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January 1991-April 1994

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HOEING OR (SOIL(2N)SOLARIZ?) OR FREEZING OR GEESE
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- 7 (S6 AND S1) OR (S6 AND SH=F900)
- 8 S3 OR S7
- 9 S8/ENG
- 10 S9/1991-1994

Cultural and Mechanical Weed Control

1 NAL Call. No.: S1.N32
10 years without herbicides! Fertility practices reduce the
impact of weeds.
Peters, S.
Emmaus, Pa. : Rodale Institute; 1991 Mar.
The New farm v. 13 (3): p. 9-11. ill; 1991 Mar.

Language: English

Descriptors: Pennsylvania; Weeds; Cultural weed control;
Cropping systems; Rotations; Tillage; Planting date

2 NAL Call. No.: QD415.A1J6
2,2'-oxo-1,1'-azobenzene: microbial transformation of rye
(*Secale cereale* L.) allelochemical in field soils by
Acinetobacter calcoaceticus. III. Chase, W.R.; Nair, M.G.;
Putnam, A.R.; Mishra, S.K.
New York, N.Y. : Plenum Press; 1991 Aug.
Journal of chemical ecology v. 17 (8): p. 1575-1584; 1991 Aug.
Includes references.

Language: English

Descriptors: *Secale cereale*; Plant composition;
Allelochemicals; *Acinetobacter calcoaceticus*; Allelopathy;
Microbial activities

Abstract: *Acinetobacter calcoaceticus*, a gram-negative
bacterium isolated from field soil, was found to be
responsible for the biotransformation of 2(3H)-benzoxazolinone
(BOA) to 2,2'-oxo-1,1'-azobenzene (AZOB). Experiments were
conducted to evaluate the transformation of BOA to AZOB by
this microbe in sterile and nonsterile soil. Transformation
studies with soils inoculated with *A. calcoaceticus* indicated
that the production of AZOB increased linearly with the
concentration of BOA in sterile soil and showed a quadratic
trend in nonsterile soils. This also indicated that all soil
types studied for the transformation experiments might contain
A. calcoaceticus capable of the conversion of
benzoxazolinones.

Abiotic and biotic factors affecting *Rhagoletis mendax* [Diptera: Tephritidae] populations in eastern Canadian lowbush blueberry fields. Geddes, P.S.; Le Blanc, J.P.R.; Yule, W.N. Saint-Hyacinthe : Quebec Society for the Protection of Plants; 1992 Aug. Phytoprotection v. 73 (2): p. 73-78; 1992 Aug. Includes references.

Language: English

Descriptors: Nova Scotia; New Brunswick; *Rhagoletis mendax*; *Vaccinium angustifolium*; Infestation; Soil acidity; Migration; Prescribed burning; Weeds

4 NAL Call. No.: 1.962 C5T71
Advantages of an effective weed control program for *Populus* hybrids. Bowersox, T.W.; Stover, L.R.; Strauss, C.H.; Blankenhorn, P.R. Washington, D.C. : The Service; 1992. Tree planters' notes - U.S. Department of Agriculture, Forest Service v. 43 (3): p. 81-86; 1992. Includes references.

Language: English

Descriptors: Pennsylvania; *Populus trichocarpa*; *Populus maximowiczii*; Hybrids; Weed control; Mechanical methods; Chemical control; Glyphosate; Forest plantations

5 NAL Call. No.: QD415.A1J6
Allelopathic activity in wheat-conventional and wheat-no-till soils: development of soil extract bioassays. Blum, U.; Gerig, T.M.; Worsham, A.D.; Holappa, L.D.; King, L.D. New York, N.Y. : Plenum Publishing Corporation; 1992 Dec. Journal of chemical ecology v. 18 (12): p. 2191-2221; 1992 Dec. Includes references.

Language: English

Descriptors: North Carolina; Cabt; *Triticum aestivum*; *Glycine max*; Allelopathy; Germination; Bioassays; Phenolic acids; Hydroxamic acids; Soil analysis; Extraction; Tillage; *Pharbitis hederacea*; *Trifolium incarnatum*; Weed control

Abstract: The primary objective of this research was to determine if soil extracts could be used directly in bioassays for the detection of allelopathic activity. Here we describe: (1) a way to estimate levels of allelopathic compounds in soil; (2) how pH, solute potential, and/or ion content of extracts may modify the action of allelopathic compounds on germination and radicle and hypocotyl length of crimson clover (*Trifolium incarnatum* L.) and ivy-leaved morning glory (*Ipomoea hederacea* L. Jacquin.), and 3) how biological activity of soil extracts may be determined. A water-autoclave extraction procedure was chosen over the immediate-water and 5-hr EDTA extraction procedures, because the autoclave procedure was effective in extracting solution and reversibly bound ferulic acid as well as phenolic acids from wheat debris. The resulting soil extracts were used directly in germination bioassays. A mixture of phenolic acids similar to that obtained from wheat-no-till soils did not affect germination of clover or morning glory and radicle and hypocotyl length of morning glory. The mixture did, however, reduce radicle and hypocotyl length of clover. Individual

phenolic acids also did not inhibit germination, but did reduce radicle and hypocotyl length of both species. 6-MBOA (6-methoxy-2,3-benzoxazinone), a conversion product of 2-o-glucosyl-7-methoxy-1,4-benzoxazin-3-one, a hydroxamic acid in living wheat plants, inhibited germination and radicle and hypocotyl length of clover and morning glory. 6-MBOA, however, was not detected in wheat debris, stubble, or soil extracts. Total phenolic acids (FC) in extracts were determined with Folin and Ciocalteu's phenol reagent. Levels of FC in wheat-conventional-till soil extracts were not related to germination or radicle and hypocotyl length either species. Levels of FC in wheat-no-till soil extracts were also not related to germination of clover or morning glory, but were inversely related to radicle and hypocotyl length of clover and morning glory. FC values, solute potential, and acidity of wheat-no-till soil extracts appeared to be independent (additive) in action on clover radicle and hypocotyl length. Radicle and hypocotyl length of clover was inversely related to increasing FC and solute potential and directly related to decreasing acidity. Biological activity of extracts was determined best from slopes of radicle and hypocotyl length obtained from bioassays of extract dilutions, Thus, data derived from the water-autoclave extraction procedure, FC analysis, and slope analysis for extract activity in conjunction with data on extract pH and solute potential can be used to estimate allelopathic activity of wheat-no-till soils

6 NAL Call. No.: 79.9 S08 (P)
Allelopathic cover crops to reduce herbicide input.
Worsham, A.D.
Raleigh, N.C. : The Society .; 1991.
Proceedings - Southern Weed Science Society v. 44: p. 58-69;
1991. Paper
presented at the meeting on "Perception: Fact or Fiction",
held January 14-16, 1991, San Antonio, Texas. Includes
references.

Language: English

Descriptors: North Carolina; Cover crops; Allelopathy;
Herbicides; Application rates; Weed control

7 NAL Call. No.: S596.53.S69
Allelopathic effect of sweetpotato (*Ipomoea batatas*) cultivars
on certain weed
and vegetable species.
Reinhardt, C.F.; Meissner, R.; Nel, P.C.
Pretoria : Bureau for Scientific Publications, Foundation for
Education, Science and Technology, [1984-; 1993 Feb.
South African journal of plant and soil; Suid-Afrikaanse
tydskrif vir plant en
grond v. 10 (1): p. 41-44; 1993 Feb. Includes references.

Language: English

Descriptors: *Ipomoea batatas*; Cultivars; Allelopathy

8 NAL Call. No.: SB617.45.W47N69 1991
Allelopathy.
Stevens, K.L.
Boulder : Westview Press; 1991.

Noxious range weeds / edited by Lynn F. James ... [et al.]..
p. 127-137; 1991.
(Westview special studies in agriculture science and policy).
Includes references.

Language: English

Descriptors: Weeds; Rangelands; Plant interaction; Plant
competition

9 NAL Call. No.: S51.E2
Allelopathy as a factor in the pasture ecosystem.
Smith, A.E.
Athens, Ga. : The Stations; 1991 May.
Research bulletin - University of Georgia, Agricultural
Experiment Stations
(399): 11 p.; 1991 May. Includes references.

Language: English

Descriptors: Georgia; Pastures; Fodder crops; Weeds;
Allelopathy

10 NAL Call. No.: SB610.W39
Alternative weed management systems for the production of
kidney beans
(Phaseolus vulgaris).
Burnside, O.C.; Krause, N.H.; Wiens, M.J.; Johnson, M.M.;
Ristau, E.A.
Champaign, Ill. : The Weed Science Society of America; 1993
Oct. Weed technology : a journal of the Weed Science Society
of America v. 7 (4): p. 940-945; 1993 Oct. Includes
references.

Language: English

Descriptors: Minnesota; Cabt; Phaseolus vulgaris; Weed
control; Irrigated
conditions; Setaria viridis; Solanum sarrachoides; Crop weed
competition; Cover crops; Tillage; Cultural weed control;
Sustainability; Crop yield; Economic analysis; Herbicides;
Cultural methods

11 NAL Call. No.: QH541.5.F6F67
Alternatives to herbicides: comparison of two mechanical
methods for control
of competing vegetation in two Jeffrey pine plantations.
Weaver, S.E.
Redding, Calif. : The Conference; 1992.
Proceedings ... annual Forest Vegetation Management
Conference. p. 104-108; 1992. Meeting held on January 14-16,
1992, Eureka, California.

Language: English

Descriptors: California; Cabt; Pinus jeffreyi; Forest
plantations; Undergrowth; Understory; Manual weed control;
Weeding; Ripping; Cutting; Plant
height

12 NAL Call. No.: QH540.E23

Application of weed seedbank ecology to low-input crop management. Forcella, F.; Eradat-Oskoui, K.; Wagner, S.W. Tempe, Ariz. : Ecological Society of America; 1993 Feb. Ecological applications v. 3 (1): p. 74-83; 1993 Feb. Includes references.

Language: English

Descriptors: Minnesota; Weeds; Weed biology; Seed banks; Weed control; *Amaranthus retroflexus*; *Chenopodium album*; *Setaria* (gramineae); *Setaria viridis*; Seed dormancy; Seedling emergence; Buried seeds; Soil temperature; Tillage; Cultural weed control; Sustainability; Plant density

13 NAL Call. No.: 275.29 OK41C
Atrazine and burning in tallgrass prairie infested with prairie threeawn.
Engle, D.M.; Bidwell, T.G.; Stritzke, J.F.; Rollins, D. Stillwater, Okla. : The Service; 1992 Feb. Circular E - Oklahoma State University, Cooperative Extension Service (905): p. 7; 1992 Feb. In the series analytic: Range research highlights, 1983-1991 / edited by T.G. Bidwell, D. Titus and D. Cassels.

