator. Velsicol has done basically what EPA has asked it to do throughout the hearings. Since there are either few or no precedents to go by, and rarely does a chemical company attempt to defend a product under EPA's scrutiny to the extent Velsicol has, the word fraud is even more suspicious.

The fact that the grand jury is charging Velsicol with insufficient reporting may be more a factor of unclear data requests instead of a criminal intent to withhold information. Cancer data requirements are still vague and standards to make any safety judgement by are still undetermined.

TURF

Snow didn't scare Ohio turf show goers

Despite nearly ten inches of snow in two days, more than 1,200 persons interested in turf made it to Dayton for the Ohio Turf Conference in December. Fifty exhibitors received the full attention of delegates as the weather made staying indoors favorable.

The event started with a general turf session. Dr. Michael Hurdzan got right to the point as he explained how golf courses work to protect our natural resources. The Tennessee Valley Authority's research on sulfur-coated urea was discussed and slides showing its benefits as a slow release nitrogen source were shown. Robert Felix, Executive Director of the National Arborist Association pointed out the need for professional tree care in protecting those valuable aesthetic photosynthesizers. Tom Mascaro gave an insight to the value of the Turf Industry in Pennsylvania where it ranks as the second largest agricultural industry. Mr. Mascaro was of the opinion that it might rank first in Ohio.

The annual business meeting of the Ohio Turfgrass Foundation was sparsely attended in the afternoon. A general cry for more participation by members was called for by the president, Lou Greco. The planning of the 1977 conference was explained by committee chairmen, and new officers were elected. Merrill Frank is the new President-elect and Bill Hill was voted as the new vice president. Treasurer is Mark Yoder and Bill Burdick, Gene Buress and John Goodwin joined as new trustees.

The second day the group split into golf course and general grounds sessions. Some speakers presented their topics at both sessions so that nothing of relevance to either was lost. Dr. Harry Niemczyk's description of the Aetennius beetle's life cycle was particularly important. This is a relatively new discovery that is spreading and becoming more of a concern. Dr. Niemczyk, from the Entomology Department of OARDC, also explained an even newer pest discovery, that of the association of the winter grain mite with winter desiccation. The range of this mite is unknown at present and Dr. Niemczyk asked for assistance by notifying him if you discover this pest. It is a dark bodied mite and is easily distinguished by its red legs. Check for this mite next time you note winter desiccation.

The third day the general grounds session gave way to professional lawn services. Dr. Roger Funk of Davey Tree Services gave a rundown on soil pH and its adjustment and Herb Day discussed tank mixing of pesticides and pesticide fertilizer combination, among other topics.

The final morning the groups split again and many more areas specific to fine turf management...