INDEX

aeration of soil 18, 19, 21, 23, 47, 49 anthracnose 31, 59, 60 aerification (see cultivation) algae 6, 7 annual bluegrass anthracnose on 59, 60, 66, 67 competition with bent 24-28 control in perennial rye 32 dollarspot on 61, 62, 66-68, 70-72 fertilization 2, 4, 6, 7, 11, 12 seedhead suppression with PGR 31-33, 117 summer patch disease on 46-51, 70-72 Ataenius beetle 78, 79 athletic field fertilizaton 121-126 injuries related to 88, 120 maintenance 88-93, 121-126 bacterial wilt 69 bentgrass bacterial wilt on 69 competition with annual bluegrass 24-28 cultivation of 18-23 fertilization 2-5, 7-10, 17 herbicide use on 32, 35 snowmold on 55-57 pythium on 66-68 bluegrass billbug 78 broadleaf weeds control research 39-43 effect of shade on control 42 phytotoxicity of herbicides 40 weather effects on 39, 40 calibration of sprayers 97, 98 spreaders 109, 110 Canada Thistle 39, 41 chinchbug 78 chlorosis 10 clippings chlorophyll in 29, 38, 44, 45 effect of PGR on 32 N response on 29, 30 removal 24-27 compaction 14, 15, 18-23, 24, 25 compartmentation of trees 103, 106, 127, 129, 135, 136 copper 6, 7 crabgrass control 32, 34 cultivation effect on species competition 24 effect on preemerge chemical 32, 34

of athletic fields 90, 91 of greens 11, 14-17, 18-23 soil removed by 11, 14, 15 cutworm 79 dollarspot 52, 60-65 drainage 18-20, 23 earthworms 29, 30 establishment 92 fine fescues cultivar evaluations 32, 37 effect of PGR on 117 fungicides application techniques 97-99 formulations 85-87 use 55-72, 84-87 growing degree days 31-33 grubs 44, 45, 78, 79 hazardous waste disposal 94-96 herbicide effects on annual bluegrass 32, 33 formulations 80-83 insects 78, 79 iron 10, 11 irrigation effect on diseases 49, 74, 75 effect on grubs 44, 45 effect on species competition 24-28 effect on wetting agent phytotoxicity 11, 13 scheduling 73-75 Kentucky bluegrass cultivar evaluations 32, 36 dollarspot on 61, 63, 64 melting out on 57, 58 N response on 29, 30 patch disease on 48, 52-54 seedhead suppression with PGR 32, 117 thatch in 29, 30 late fall N 124, 125 lawn care legislation affecting 111-115 professionalism 111, 112 localized dry spots 74 manganese 10, 11 melting out 57, 58, 84 Michigan Turfgrass Foundation 1

```
moisture stress symptoms 73
N fertilization
     annual bluegrass 2, 4, 6, 7, 11, 12, 24, 25
     athletic fields 120-126
     bentgrass 2-5, 7, 10, 17, 55-57
     carriers 1-7, 121, 123, 125
     effect on species competition 24-27
    Kentucky bluegrass 29, 30
     potential losses 120
     relation to disease 123, 126
     with PGR use 116
necrotic ring spot
    fungicides for 70
     symptoms 52-54
overseeding 24
patch disease (see necrotic ring spot, summer patch)
penetrometer 19, 22, 23
perennial ryegrass
     control of annual bluegrass in 32
     cultivar evaluations 32, 38
     dollarspot on 61, 64, 65
     effect of PGR on 117
     red thread on 66, 67, 69, 70
pesticide
     application safety
     disposal of 94-96
     legislation affecting 113, 114, 115
     selection 85, 86
PGR (see plant growth regulator)
pH control 17
phosphorus 10, 17
phytoxicity
     of herbicides 32, 35, 40
     of PGR's 116, 117
     of wetting agents 11, 13
pink patch 52
plant growth regulator (PGR)
     benefits 116-119
     effects on clippings 32
     effects on seedheads 31-33
     effects on species competition 24
     grasses affected 117-119
    phytotoxicity of 32, 116, 117
    weather effects on 32
post emerge herbicides 80-83
potassium fertilization 10, 11, 17
predicting disease incidence 31, 46-49
preemerge herbicides
     effect of cultivation on 32, 34
     use 32, 34, 80, 83
professionalism 111, 112
```

```
141
```

pythium 66, 68 rainfall effect on summer patch 46-49, 51 red thread 52, 66, 67 relative humidity effect on disease 47 Ringer products 29, 30 rooting effect on irrigation scheduling 74 effect on N fertilization 121, 125 Sand Aid 14, 16, 17 sand topdressing 6-9, 14-17, 100, 101 seedhead suppression with PGR 31-33, 117, 118 shade effects on herbicides 40 snow mold 55-57 sod webworm 79 soil moisture effect on cultivation 18-21, 23 effect on fertilization 29 effect on species competition 24-28 effect on summer patch 47-49, 51 irrigation effects 73 soil temperature 47, 48, 51 speedwell 39, 40, 43 sprayer calibration 97, 98 spreader calibration 109, 110 stimpmeter 6, 9 sulfur 6, 7 summer patch prediction model 46-49 symptoms 46-49 treatment 70 syringing 74 tall fescue 117-119 temperature effect on disease 47, 49, 51 effect on seedhead 31, 32 thatch control 29, 30 topdressing 6-9, 14-17 trees biology 127-138 health 102-104, 128 management practices 105-108, 127, 128 pests 102, 103 wounds 105, 127-138 vertical mowing effect on preemerge chemicals 32, 34

wear 17, 25
weed control
 broadleaf 39-43, 80-83
 crabgrass 32, 34, 80, 83
wetting agents 11, 13, 90
white clover 39, 41
wild violet 39, 40, 42
yellow wood sorrel 39, 42