Language: English

Descriptors: Oklahoma; Range management; Weed control; Atrazine; Prescribed burning; Savannas; Field tests

14 NAL Call. No.: 275.29 OK41C
Atrazine, spring burning, and nitrogen for improvement of tallgrass prairie.
Gillen, R.L.; Rollins, D.; Stritzke, J.F. Stillwater, Okla. : The Service; 1992 Feb. Circular E - Oklahoma State University, Cooperative Extension Service (905): p. 7-8; 1992 Feb. In the series analytic: Range research highlights, 1983-1991 / edited by T.G. Bidwell, D. Titus and D. Cassels.

Language: English

Descriptors: Range management; Atrazine; Prescribed burning; Nitrogen; Weed control; Brush control; Prairies; Field tests

15 NAL Call. No.: 60.18 J82
Avian community response to fire and mechanical shrub control in south Florida.
Fitzgerald, S.M.; Tanner, G.W. Denver, Colo. : Society for Range Management; 1992 Jul. Journal of range management v. 45 (4): p. 396-400; 1992 Jul. Includes references.

Language: English

Descriptors: Florida; Prairies; Brush control; Vegetation management; Prescribed burning; Cultural weed control; Winter; Summer; Birds; Communities; Community ecology; Seasonal abundance

Abstract: Effects of prescribed fire and roller chopping applied in 2 seasons on woody vegetation and the associated avian community of a southwestern Florida former dry prairie were studied. There were 5 vegetation treatments with 2 replications of each; treatments were control, winter burn, winter chop, summer burn, and summer chop. Percent shrub cover was sampled with line intercept transects. Birds were censused 25 times using the variable circular plot method. Burning in either season reduced shrub cover temporarily; chopping in either season reduced shrub cover significantly and it remained reduced throughout the 15 months of this study. Bird species richness and abundance were similar in control and burn plots. Birds were not seen in summer chop plots up to 5 months posttreatment. Bird species richness and abundance remained low in both winter and summer chop plots. Bird species that were observed in chop plots were mostly open country, grassland inhabitants, indicating a trend toward prairie restoration.

16 NAL Call. No.: SB610.W39
Banded herbicide applications and cultivation in a modified no-till corn (*Zea mays*) system.
Eadie, A.G.; Swanton, C.J.; Shaw, J.E.; Anderson, G.W.
Champaign, Ill. : The Society; 1992 Jul.
Weed technology : a journal of the Weed Science Society of America v. 6 (3): p. 535-542; 1992 Jul. Includes references.

Language: English

Descriptors: Ontario; *Zea mays*; Cultivars; No-tillage; Atrazine; Metolachlor; Herbicide mixtures; Application rates; Band placement; Broadcasting; Interrow cultivation; Integrated pest management; Weed control; Weeds; Biomass production; Crop yield

17 NAL Call. No.: S605.5.074
Beating the weeds in upstate New York.
Jesiolowski, J.
Emmaus, Pa. : Rodale Press, Inc; 1992 Jul.
Organic gardening v. 39 (6): p. 54-56; 1992 Jul.

Language: English

Descriptors: New York; Weeds; Cultural weed control; Organic farming; Cultivation

18 NAL Call. No.: A00109
The better way...controlling weeds with intercropping.
Washington, DC : National Biotechnology Policy Center of the National Wildlife Federation; 1991 Dec.
The gene exchange v. 2 (4): p. 8; 1991 Dec.

Language: English

Descriptors: *Trifolium repens*; *Zea mays*; Intercropping; Crop yield

19 NAL Call. No.: SB950.A1P3
Biological control of *Parthenium hysterophorus* L. (Asteraceae) by *Cassia uniflora* Mill (Leguminosae), in Bangalore, India.

Joshi, S.
London : Taylor & Francis; 1991 Apr.
Tropical pest management v. 37 (2): p. 182-184; 1991 Apr.
Includes references.

Language: English

Descriptors: Karnataka; Parthenium hysterophorus; Weed control; Biological control; Cassia; Biological control agents; Competitive ability; Allelopathy; Seeds; Leachates; Germination inhibitors; Seed germination

20 NAL Call. No.: 275.29 W27PN
Blackgrass *Alopecurus myosuroides* Huds.
Aldrich-Markham, S.
Corvallis, Or. : The Service; 1992 Jan.
PNW - Pacific Northwest Extension Publication, Washington, Oregon, and Idaho State Universities, Cooperative Extension Service (377): 4 p.; 1992 Jan. In
Subseries: Weeds. Includes references.

Language: English

Descriptors: Washington; Oregon; *Alopecurus myosuroides*; Weed control; No-tillage; Cultural control; Plowing; Herbicides

21 NAL Call. No.: SB950.A1I66
Brassica alternatives to herbicides and soil fumigants.
Grossman, J.
Berkeley, CA : Bio-Integral Resource Center,; 1993 Jul.
The IPM practitioner : the newsletter of integrated pest management v. 15 (7): p. 1-10; 1993 Jul. Includes references.

Language: English

Descriptors: Crops; Weed control; Brassica; Biological control; Live mulches; Allelopathy; Cover crops; Plant disease control; Pest control; Cultural control; Nematode control; Green manures; Soil solarization; Plant parasitic nematodes; Alternative farming

22 NAL Call. No.: SB610.W39
Canada thistle (*Cirsium arvense*) control with disking and herbicides.
Zimdahl, R.L.; Foster, G.
Champaign, Ill. : The Weed Science Society of America; 1993 Jan.
Weed technology : a journal of the Weed Science Society of America v. 7 (1): p. 146-149; 1993 Jan. Includes references.

Language: English

Descriptors: *Cirsium arvense*; Weed control; Chemical control; Cultural weed control; Discing; Chlorsulfuron; Clopyralid; Dicamba; Glyphosate; Picloram; 2,4-d; Application date; Timing; Integrated control

23 NAL Call. No.: S605.5.B5
Changing perceptions of allelopathy and biological control.

Lovett, J.V.
Oxon : A B Academic Publishers; 1991.
Biological agriculture and horticulture : an international
journal v. 8 (2): p. 89-100; 1991. Includes references.

Language: English

Descriptors: Alternative farming; Sustainability; Farming
systems; Biological
control; Allelopathy; Allelochemicals; Responses; Plant
protection; Weed
control; Biological control agents; Mycoherbicides; Cost
benefit analysis; Control methods; Crop production; Reviews

24 NAL Call. No.: A99.9 F764U
Chemical and mechanical control of false hellebore (*Veratrum
californicum*) in
an alpine community.
Anderson, V.J.; Thompson, R.M.
Ogden, Utah : U.S. Department of Agriculture, Forest Service,
Intermountain
Research Station; 1993 Dec.
Research paper INT / (469): 6 p.; 1993 Dec. Includes
references.

Language: English

Descriptors: Utah; Cabt; *Veratrum californicum*; Weed control;
Mechanical
methods; Herbicides; Rotary cultivators

25 NAL Call. No.: S79.E3
Chemical, mechanical, and economic relationships of weed
control methods in
Mississippi cotton.
Snipes, C.E.; Spurlock, S.R.
Mississippi State, Miss. : The Station; 1992 Aug.
Bulletin - Mississippi Agricultural and Forestry Experiment
Station (984): 9
p.; 1992 Aug. Includes references.

Language: English

Descriptors: Mississippi; *Gossypium hirsutum*; Weed control;
Chemical control; Fluometuron; Application methods; Crop weed
competition; Cultural methods; Crop yield; Cottonseed

26 NAL Call. No.: 79.8 W41
Common cocklebur (*Xanthium strumarium*) control in soybean
(*Glycine max*) with
reduced bentazon rates and cultivation.
Buhler, D.D.; Gunsolus, J.L.; Ralston, D.F.
Champaign, Ill. : Weed Science Society of America; 1993 Jul.
Weed science v. 41 (3): p. 447-453; 1993 Jul. Includes
references.

Language: English

Descriptors: Minnesota; Cabt; *Glycine max*; Weed control;
Chemical control; *Xanthium strumarium*; Bentazone; Application
rates; Broadcasting; Band
placement; Cultural weed control; Integrated control; Interrow

cultivation; Crop yield; Precipitation; Environmental factors

Abstract: Common cocklebur is a very competitive and difficult to control weed species in soybean production. Field research was conducted at Rosemount, MN, from 1989 to 1991 to evaluate reduced rates of bentazon applied broadcast or banded over the crop row in combination with interrow cultivation for common cocklebur control in soybean. Bentazon at 0.6 kg ai ha⁻¹ applied in a 38-cm-wide band over the soybean row followed by two cultivations controlled almost 90% of the common cocklebur when environmental conditions were favorable, and the majority of the common cocklebur emerged prior to bentazon application. However, when precipitation was below normal prior to bentazon application and a high proportion of the common cocklebur emerged after the initial bentazon application, sequential bentazon treatments controlled more common cocklebur and resulted in greater soybean yields than combinations of bentazon plus cultivation. Differences in soybean yield were attributed to differences in common cocklebur control rather than injury from cultivation or bentazon.

27 NAL Call. No.: 275.29 W27Pn
Common velvetgrass & German velvetgrass--*Holcus lanatus* L. and *H. mollis*.
Fitzsimmons, J.P.; Burrill, L.C.
Corvallis, Or. : Washington, Oregon, and Idaho State Universities, Cooperative Extension Service; 1993 Mar.
PNW (441): 2 p.; 1993 Mar. In subseries: Weeds.

Language: English

Descriptors: Idaho; Cabt; *Holcus lanatus*; *Holcus mollis*;
Weeds; Chemical vs.
cultural weed control

28 NAL Call. No.: SB950.A1P3
A comparison of methods for the control of *Cyperus rotundus* L.
Hawton, D.; Howitt, C.J.; Johnson, I.D.G.
London : Taylor & Francis; 1992 Jul.
Tropical pest management v. 38 (3): p. 305-309; 1992 Jul.
Includes references.

Language: English

Descriptors: Queensland; *Cyperus rotundus*; Glyphosate;
Application rates; Chemical control; Cultural control;
Herbicides; Weed control

29 NAL Call. No.: 450 C16
A comparison of the freezing tolerance of downy brome,
Japaneses brome and
Norstar winter wheat.
O'Connor, B.J.; Paquette, S.P.; Gusta, L.V.
Ottawa : Agricultural Institute of Canada; 1991 Apr.
Canadian journal of plant science; Revue canadienne de
phytotechnie v. 71 (2): p. 565-569; 1991 Apr. Includes
references.

Language: English

Descriptors: Saskatchewan; Triticum aestivum; Bromus tectorum; Bromus japonicus; Freezing; Cold tolerance; Cultivars; Crop weed competition

30 NAL Call. No.: S605.5.B5
Comparison of weed biomass and flora in four cover crops and a subsequent lettuce crop on three New England organic farms.
Schonbeck, M.; Browne, J.; Deziel, G.; DeGregorio, R.
Oxon : A B Academic Publishers; 1991.
Biological agriculture and horticulture : an international journal v. 8 (2): p. 123-143; 1991. Includes references.

Language: English

Descriptors: Fagopyrum esculentum; Fagopyrum tataricum; Secale cereale; Avena sativa; Sorghum bicolor; Trifolium pratense; Lolium multiflorum; Echinochloa crus-galli; Cover crops; Lactuca sativa; Cultural weed control; Weeds; Biomass; Botanical composition; Dry matter accumulation; Coverage; Crop residues; Crop weed competition; Environmental factors; Climatic factors; Soil fertility; Crop yield; Establishment; Regrowth; Suppression; Tillage

31 NAL Call. No.: SB317.5.H68
Comparisons of shredded newspaper and wheat straw as crop mulches. Munn, D.A.
Alexandria, VA : American Society for Horticultural Science, c1991-; 1992 Jul.
HortTechnology v. 2 (3): p. 361-366; 1992 Jul. Includes references.

Language: English

Descriptors: Glycine max; Lycopersicon esculentum; Zea mays; Mulches; Newspapers; Waste utilization; Wheat straw; Mulching; Cultural weed control; Soil water content; Soil temperature; Crop yield

32 NAL Call. No.: S539.5.J68
Competitiveness of lathyrus grown in monoculture and intercropping systems with cereals.
Wall, D.A.; Campbell, C.G.
Madison, WI : American Society of Agronomy, c1987-; 1993 Jul.
Journal of production agriculture v. 6 (3): p. 399-403; 1993 Jul. Includes references.

Language: English

Descriptors: Lathyrus sativus; Cereals; Volunteer plants; Intercropping; Crop weed competition; Interspecific competition; Crop yield

33 NAL Call. No.: QH301.A76
Control and management of Reynoutria species (Knotweed).
Child, L.E.; De Wall, L.C.; Wade, P.M.; Palmer, J.P.

Wellesbourne, Warwick : The Association of Applied Biologists; 1992.

Aspects of applied biology (29): p. 295-307; 1992. In the series analytic: Vegetation management in forestry, amenity and conservation areas. Paper presented at the conference of the Association, April 7-9, 1992, University of York, England. Literature review. Includes references.

Language: English

Descriptors: Reynoutria; Reynoutria japonica; Weed control; Chemical control; Manual weed control; Mechanical methods; Biological control; Literature reviews

34 NAL Call. No.: SB610.W39
Control of downy brome (*Bromus tectorum*) and volunteer wheat (*Triticum aestivum*) in fallow with tillage and pronamide.
Ogg, A.G. Jr
Champaign, Ill. : The Weed Science Society of America; 1993 Jul. Weed technology : a journal of the Weed Science Society of America v. 7 (3): p. 686-692; 1993 Jul. Includes references.

Language: English

Descriptors: Washington; Cabt; Winter; Fallow; Integrated control; Weed control; *Bromus tectorum*; *Triticum aestivum*; Crop plants as weeds; Volunteer plants; Autumn; No-tillage; Chemical control; Application rates; Propyzamide; Cultural weed control

35 NAL Call. No.: 100 C12Cag
Controlling dodder in alfalfa hay calls for an integrated procedure.
Orloff, S.B.; Cudney, D.W.
Oakland, Calif. : Division of Agriculture and Natural Resources, University of California; 1993 Nov.
California agriculture v. 47 (6): p. 32-35; 1993 Nov.

Language: English

Descriptors: California; Cabt; *Cuscuta*; *Medicago sativa*; Weed control; Mowing; Burning; Costs; Comparisons

36 NAL Call. No.: SB321.G85
Coping with weeds organically.
Grubinger, V.
Storrs, Conn. : Coop. Ext. Serv., USDA, College of Agriculture & Natural Resources, Univ. of Conn; 1993 Jul.
The Grower : vegetable and small fruit newsletter v. 93 (7): p. 1-4; 1993 Jul.

Language: English

Descriptors: Weed control; Cultural weed control; Rotations; Mulching; Weeders; Identification; Tillage

37 NAL Call. No.: SB610.W39
Cost effective vegetation management on a recently cleared electric transmission line right-of-way.
Nowak, C.A.; Abrahamson, L.P.; Neuhauser, E.F.; Foreback, C.G.; Freed, H.D.; Shaheen, S.B.; Stevens, C.H.
Champaign, Ill. : The Weed Science Society of America; 1992 Oct. Weed technology : a journal of the Weed Science Society of America v. 6 (4): p. 828-837; 1992 Oct. Includes references.

Language: English

Descriptors: New York; Cabt; Vegetation management; Power lines; Weed control; Cultural control; Chemical control; Application methods; 2,4-d; Picloram; Triclopyr; Cost effectiveness analysis

38 NAL Call. No.: SB610.W39
Cost-efficient weed control in soybean (*Glycine max*) with cultivation and banded herbicide applications.
Poston, D.H.; Murdock, E.C.; Toler, J.E.
Champaign, Ill. : The Weed Science Society of America; 1992 Oct. Weed technology : a journal of the Weed Science Society of America v. 6 (4): p. 990-995; 1992 Oct. Includes references.

Language: English

Descriptors: South Carolina; Cabt; *Glycine max*; Cultivation; Band placement; Width; Crop yield; Alachlor; Imazaquin; Weed control; Chemical control; Cultural control; Returns

39 NAL Call. No.: SB610.W39
Cotton (*Gossypium hirsutum*) yield response to cultivation timing and frequency.
Snipes, C.E.; Colvin, D.L.; Patterson, M.G.; Crawford, S.H.
Champaign, Ill. : The Society; 1992 Jan.
Weed technology : a journal of the Weed Science Society of America v. 6 (1): p. 31-35; 1992 Jan. Includes references.

Language: English

Descriptors: Mississippi; Alabama; Florida; Louisiana; *Gossypium hirsutum*; Cultural weed control; Tillage; Timing; Crop yield; Seeds

40 NAL Call. No.: 79.8 W41
Cotton (*Gossypium hirsutum*) yield response to mechanical and chemical weed control systems.
Snipes, C.E.; Mueller, T.C.
Champaign, Ill. : Weed Science Society of America; 1992 Apr. Weed science v. 40 (2): p. 249-254; 1992 Apr. Includes references.

Language: English

Descriptors: *Gossypium hirsutum*; Weed control; Chemical

control; Cultural weed
control; Weeding; Fluometuron; Msma; Crop weed competition;
Ipomoea; Sida
spinosa; Sesbania exaltata; Plant density; Weeds; Crop yield;
Yield losses

Abstract: Cotton yield response was evaluated in 1987, 1988, and 1989 when weeds were managed with preemergence fluometuron [none (0%), band (50%), or broadcast (100%) surface coverage], cultivation (none, one, two, or three times), and postdirected fluometuron + MSMA. Weed densities (primarily prickly sida, morningglories, and hemp sesbania) varied widely among years and were directly related to early season rainfall. Postdirected herbicide application or cultivation(s) had little effect on weed density. The use of a banded fluometuron application reduced weed biomass 28 to 47%. A further decrease was observed when preemergence fluometuron was increased from banded to broadcast coverage. Seed cotton yields were low with no preemergence fluometuron. Banded fluometuron and at least one cultivation had yields similar to broadcast fluometuron only. Cotton yields were related to weed density and weed biomass in a hyperbolic relationship. Low weed densities caused more yield loss per unit weed density than higher densities.

41 NAL Call. No.: SB610.W39
Cover crop management and weed control in corn (*Zea mays*).
Johnson, G.A.; DeFelice, M.S.; Helsel, Z.R.
Champaign, Ill. : The Weed Science Society of America; 1993
Apr. Weed technology : a journal of the Weed Science Society
of America v. 7 (2): p. 425-430; 1993 Apr. Includes
references.

Language: English

Descriptors: Missouri; Cabt; *Zea mays*; Cover crops; *Secale cereale*; *Vicia villosa*; Weed control; *Setaria faberi*; *Xanthium strumarium*; No-tillage; Tillage; Stubble; Crop yield; Grain; Cultural weed control; Chemical control; Atrazine; Glyphosate

42 NAL Call. No.: SB610.2.B74
Cover plants in field grown vegetables: prospects and limitations. Muller-Scharer, H.; Potter, C.A.
Surrey : BCPC Registered Office; 1991.
Brighton Crop Protection Conference-Weeds v. 2: p. 599-604; 1991. Conference held November 18-21, 1991, Brighton, England. Includes references.

Language: English

Descriptors: *Allium porrum*; Weed control; Cultural control

43 NAL Call. No.: 10 Ex72
Crop and soil responses to post-emergence tillage and weed control in lowland rice.
Siopongco, J.D.L.C.; Ingram, K.T.; Pablico, P.P.; Moody, K.
Cambridge : Cambridge University Press; 1994 Jan.
Experimental agriculture v. 30 (1): p. 95-103; 1994 Jan.
Includes references.

Language: English

Descriptors: India; Cabt; Oryza sativa; Lowland areas; Crop management; Crop establishment; Emergence; Flooded rice; Plowing; Soil physical properties; Rooting; Weeds; Weed control; Cultural control; Chemical control; Herbicides; Crop yield

44 NAL Call. No.: 64.8 C883

Crop ecology, production & management.
Mumera, L.M.; Below, F.E.
Madison, Wis. : Crop Science Society of America, 1961-; 1993 Jul. Crop science v. 33 (4): p. 758-763; 1993 Jul. Includes references.

Language: English

Descriptors: Kenya; Cabt; Zea mays; Parasitic weeds; Striga hermonthica; Pest resistance; Nitrogen fertilizers; Application rates; Nutrient availability; Nutrient uptake; Soil fertility; Source sink relations; Assimilation; Dry matter accumulation; Carbohydrates; Plant composition; Crop yield; Grain; Harvest index; Cultural weed control

Abstract: Striga [*Striga hermonthica* (Del.) Benth.] is a parasitic angiosperm that infects tropical cereals causing severe yield losses. This study was conducted to determine if Striga damage in maize (*Zea mays* L.) can be mediated by the amount, form, and timing of N availability; and if the efficacy of N is contingent upon its regulation of assimilate partitioning. Two experiments were conducted in Kibos, western Kenya, in 1989 and 1990 on fields that had uniform Striga infestation. One experiment evaluated N rates of 0, 30, 60, and 90 kg N ha⁻¹ supplied as either urea, calcium ammonium nitrate, ammonium sulfate, or ammonium sulfate plus the nitrification inhibitor dicyandiamide, while a second experiment evaluated similar N rates applied at 14, 21, 28, and 35 d after planting. Although Striga infection generally declined with increasing N availability, the impact was partially dependent on the severity of infestation as all N rates decreased infection in 1990, while only 90 kg N ha⁻¹ reduced infection in 1989. Under high parasite densities in 1989, only urea reduced Striga (26%), while in 1990, infection was significantly decreased (an average of 30%) by all sources of N. In both years, N application at 28 d after planting resulted in the least Striga infection. Although assimilate partitioning during vegetative growth was unresponsive to N treatments, N availability during reproductive growth altered dry matter partitioning in favor of the ear over the vegetation. Averaged across N rates, this alteration resulted in increases in grain yield (64%) and harvest index (27%), and a decrease in source-sink partitioning (41%) and in the concentration of nonstructural carbohydrates in the stalk (16%). Based on these data, N fertility can mediate the impact of Striga infestation on maize by altering assimilate partitioning in favor of the ear.

45 NAL Call. No.: SB610.W39

Crop residue reduces jointed goatgrass (*Aegilops cylindrica*) seedling growth.
Anderson, R.L.

Champaign, Ill. : The Weed Science Society of America; 1993
Jul. Weed technology : a journal of the Weed Science Society
of America v. 7 (3): p. 717-722; 1993 Jul. Includes
references.

Language: English

Descriptors: Colorado; Cabt; Triticum aestivum; Cultural weed
control; Aegilops cylindrica; Allelopathy; Crop residues; Zea
mays; Carthamus
tinctorius; Panicum miliaceum; Sorghum bicolor; Nitrogen
fertilizers; Immobilization; Nitrogen; Integrated control;
Chemical control; Seedling
stage; Triazinone herbicides

46 NAL Call. No.: QH540.E23
Crop rotation and intercropping strategies for weed
management. Liebman, M.; Dyck, E.
Tempe, Ariz. : Ecological Society of America; 1993 Feb.
Ecological applications v. 3 (1): p. 92-122; 1993 Feb.
Includes references.

Language: English

Descriptors: Weeds; Cultural weed control; Weed biology;
Rotations; Intercropping; Seed banks; Plant density; Crop weed
competition; Allelopathy

47 NAL Call. No.: 4 AM34P
Cropping history, tillage, and herbage effects on weed flora
composition in
irrigated corn.
Ball, D.A.; Miller, S.D.
Madison, Wis. : American Society of Agronomy, [1949-; 1993
Jul. Agronomy journal v. 85 (4): p. 817-821; 1993 Jul.
Includes references.

Language: English

Descriptors: Wyoming; Cabt; Zea mays; Phaseolus vulgaris; Beta
vulgaris; Cropping systems; Rotations; Continuous cropping;
Sequences; Conservation; Conservation tillage; Plowing; Row
tillage; Weeds; Population density; Flora; Setaria viridis;
Amaranthus retroflexus; Solanum sarrachoides; Botanical
composition; Weed control; Chemical control; Herbicides;
Application rates; Irrigated conditions

Abstract: A change from conventional tillage to a
conservation tillage system can lead to shifts in weed species
composition. A weed species shift can result in the emergence
of weeds tolerant of existing weed management practices. An
understanding of crop production effects on weed species
shifts can lead to development of improved weed management
strategies. Research evaluated the effects of primary tillage
(moldboard and chisel plowing), row cultivation, and herbicide
input level on weed species changes over a 5-yr period in
three irrigated cropping sequences. The cropping sequences
consisted of continuous corn (*Zea mays* L.) for 5 yr (CN),
pinto bean (*Phaseolus vulgaris* L.) for 3 yr followed by corn
for 2 yr (PB), and sugar beet (*Beta vulgaris* L.) for 2 yr
followed by corn for 3 yr (SB). Over the course of the 5-yr
study, total weed density increased from 1 to 245 weeds PB,
from 100 to 209 in SB, and from 2 to 190 in CN cropping

sequences in chisel-plowed treatments, while weed density increases in moldboard-plowed treatments were negligible. General observation of each cropping sequence indicated that during the final year, green foxtail [*Setaria viridis* (L.) P. Beauv.] was most prevalent in the CN sequence, redroot pigweed (*Amaranthus retroflexus* L.) and hairy nightshade (*Solanum sarruroides* Sendtner) in the PB sequence, and redroot pigweed and green foxtail in the SB sequence. However, weed species differences due to cropping sequences were evident only in treatments receiving chisel plow primary tillage. Further, the increase in redroot pigweed density due to cropping sequence and chisel plowing was diminished by high herbicide input levels. Row cultivation also had an influence on the weed species composition when compared to uncultivated plots.

48 NAL Call. No.: 79.9 C122

Cultivation for weed control.

Leap, L.E.

Fremont, Calif. : California Weed Conference; 1991.

Proceedings - California Weed Conference (43rd): p. 179-182;

1991. Meeting

held January 21-23, 1991, Santa Barbara, California.

Language: English

Descriptors: Cultural weed control; Tillage

49 NAL Call. No.: 4 AM34P

Cultural factors for minimizing bermudagrass invasion into tall fescue turf.

Brede, A.D.

Madison, Wis. : American Society of Agronomy; 1992 Nov.

Journal of the American Society of Agronomy v. 84 (6): p.

919-922; 1992 Nov.

Includes references.

Language: English

Descriptors: Oklahoma; *Festuca arundinacea*; Lawns and turf;

Cultural weed

control; *Cynodon dactylon*; Cutting height; Sowing rates;

Nitrogen fertilizers; Application rates

Abstract: Tall fescue (*Festuca arundinacea* Schreb.) is becoming increasingly popular for turf in areas where bermudagrass [*Cynodon dactylon* L. (Pers.)] has traditionally been grown. Volunteer bermudagrass can be a serious weed problem in tall fescue lawns, and presently there are no reliable herbicides to eradicate bermudagrass without injury to the fescue. The purpose of this study was to examine multiple cultural factors to see if a combination of treatments might be used to prevent bermudagrass invasion into fescue turf. Cutting height (19 and 57 mm), fescue cultivar ('Kentucky-31' and 'Mustang'), fescue seeding rate [2100, 12 900, and 34 400 pure-live seeds (PLS) m⁻²], fertilization rate (49 and 244 kg N ha⁻¹ yr⁻¹), and source of bermudagrass introduction [seed, rhizomes, or stolons (clippings)] were examined in this 2-yr field study performed on Kirkland silt loam soil (fine, mixed, thermic, Udertic Paleustolls) in central Oklahoma. No bermudagrass invaded plots that were seeded to the two higher fescue seeding rates and mowed at the higher cutting height. The greatest number of bermudagrass originations (6 crowns m⁻²)

and amount of stolon coverage (42%) occurred in plots of Mustang seeded to the lowest seeding rate, mowed at the lower cutting height, and fertilized at the heavier rate, with seed as the source of bermudagrass introduction. In conclusion, if tall fescue is managed like bermudagrass turf (closer mowing, higher fertilization), then the stand may eventually give way to invading bermudagrass.

50 NAL Call. No.: aZ5071.N3
Cultural or mechanical weed control--January 1979-April 1991.
MacLean, J.T.
Beltsville, Md. : The Library; 1991 Jul.
Quick bibliography series - U.S. Department of Agriculture,
National
Agricultural Library (U.S.). (91-119): 21 p.; 1991 Jul.
Updates QB 90-40.
Bibliography.

Language: English

Descriptors: Weed control; Cultural methods; Mechanical methods; Bibliographies

51 NAL Call. No.: SD13.C35
Cutting, burning, and mulching to control Kalmia: results of a greenhouse experiment.
Mallik, A.U.
Ottawa, Ont. : National Research Council of Canada; 1991 Mar.
Canadian journal of forest research; Revue canadienne de recherche forestiere
v. 21 (3): p. 417-420; 1991 Mar. Includes references.

Language: English

Descriptors: Kalmia angustifolia; Weed control; Cutting; Burning; Mulching; Mechanical methods; Regrowth

Abstract: A greenhouse experiment was conducted to study the effect of cutting, cutting plus burning, and mulching treatments on Kalmia regrowth. Kalmia plants were transplanted into plastic buckets, and the treatments were applied in the greenhouse. After 8 months, the plants receiving cutting and cutting plus burning treatments showed no significant difference in the number and length of new sprouts compared with the control. However, the sprouts that developed after the cutting and cutting plus burning treatments were robust, with significantly higher dry weights compared with the control. Although there was no significant difference in the number of rhizomes between these treatments, rhizome lengths and dry weights were significantly smaller than those of the control. Mulching treatments dramatically reduced Kalmia regrowth in terms of both aboveground and belowground components. A field trial is recommended for Kalmia control in central Newfoundland using mulching equipment.

52 NAL Call. No.: SB950.A1I66
Designing weeds out of urban landscapes.
Daar, S.
Berkeley, CA : Bio-Integral Resource Center,; 1993 Aug.
The IPM practitioner : the newsletter of integrated pest management v. 15 (8): p. 1-6; 1993 Aug.

Language: English

Descriptors: Weed control; Cultural control; Landscape architecture; Design; Urban areas

53 NAL Call. No.: S601.A34
Determining optimal clearing treatments for the alien invasive shrub *Acacia saligna* in southwestern Cape, South Africa.
Macdonald, I.A.W.; Wissel, C.
Amsterdam : Elsevier; 1992 Apr.
Agriculture, ecosystems and environment v. 39 (3/4): p. 169-186; 1992 Apr.
Includes references.

Language: English

Descriptors: South Africa; *Acacia saligna*; Non-crop weed control; Scrub control; Chemical vs. cultural weed control; Manual weed control; Herbicides; Glyphosate; Triclopyr; Population density; Stand density; Integrated control; Cutting; Coppice; Coppicing; Fire; Survival; Labor costs; Operating costs; Probabilistic models

54 NAL Call. No.: 79.9 C122
Development of a robotic system for non-chemical weed control.
Slaughter, D.C.; Curley, R.; Chen, P.; Brooks, C.
Fremont, Calif. : California Weed Conference; 1992.
Proceedings - California Weed Conference (44th): p. 103-107; 1992. Paper
presented at the meeting on "Many Benefits of Weed Control," January 20-22, 1992, Sacramento, California. Includes references.

Language: English

Descriptors: California; *Lycopersicon esculentum*; Cultural weed control; Robots; Cultivars; Computers

55 NAL Call. No.: QD415.A1J6
Difference in hydroxamic acid content in roots and root exudates of wheat (*Triticum aestivum* L.) and rye (*Secale cereale* L.): possible role in allelopathy.
Perez, F.J.; Ormeno-Nunez, J.
New York, N.Y. : Plenum Press; 1991 Jun.
Journal of chemical ecology v. 17 (6): p. 1037-1043; 1991 Jun.
Includes references.

Language: English

Descriptors: *Triticum aestivum*; *Secale cereale*; Root exudates; Allelopathy; Chemical composition; Bioassays; Weed control; Biological control

Abstract: Hydroxamic acids (Hx) produced by some cereal crops have been associated with allelopathy. However, the release of Hx to the soil by the producing plant--an essential condition for a compound to be involved in allelopathy--has not been

shown. GC and HPLC analysis of roots and root exudates of wheat (*Triticum aestivum* L.) and rye (*Secale cereale* L.) cultivars, with high Hx levels in their leaves, demonstrated the presence of these compounds in the roots of all cultivars analyzed and in root exudates of rye. Moreover, bioassays employing root exudates collected from wheat and rye seedlings demonstrated that only rye exudates inhibited root growth of wild oats, *Avena fatua* L., a weed whose root growth is inhibited by Hx. These results suggest that rye could potentially interfere with the growth of *Avena fatua* in nature and that this interference could be due to the release of Hx to the soil by way of roots.

56 NAL Call. No.: 79.8 W41

Differential inhibition of seed germination by sweetpotato (*Ipomoea batatas*)

root periderm extracts.

Peterson, J.K.; Harrison, H.F. Jr

Champaign, Ill. : Weed Science Society of America; 1991 Jan.

Weed science v. 39 (1): p. 119-123; 1991 Jan. Includes references.

Language: English

Descriptors: *Ipomoea batatas*; Competitive ability; *Abutilon theophrasti*; *Amaranthus retroflexus*; *Cassia occidentalis*; *Eclipta alba*; *Eleusine indica*; *Pharbitis purpurea*; *Panicum miliaceum*; *Solanum nigrum*; Seed germination; Germination inhibitors; Allelopathins; Periderm; Sweet potato extract; Bioassays; Allelopathy; Crop weed competition

Abstract: The effect of sequential hexane, ethyl acetate, and aqueous methanol extracts of 'Regal' sweetpotato periderm on seed germination of sweetpotato, proso millet, and seven weed species was studied. The hexane extract, which contained the nonpolar components of the periderm tissue, was least inhibitory. It inhibited velvetleaf, proso millet, black nightshade, and redroot pigweed germination, and maximum inhibition was 56% for black nightshade at 200 mg of periderm extracted ml⁻¹. The ethyl acetate fraction was inhibitory to proso millet, velvetleaf, black nightshade, goosegrass, tall morningglory, coffee senna, and redroot pigweed. The estimated I50(3) for ethyl acetate ranged from 17 mg periderm extracted ml⁻¹ for black nightshade to 201 mg ml⁻¹ for coffee senna. Sweetpotato, tall morningglory, and eclipta germination was not inhibited by this extract at the concentrations tested. The aqueous methanol extract was much more inhibitory than the hexane or ethyl acetate extracts, and there was considerable variation between species in response to this extract. The I50 estimates for the aqueous methanol extract were 0.5, 0.6, 2.8, 4.4, 5.1, 9.6, 15.7, 21.0, and 25.8 mg ml⁻¹ for velvetleaf, proso millet, black nightshade, goosegrass, sweetpotato, tall morningglory, eclipta, coffee senna, and pigweed, respectively.

57 NAL Call. No.: 475 M58

Distribution and control of *Chromolaena odorata* (Asteraceae).

Muniappan, R.; Marutani, M.

Mangilao : The University; 1991 Jun.

Micronesica : journal of the University of Guam (suppl.3): p. 103-107; 1991

Jun. Includes references.

Language: English

Descriptors: Micronesia; Eupatorium odoratum; Geographical distribution; Weed control; Cultural weed control; Chemical control; Biological control

58 NAL Call. No.: 81 S012
Economic and horticultural evaluation of chemical and mechanical weed control strategies for cowpea.
Kahn, B.A.; Schatzer, R.J.
Alexandria, Va. : The Society; 1992 Mar.
Journal of the American Society for Horticultural Science v. 117 (2): p. 255-259; 1992 Mar. Includes references.

Language: English

Descriptors: Oklahoma; Vigna unguiculata; Weed control; Paraquat; Trifluralin; Metolachlor; Mechanical methods; Cultivation; Crop yield; Economic evaluation

Abstract: The herbicides paraquat, trifluralin, and metolachlor were compared for efficacy of weed control in cowpea [*Vigna unguiculata* (L.) Walp.] with and without cultivation as a supplemental strategy. Herbicides also were compared against a no cultivation-no herbicide treatment (control) and against cultivation without an herbicide. Cultivation had no significant effect on seed yield, biological yield, or harvest index of cowpea. Paraquat, applied before seeding but after emergence of weeds, was ineffective for weed control and usually did not change cowpea yield from that obtained without an herbicide. Trifluralin and metolachlor more than tripled cowpea seed yield compared with that obtained without an herbicide in 1988, when potential weed pressure was 886 g.m⁻² (dry weight). The main effects of trifluralin and metolachlor were not significant for cowpea seed yield in 1989, when potential weed pressure was 319 g.m⁻² (dry weight). However, in 1989, these two herbicides still increased cowpea seed yield compared with that of the control and increased net farm income by more than \$300/ha compared with the income obtained from the control.

59 NAL Call. No.: SB950.A1P3
Economics of chemical and manual weed control in hybrid maize in the Kenya highlands.
Hanson, P.M.; Smith, L.M.
London : Taylor & Francis; 1992 Apr.
Tropical pest management v. 38 (2): p. 210-213; 1992 Apr.
Includes references.

Language: English

Descriptors: Kenya; Zea mays; Hybrids; Weeds; Chemical control; Manual weed control; Crop yield; Economic analysis

60 NAL Call. No.: 79.9 W52R
Economics of manual and chemical weed control in bell peppers.
Lanini, W.; Thomas, W.; Le Strange, M.

S.l. : The Society; 1992.

Research progress report - Western Society of Weed Science. p. II/9-II/11; 1992. Meeting held on March 9-12, 1992, Salt Lake City, Utah.

Language: English

Descriptors: California; Capsicum frutescens; Chemical vs. cultural weed control; Manual weed control; Napropamide; Crop yield; Costs; Profits

61 NAL Call. No.: SB950.A1P3

Effect of cultural practices on weed management in rainfed upland rice.

Singh, R.S.; Ghosh, D.C.

London : Taylor & Francis; 1992 Apr.

Tropical pest management v. 38 (2): p. 119-121; 1992 Apr.

Includes references.

Language: English

Descriptors: Bihar; Oryza sativa; Upland rice; Weed control; Weeds; Cultural control

62 NAL Call. No.: 450 C16

Effect of diclofop and HOE-6001 on amylolytic enzyme activities of malt.

McMullan, P.M.; Noll, J.; Therrien, M.C.

Ottawa : Agricultural Institute of Canada; 1992 Apr.

Canadian journal of plant science; Revue canadienne de phytotechnie v. 72 (2): p. 435-438; 1992 Apr. Includes references.

Language: English

Descriptors: Manitoba; Hordeum vulgare; Genotypes; Alpha-amylase; Alpha-glucosidase; Diclofop; Fenoxaprop; Herbicide resistance; Avena fatua; Setaria viridis; Weed control

63 NAL Call. No.: SB950.A1P3

Effect of land preparation and weeding on maize (Zea mays) grain yields in the coastal region in Kenya.

Gacheru, E.N.; Kamau, G.M.; Saha, H.M.; Odhiambo, G.D.; O'Neil, M.K.

London : Taylor & Francis Ltd., 1993-; 1993 Jan.

International journal of pest management v. 39 (1): p. 57-60; 1993 Jan.

Includes references.

Language: English

Descriptors: Kenya; Cabt; Zea mays; Weed control; Weeding; Chemical control; Site preparation; Slashing; Hoeing; Plowing; Paraquat; Pendimethalin; Atrazine; Metolachlor; Crop yield; Grain

64 NAL Call. No.: SB610.W39

Effect of preplant tillage, post-plant cultivation, and

herbicides on weed
density in corn (*Zea mays*).

Wilson, R.G.

Champaign, Ill. : The Weed Science Society of America; 1993
Jul. Weed technology : a journal of the Weed Science Society
of America v. 7 (3): p. 728-734; 1993 Jul. Includes
references.

Language: English

Descriptors: Nebraska; Cabt; *Zea mays*; Weed control; Chemical
control; Timing; Tillage; Cultural weed control; Cyanazine;
Dicamba; Pendimethalin; Sulfonyleurea herbicides; Integrated
control; *Amaranthus*
retroflexus; *Chenopodium album*; *Helianthus annuus*; *Cenchrus*
longispinus; *Kochia scoparia*; *Panicum miliaceum*; Plant
density; Weeds; Crop yield; Grain

65

NAL Call. No.: S605.5.A43

Effect of row width on herbicide and cultivation requirements
in row crops.

Forcella, F.; Westgate, M.E.; Warnes, D.D.

Greenbelt, Md. : Institute for Alternative Agriculture; 1992.

American journal of alternative agriculture v. 7 (4): p.

161-167; 1992.

Includes references.

Language: English

Descriptors: Minnesota; *Zea mays*; Weed control; Row spacing;
Glycine max; *Helianthus annuus*; Sustainability; Herbicides

Abstract: Crops grown in narrow rows (NR, 0.25 to 0.38 m)
shade weed seedlings more than do those grown in traditional
wide rows (WR, 0.76 m). NR crops may require less herbicide
and interrow cultivation than WR crops for equally effective
weed control. This hypothesis was tested by comparing weed
control and crop yield in NR and WR crops when the following
percentages of recommended application rates (RAR) of standard
herbicides were applied: soybean, 0, 50 and 100%, sunflower,
0, 25, 50, and 100%; and corn 0, 33, and 100% in three
separate sets of experiments conducted over 2, 3, and 4 years,
respectively. In all treatments with 100% RAR, excellent weed
control prevented reductions in crop yield. When only 25 to
50% RAR was applied, weed control was consistently high in NR
(82 to 99% control), but variable in WR (42 to 99% control).
Weed control and crop yields typically were lowest in NR
without herbicides. Interrow cultivation controlled 0 to 81%
of weeds in WR crops. In reduced herbicide treatments (25 to
50% RAR), yields of NR soybean and sunflower typically were
about equal to those in WR with 100% RAR, but NR corn yields
were about 10% less. Considering the reduced herbicide use and
lower weed control costs, planting corn, soybean, and
sunflower in narrow rows may represent a practical form of
low-input production of these important crops.

66

NAL Call. No.: SB610.W39

Effect of rye (*Secale cereale*) mulch on weed control and soil
moisture in

soybean (*Glycine max*).

Liebl, R.; Simmons, F.W.; Wax, L.M.; Stoller, E.W.

Champaign, Ill. : The Weed Science Society of America; 1992

Oct. Weed technology : a journal of the Weed Science Society

of America v. 6 (4): p. 838-846; 1992 Oct. Includes references.

Language: English

Descriptors: Illinois; Cabt; Glycine max; Conservation tillage; No-tillage; Mulching; Secale cereale; Cover crops; Zea mays; Crop residues; Weed control; Chenopodium album; Setaria faberi; Amaranthus hybridus; Abutilon theophrasti; Soil water content; Crop yield; Herbicides; Application date; Planting date

67 NAL Call. No.: SB610.2.B74
The effect of straw disposal method on weed populations and the efficacy of herbicides on *Alopecurus myosuroides*, *Bromus sterilis* and *Bromus commutatus* in winter wheat crops.
Rule, J.S.
Surrey : BCPC Registered Office; 1991.
Brighton Crop Protection Conference-Weeds v. 2: p. 799-806; 1991. Conference held November 18-21, 1991, Brighton, England. Includes references.

Language: English

Descriptors: *Triticum aestivum*; *Alopecurus myosuroides*; *Bromus sterilis*; *Bromus commutatus*; Weed control; Herbicides; Straw burning

68 NAL Call. No.: QD415.A1J6
Effect of temperature and sucrose concentration on hydroquinone toxicity in leafy spurge suspension culture cells.
Hogan, M.E.; Manners, G.D.
New York, N.Y. : Plenum Publishing Corporation; 1992 Sep.
Journal of chemical ecology v. 18 (9): p. 1541-1549; 1992 Sep. Includes references.

Language: English

Descriptors: *Euphorbia esula*; Callus; Cell suspensions; Hydroquinone; Phytotoxicity; Sucrose; Temperature; Metabolic detoxification; Allelopathy; Weed control; *Antennaria microphylla*

Abstract: *Euphorbia esula* (leafy spurge) suspension culture cell bioassays were used to determine whether sucrose accumulation enhanced the glucosylation (detoxification) of hydroquinone in this noxious weed. The bioassay results indicate that cold temperatures and exogenous hydroquinone represent a dual stress to spurge cell growth that can be partially ameliorated by hydrolysis of sucrose. The persistent susceptibility of leafy spurge suggests that hydroquinone-producing forage plants (which are not toxic to animals) might be used as natural competitors.

69 NAL Call. No.: SB610.W39
Effect of the date of initial handweeding on the yield of groundnut (*Arachis hypogaea*).

Ambassa-Kiki, R.; Ngongang, J.C.
Champaign, Ill. : The Society; 1992 Apr.
Weed technology : a journal of the Weed Science Society of
America v. 6 (2): p. 413-433; 1992 Apr. Includes references.

Language: English

Descriptors: Cameroon; Arachis hypogaea; Weed control;
Chemical control; Weeding; Manual weed control; Timing;
Ametryn; Prometryn; Application date; Crop yield; Ageratum
conyzoides; Bidens pilosa; Digitaria; Eleusine indica;
Euphorbia heterophylla

70 NAL Call. No.: 421 J822
Effect of tillage practices and weed management on survival of
stalk borer
(Lepidoptera: Noctuidae) eggs and larvae.
Levine, E.
Lanham, Md. : Entomological Society of America; 1993 Jun.
Journal of economic entomology v. 86 (3): p. 924-928; 1993
Jun. Includes references.

Language: English

Descriptors: Illinois; Zea mays; Seedlings; Papaipema nebris;
Survival; Cultural control; Insect control; Tillage; Weed
control; Weeds

Abstract: Increased use of conservation tillage by midwestern corn growers in the 1970s and 1980s has led to a greater incidence of problems with the stalk borer, *Papaipema nebris* (Guenee). In particular, serious infestations have occurred throughout entire fields where no-till is practiced. A 3-yr factorial experiment (1983-1986) assessed the effect of three tillage practices (fall moldboard plow and spring disk, fall chisel plow and spring disk, and no-till) at two levels of weed management (weed growth present or absent in spring) on the survival of stalk borer eggs and development of larvae from surviving eggs. Injury to corn was used as a relative measure of stalk borer survival. Egg masses were infested on or immediately adjacent to grassy weeds after harvest but before tillage operations took place. Winter wheat was sowed in the fall to supplement natural weed growth in the plots with no weed control. In plots with the high level of weed control, plant growth was controlled, as needed, with paraquat in spring before planting. In all three studies, the tillage X weed management interaction was not significant and the moldboard-plow treatment significantly decreased stalk borer damage when compared with the no-till treatment. The chisel-plow treatment was generally intermediate between the no-till treatment and the moldboard-plow treatment in reducing stalk borer damage. The absence of weed growth in spring tended to decrease infestations of larvae, although the difference in damage between the two levels of weed management was significant in only one of the study periods. In that period, the interval between predicted 50% stalk borer egg hatch and the one-leaf-stage of corn development was greater than that interval for the other two studies. Even with the burial of eggs by soil with the moldboard-plow treatment, some larvae successfully eclosed and survived to damage corn seedlings in two of the three studies, with or without the presence of weeds. Although the results clearly show that no-tillage planting practices favor the survival of stalk borer eggs and larvae, other studies suggest that stalk borers would be

better managed by controlling grassy weeds within fields in the late summer and early fall to prevent oviposition rather than relying on tillage or weed control practices to reduce populations of eggs and larvae after oviposition has already taken place.

71 NAL Call. No.: 79.8 W41
Effect of tillage systems on the emergence depth of giant (Setaria faberi) and green foxtail (Setaria viridis).
Buhler, D.D.; Mester, T.C.
Champaign, Ill. : Weed Science Society of America; 1991 Apr. Weed science v. 39 (2): p. 200-203; 1991 Apr. Includes references.

Language: English

Descriptors: Setaria faberi; Setaria viridis; Weed biology; Cultural weed control; Conservation tillage; Plowing; Chiselling; Seedling emergence; Population density; Buried seeds; Depth

Abstract: The effect of tillage systems on depth of emergence and densities of giant and green foxtail under different environmental and cropping conditions were evaluated from 1985 to 1987 at Arlington, Hancock, and Janesville, WI. Mean emergence depths in no-till were the shallowest, followed by chisel plow and conventional tillage at each location. At least 40% of the giant and green foxtail plants emerged from the upper 1 cm of soil in no-till compared to about 25% in chisel plow and less than 15% in conventional tillage. As many as 25% of the plants emerged from greater than 4 cm in conventional tillage compared to about 10% in chisel plow and less than 5% in no-till. Seedlings emerged from greater depths in a loamy sand than in a silt loam soil regardless of tillage system. At Arlington, green foxtail was the dominant species in conventional tillage, while giant foxtail dominated in chisel plow and no-till. Foxtail densities were greater in chisel plow and no-till than in conventional tillage at all three locations.

72 NAL Call. No.: 79.9 C122
Effective irrigation for weed control.
Hartin, J.S.
Fremont, Calif. : California Weed Conference; 1991. Proceedings - California Weed Conference (43rd): p. 55-58; 1991. Meeting held January 21-23, 1991, Santa Barbara, California.

Language: English

Descriptors: California; Cultural weed control; Irrigation scheduling; Weather data

73 NAL Call. No.: SB1.H6
The effects of black plastic mulch and weed control strategies on herb yield.
Ricotta, J.A.; Masiunas, J.B.
Alexandria, Va. : American Society for Horticultural Science; 1991 May. HortScience v. 26 (5): p. 539-541; 1991 May. Includes

references.

Language: English

Descriptors: *Ocimum basilicum*; *Rosmarinus officinalis*; *Petroselinum crispum*; Cultural weed control; Mulches; Polyethylene film; Chemical control; Glyphosate; Napropamide; Hoeing; Crop yield; Herbage; Dry matter accumulation; *Portulaca oleracea*

Abstract: Black polyethylene mulch and weed control strategies were evaluated for potential use by small acreage herb producers. In both 1988 and 1989, the mulch greatly increased fresh and dry weight yields of basil (*Ocimum basilicum* L.) and rosemary (*Rosmarinus officinalis* L.). Parsley (*Petroselinum crispum* Nym.) yield did not respond to the mulch. Preplant application of napropamide provided weed control for 2 weeks, but was subsequently not effective on a heavy infestation of purslane (*Portulaca oleracea* L.). Hand-hoed and glyphosate-treated plots (both with and without plastic) produced equivalent yields.

74

NAL Call. No.: S605.5.B5

The effects of crop combination and row arrangement in the intercropping of lettuce, favabean and pea on weed biomass and diversity and on crop yields.

Sharaiha, R.; Gliessman, S.

Oxon : A B Academic Publishers; 1992.

Biological agriculture and horticulture : an international journal v. 9 (1): p. 1-13; 1992. Includes references.

Language: English

Descriptors: California; *Lactuca sativa*; *Pisum sativum*; *Vicia faba*; Intercrops; Intercropping; Organic farming; Weed control; Crop weed competition; Species diversity; Biomass; Crop yield

75

NAL Call. No.: 60.18 J82

Effects of defoliation, shading and competition on spotted knapweed and bluebunch wheatgrass.

Kennett, G.A.; Lacey, J.R.; Butt, C.A.; Olson-Rutz, K.M.; Haferkamp, M.R.

Denver, Colo. : Society for Range Management; 1992 Jul.

Journal of range management v. 45 (4): p. 363-369; 1992 Jul. Includes references.

Language: English

Descriptors: Montana; *Centaurea maculosa*; Weed control; Cultural control; Defoliation; Grazing effects; Plant competition; Gramineae; Light relations; Shade; Regrowth; Competitive ability

Abstract: Spotted knapweed (*Centaurea maculosa* Lam.) is a noxious plant that has invaded many native ranges in the Northern Intermountain Region. Although the use of livestock to control knapweed is intuitively appealing, feasibility of the strategy has received little attention. This greenhouse study was conducted to evaluate response of spotted knapweed to defoliation, light, and competition. Although total

knapweed biomass (g/plant) was not altered by defoliation treatments, several of the more severe treatments adversely affected root, crown, and final harvest foliage. Root and crown growth were also adversely affected by increasing competition from bluebunch wheatgrass (*Pseudoroegneria spicata*). Foliage, root, and crown growth of spotted knapweed increased significantly when plants received full, rather than half light. Spotted knapweed was less sensitive to defoliation than was bluebunch wheatgrass. Although the feasibility of using livestock to control spotted knapweed cannot be completely disregarded, data suggest that the knapweed would have to be selectively and repeatedly grazed during the growing season.

76 NAL Call. No.: SK357.A1W5
Effects of herbicides and burning on overstory defoliation and deer forage production.
Thompson, M.W.; Shaw, M.G.; Ueber, R.W.; Skeen, J.E.; Thackston, R.E.
Bethesda, Md. : The Society; 1991.
Wildlife Society bulletin v. 19 (2): p. 163-170; 1991.
Includes references.

Language: English

Descriptors: Oklahoma; Defoliation; Forest fires; Herbicides; Prescribed burning; Weed control; Wildlife; Resources; *Odocoileus virginianus*; Browse; Nutrient availability

77 NAL Call. No.: 100 L939
Effects of management practices on surface water quality from rice fields.
Feagley, S.E.; Sigua, G.C.; Bengston, R.L.; Bollich, P.K.; Linscombe, S.D.
Baton Rouge, La. : The Station; 1993.
Louisiana agriculture - Louisiana Agricultural Experiment Station v. 36 (1): p. 8-10; 1993.

Language: English

Descriptors: Louisiana; *Oryza sativa*; Water pollution; Weed control; Cultural control; Fertilizers; Field tests; No-tillage; Cultivation; Water quality

78 NAL Call. No.: 10 Ex72
The effects of sole and traditional intercropping of millet and cowpea on soil and crop productivity.
Reddy, K.C.; Visser, P.L.; Klaij, M.C.; Renard, C.
Cambridge : Cambridge University Press; 1994 Jan.
Experimental agriculture v. 30 (1): p. 83-88; 1994 Jan.
Includes references.

Language: English

Descriptors: Sahel; *Crotalaria*; Niger; *Crotalaria*; *Pennisetum Americanum*; *Vigna unguiculata*; Continuous cropping; Intercropping; Nitrogen fertilizers; Crop yield; Soil fertility; Nutrient uptake; Nitrogen; Phosphorus;

Striga
hermonthica; Weed control; Low input agriculture

79 NAL Call. No.: 79.8 W41
Effects of tillage on vertical distribution and viability of
weed seed in
soil.
Yenish, J.P.; Doll, J.D.; Buhler, D.D.
Champaign, Ill. : Weed Science Society of America; 1992 Jul.
Weed science v. 40 (3): p. 429-433; 1992 Jul. Includes
references.

Language: English

Descriptors: Wisconsin; Chenopodium album; Annuals; Weeds;
Seeds; Seed banks; Weed biology; Seed germination; Population
dynamics; Spatial distribution; Tillage; No-tillage;
Conservation tillage; Plowing

Abstract: The effect of different levels of tillage and weed
management on population, distribution, and germination of
weed seed was evaluated in three tillage systems at Arlington
and Hancock, WI, in 1989 and 1990. Over 60% of all weed seed
in the top 19 cm of soil were found in the top 1 cm in no-
tillage at both sites. As depth increased, concentration of
weed seed declined logarithmically in no-tillage. In chisel
plowing, over 30% of seed were in the top 1 cm and seed
concentration decreased linearly with depth. Moldboard plowing
had uniform distribution of weed seed in the top 19 cm of
soil. Preemergence metolachlor plus atrazine decreased weed
seed population by 50% compared with no treatment over all
tillage systems. One year of the herbicide treatment plus
handweeding to assure weed-free conditions did not reduce seed
numbers in chisel plowing or moldboard plowing compared to
herbicide alone. Seed numbers with no-tillage and weed-free
conditions decreased by 40% relative to herbicide alone.
Common lambsquarters germination was 40% greater in moldboard
plowing and chisel plowing compared with no-tillage.
Germination was highest in seed taken from 9 to 19 cm deep in
moldboard plowing and from 0 to 9 cm deep in chisel plowing.

80 NAL Call. No.: 10 J822
Effects of various hand-weeding programmers on yield and
components of yield
of sweet potato (*Ipomoea batatas*) grown in the tropical
lowlands of Papua New
Guinea.
Levett, M.P.
Cambridge : Cambridge University Press; 1992 Feb.
The Journal of agricultural science v. 118 (pt.1): p. 63-70;
1992 Feb.
Includes references.

Language: English

Descriptors: Papua new guinea; *Ipomoea batatas*; Weeds; Manual
weed control; Crop weed competition; Crop yield; Cultivars;
Harvesting date; Yield
components; Lowland areas; Tropics

81 NAL Call. No.: 26 T754
Effects of weed control methods on maize and intercrop yields

and net income
of small-holder farmers, Nigeria.
Zuofa, K.; Tariah, N.M.
London : Butterworth-Heinemann; 1992 Apr.
Tropical agriculture v. 69 (2): p. 167-170; 1992 Apr.
Includes references.

Language: English

Descriptors: Nigeria; Zea mays; Weed control; Intercrops; Crop
yield; Farm
income; Small farms

82 NAL Call. No.: 60.18 J82
Enhancing control of eastern redcedar through individual plant
ignition
following prescribed burning.
Engle, D.M.; Stritzke, J.F.
Denver, Colo. : Society for Range Management; 1992 Sep.
Journal of range management v. 45 (5): p. 493-495; 1992 Sep.
Includes references.

Language: English

Descriptors: Oklahoma; Juniperus Virginiana; Brush control;
Prescribed
burning; Vegetation management; Pastures; Grassland management

Abstract: Fire-scorched crowns of live eastern redcedar
(*Juniperus virginiana* L.) were ignited using a propane torch
in 3 studies to quantify the efficacy and to determine the
feasibility of the technique as a follow-up treatment for
killing trees that survived prescribed burns. In the first
study, we ignited 98 fire-scorched, live trees 20 to 64 days
following a prescribed burn. Igniting scorched trees in
several positions killed 90% of the crown and two-thirds of
the trees regardless of tree size. Logistic regression models
indicated reburning was more effective on trees highly damaged
after prescribed burning. In the second study, one person
equipped with a self-contained backpack propane burner used
single-point ignition to treat in average of 1 tree every 17
seconds (range 11 to 20 seconds) on 0.25-ha plots.
Effectiveness of the single-point ignition declined with
increasing tree size. In the third study, the average time
required to burn a tree was 19 seconds in eight 32-ha
pastures. Cost in this field-scale study for labor, propane,
fuel, and equipment depreciation was \$0.03/ignited tree.

83 NAL Call. No.: SB1.J66
Evaluation of landscape fabrics in suppressing growth of weed
species.
Martin, C.A.; Ponder, H.G.; Gilliam, C.H.
Washington, D.C. : Horticultural Research Institute; 1991 Mar.
Journal of environmental horticulture v. 9 (1): p. 38-40; 1991
Mar.

Includes references.

Language: English

Descriptors: Landscape gardening; Amaranthus; Cynodon
dactylon; Cassia
obtusifolia; Cyperus esculentus; Jacquemontia tamnifolia;

Sorghum halepense; Mulching; Cultural weed control; Pine bark; Polypropylenes; Plastic fabric; Penetration; Growth rate; Inhibition; Suppression

84 NAL Call. No.: S539.5.J68
Evaluation of reduced herbicide application strategies for weed control in coarse-textured soils.
Bicki, T.J.; Wax, L.M.; Sipp, S.K.
Madison, Wis. : American Society of Agronomy; 1991 Oct.
Journal of production agriculture v. 4 (4): p. 516-519; 1991 Oct. Includes references.

Language: English

Descriptors: Illinois; Zea mays; Glycine max; Coarse textured soils; Digitaria sanguinalis; Chenopodium album; Amaranthus hybridus; Ambrosia artemisiifolia; Weed control; Herbicides; Cultivation; Band placement; Broadcasting; Application rates; Costs; Seedling emergence; Crop density; Crop damage; Crop yield; Grain; Seasonal variation; Cost effectiveness analysis; Feasibility

85 NAL Call. No.: SB950.A1P3
Evaluation of various weed control practices in cowpea.
Elliot, P.C.; Moody, K.
London : Taylor & Francis; 1992 Jan.
Tropical pest management v. 38 (1): p. 5-8; 1992 Jan.
Includes references.

Language: English

Descriptors: Philippines; Vigna unguiculata; Weeds; Cultivation; Hoeing; Manual weed control; Crop yield; Economic analysis; Field experimentation; Planting season

86 NAL Call. No.: 79.8 W41
Evidence that sweet potato (*Ipomoea batatas*) is allelopathic to yellow nutsedge (*Cyperus esculentus*).
Harrison, H.F. Jr; Peterson, J.K.
Champaign, Ill. : Weed Science Society of America; 1991 Apr.
Weed science v. 39 (2): p. 308-312; 1991 Apr. Includes references.

Language: English

Descriptors: South Carolina; *Ipomoea batatas*; Allelopathy; *Cyperus esculentus*; Weed control; Biological control; Competitive ability; Crop weed competition; Roots; Growth rate; Inhibition; Plant extracts; Periderm; Crop yield; Tubers

Abstract: In field studies, 'Regal' sweet potato greatly reduced yellow nutsedge growth when the two species were grown together using standard cultural practices. At the end of the growing season, yellow nutsedge shoot dry weight per m², in plots where the two species were planted together was less than 10% of shoot weight in plots where nutsedge was grown alone. Presence of yellow nutsedge did not markedly affect sweet potato growth. When grown together in a greenhouse experiment designed to minimize the competitive effects of

sweet potato on yellow nutsedge, yellow nutsedge growth was reduced more than 50% by sweet potato 8 and 12 weeks after planting. The most polar fraction of serially extracted sweet potato periderm tissue was highly inhibitory to yellow nutsedge root growth. These results indicate that sweet potato interference with yellow nutsedge under field conditions is partially due to allelopathy.

87 NAL Call. No.: 79.9 C122
Evolution to non-chemical weed control in grapes.
Weaver, C.A.
Fremont, Calif. : California Weed Conference; 1993.
Proceedings / (45th): p. 75-76; 1993. Paper presented at the Conference on
"Weeds and People, Putting Weed Management in Perspective,"
January 18-20, 1993, Costa Mesa, California.

Language: English

Descriptors: *Vitis vinifera*; Weed control; Integrated control

88 NAL Call. No.: 79.8 W41
Fall cultivation and fertilization to reduce winterhardiness of leafy spurge (*Euphorbia esula*).
Lym, R.G.; Messersmith, C.G.
Champaign, Ill. : Weed Science Society of America; 1993 Jul.
Weed science v. 41 (3): p. 441-446; 1993 Jul. Includes references.

Language: English

Descriptors: *Euphorbia esula*; Weed biology; Perennial weeds; Winter hardiness; Cold resistance; Weed control; Chemical control; Picloram; 2,4-d; Cultural weed control; Nitrogen fertilizers; Autumn; Tillage; Winter kill; Plant composition; Carbohydrates

Abstract: Reduced-tillage practices have allowed leafy spurge to infest cropland. The reduction in leafy spurge infestation and winterhardiness by fall tillage, N application, or herbicide treatment was evaluated. Cultivating leafy spurge twice each fall for 3 yr provided complete control. Cultivation followed by N application at 225 kg ha⁻¹ reduced the stand by 85% after 3 yr, whereas N applied alone had little effect. Picloram plus 2,4-D at 0.6 plus 1 kg ha⁻¹ reduced the infestation to 65% of the untreated control after 2 yr but then the infestation declined rapidly to 1% after a third application. Leafy spurge cold tolerance decreased as root depth increased. The GR50 and LT50, the temperatures required to reduce total dry weight and survival, respectively, by 50% varied by root depth and treatment. For example, the LT50 and GR50 for untreated leafy spurge averaged -19 and < -20 C for crowns, respectively, compared to the -16 and -18 C for roots from 0 to 15 cm deep and -13 and -12.5 C for roots from 15 to 30 cm deep. The GR50 and LT50 temperature after 2 yr of treatment was reduced to 0 C by two cultivations in fall or picloram plus 2,4-D. Carbohydrate content was not a good indicator of winterhardiness. Cultivation reduced the leafy spurge root system faster than herbicide treatment especially at the 15- to 30-cm depth.

89

NAL Call. No.: S539.5.J68

Fallow method affects downy brome population in winter wheat.
Tanaka, D.L.; Anderson, R.L.
Madison, Wis. : American Society of Agronomy; 1992 Jan.
Journal of production agriculture v. 5 (1): p. 117-119; 1992
Jan. Paper
presented at a symposium on "Ecology and Management of Grazing
Systems"
presented at the annual meeting of the American Association
for the Advancement of Science, January 14-19, 1991, San
Francisco, California.
Includes references.

Language: English

Descriptors: Montana; Triticum aestivum; Winter wheat; Bromus
tectorum; Population change; Stubble mulching; Minimum
tillage; No-tillage; Fallow

90

NAL Call. No.: HD1773.A3N6

A farmer's choice of weed control method and the impacts of
policy and risk.
Olson, K.D.; Eidman V.R.
East Lansing, Mich. : Michigan State University; 1992 Jan.
Review of agricultural economics v. 14 (1): p. 125-137; 1992
Jan. Includes references.

Language: English

Descriptors: Minnesota; Maize; Weed control; Decision making;
Herbicides; Mechanical methods; Agricultural policy; Federal
programs; Economic impact; Farm income; Taxes; Subsidies;
Market economics; Incentives; Risk; Constraints; Deficiency
payments; Innovation adoption; Motad

Abstract: The importance of risk in a farmer's decision to
use herbicides should not be forgotten. This paper presents a
theoretical model of the weed control decision and develops a
MOTAD programming model. The model uses herbicides at levels
of risk aversion found in previous empirical studies. This
result was not changed by equal (or even higher) ASCS yields
for not using herbicides, a tax on herbicides, or the
elimination of deficiency payments. The variability of returns
was more important in influencing a farmer to choose
herbicides than the higher expected returns in a nonherbicide
system.

91

NAL Call. No.: 64.8 C883

Field apparatus for testing allelopathy of annual bluegrass on
creeping
bentgrass.
Brede, A.D.
Madison, Wis. : Crop Science Society of America; 1991 Sep.
Crop science v. 31 (5): p. 1372-1374; 1991 Sep. Includes
references.

Language: English

Descriptors: Agrostis stolonifera var. palustris; Crop weed
competition; Poa
annua; Competitive ability; Allelopathy; Leachates; Field
experimentation; Apparatus; Design; Golf green soils

Abstract: Golf-course superintendents have long observed the competitive nature of annual bluegrass (*Poa annua* L.) as a weed on creeping bentgrass [*Agrostis stolonifera* L. var. *palustris* (Huds.) Farw.] putting greens. Allelopathy has been suggested as a contributing factor in this competitiveness. This study tested the allelopathy hypothesis under putting-green conditions using a modified field approach of the conventional stair-step experimental procedure. Annual bluegrass and creeping bentgrass sand putting greens, each 297 m², were established, and leachate from these greens was used to irrigate replicated sand-based creeping bentgrass test greens. Moisture sensing and irrigation of the test plots were under continuous electronic control. The leachate sampling and delivery system functioned flawlessly throughout the 2-yr period, in spite of weather extremes (>40 degrees C). After two growing seasons of monthly monitoring, no consistent effects on turf color, foliar ground cover, shoot density, or disease incidence were found in the test green to indicate allelopathy.

92 NAL Call. No.: SB193.F59
Forage quality of big bluestem in response to time of burning, fertilization and atrazine.
Mirchell, R.B.; Masters, R.A.; Waller, S.S.; Moore, K.J.
Columbia, Mo. : American Forage and Grassland Council; 1991.
Proceedings of the Forage and Grassland Conference. p. 273-276; 1991. Meeting held April 1-4, 1991, Columbia, Missouri. Includes references.

Language: English

Descriptors: *Andropogon gerardii*; Grassland management; Atrazine; Weed control; Nitrogen-phosphorus fertilizers; Burning; Cultural methods; Crop quality; Forage

93 NAL Call. No.: SB610.W39
Germination and growth of leafy spurge (*Phyllanthus urinaria*) as affected by cultural conditions and herbicides.
Wehtje, G.R.; Gilliam, C.H.; Reeder, J.A.
Champaign, Ill. : The Society; 1992 Jan.
Weed technology : a journal of the Weed Science Society of America v. 6 (1): p. 139-143; 1992 Jan. Includes references.

Language: English

Descriptors: *Phyllanthus urinaria*; Weed control; Oxadiazon; Oryzalin; Oxyfluorfen; Paraquat; Acifluorfen; Seed germination; Weed biology; Light relations; Seedling emergence; Osmotic pressure; Cultural weed control; Mulching

94 NAL Call. No.: 79.8 W41
Goosegrass (*Eleusine indica*) control in bermudagrass (*Cynodon* spp.) turf with diclofop.
McCarty, L.B.

Champaign, Ill. : Weed Science Society of America; 1991 Apr.
Weed science v. 39 (2): p. 255-261; 1991 Apr. Includes
references.

Language: English

Descriptors: Florida; Cynodon dactylon; Hybrids; Cultivars;
Lawns and turf; Eleusine indica; Weed control; Chemical
control; Diclofop; Cutting height; Cultural weed control;
Integrated control; Herbicide mixtures; Metribuzin; Msma;
Nonionic surfactants; Application rates; Phytotoxicity;
Varietal
susceptibility; Sports grounds; Golf courses; Crop quality

Abstract: Greenhouse and field experiments were performed to
investigate diclofop rate and mowing height interactions on
goosegrass control and 'Tifgreen' and 'Tifdwarf' bermudagrass
tolerance. In greenhouse experiments, greatest goosegrass
control was achieved with diclofop when plants were maintained
at 1.3 cm. Increased diclofop rates were required to suppress
goosegrass mowed higher than 1.3 cm or unmowed. Greater than
90% goosegrass control was achieved with the combination of
1.3-cm mowing height and 0.6 kg ai ha⁻¹ of diclofop. In field
experiments, a minimum of 2 weeks was necessary for complete
herbicidal activity. Diclofop at 1.1 kg ha⁻¹ provided >90%
control of goosegrass mowed between 1.9 to 2.5 cm. The
addition of nonionic surfactant (0.25% by vol) to diclofop did
not influence control. The addition of metribuzin (0.1 kg ai
ha⁻¹) to diclofop resulted in initial increased control, but
it was transient. The addition of MSMA (2.2 kg ai ha⁻¹) to
diclofop reduced goosegrass control an average of 18% compared
to diclofop treatments alone. Tifdwarf bermudagrass was more
sensitive to diclofop compared to Tifgreen. Seven to 14 days
were required for Tifdwarf to recover from initial injury.
This injury, although significant, was acceptable for
bermudagrass used for golf greens. Clipping weights following
treatment were also less for Tifdwarf than Tifgreen.

95 NAL Call. No.: SB610.W39
Grain rye residues and weed control strategies in reduced
tillage potatoes.

Lanfranconi, L.E.; Bellinder, R.R.; Wallace, R.W.
Champaign, Ill. : The Weed Science Society of America; 1992
Oct. Weed technology : a journal of the Weed Science Society
of America v. 6 (4): p. 1021-1026; 1992 Oct. Includes
references.

Language: English

Descriptors: New York; Cabt; Solanum tuberosum; Tillage;
Minimum tillage; Secale cereale; Linuron; Metolachlor;
Hilling; Metribuzin; Efficacy; Crop
yield; Weed control; Amaranthus retroflexus; Chenopodium
album; Galinsoga
ciliata; Chemical control; Cultural control

96 NAL Call. No.: 60.18 J82
Growth dynamics of crowns of eastern red-cedar at 3 locations
in Oklahoma.
Engle, D.M.; Kulbeth, J.D.
Denver, Colo. : Society for Range Management; 1992 May.
Journal of range management v. 45 (3): p. 301-305; 1992 May.
Includes references.

Language: English

Descriptors: Oklahoma; Juniperus Virginiana; Brush control; Prescribed burning; Timing; Growth analysis; Growth rate; Age of trees; Plant height; Crown; Canopy; Habit; Range management; Vegetation management

Abstract: Eastern redcedar (*Juniperus virginiana* L.) trees from a location in western, central, and eastern Oklahoma were aged by tree ring analysis to assess the relationship of tree age to tree height and crown area. The relationship of tree age to crown size differed with location. Trees in the oldest age class, 28 to 29 years, ranged in height from 6.2 m on the western Oklahoma location to 8.3 m on the eastern Oklahoma location. The oldest trees at all locations were still actively growing. Height growth rate of the oldest class of trees averaged 0.5 to 0.6 m yr⁻¹ on the western and eastern study locations, respectively. Eastern redcedar reached 2.0 m in height at about 8 years of age on the eastern Oklahoma location. Trees reached 2.0 m in height in 10 to 14 years at the other locations. This suggests that burning intervals should be more frequent on the eastern Oklahoma location than on the central and western Oklahoma locations. Crown area as a function of tree age was not as similar as tree height among the 3 locations. Not only did the relationship differ among locations, but it differed also between 2 central Oklahoma range sites. Crown area of 28-year-old trees ranged from only 15 m² on the central Oklahoma Loamy Prairie to 40 m² at the eastern Oklahoma location. These data suggest that the smaller crown area of trees at the central Oklahoma location may be a result of an influence other than environment, such as an introduction of plants of a different race with an inherent columnar growth habit. The reduction in forage production associated with eastern redcedar and the efficacy of prescribed burning for controlling eastern redcedar would change more rapidly as trees age on the eastern Oklahoma location than on the other locations.

97 NAL Call. No.: 100 AL1H
Herbicide, cultivation, combination proves best for cotton weed control.
Patterson, M.G.; Goodman, W.R.; Norris, N.E.; Webster, W.B. Auburn University, Ala. : The Station; 1991.
Highlights of agricultural research - Alabama Agricultural Experiment Station
v. 38 (3): p. 6; 1991.

Language: English

Descriptors: Alabama; Gossypium; Weed control

98 NAL Call. No.: QD415.A1J6
Hesperetin 7-rutinoside (Hesperidan) and taxifolin 3-arabinoside as germination and growth inhibitors in soils associated with the weed, *Pluchea lanceolata* (DC) C.B. Clarke (Asteraceae).
Inderjit; Dakshini, K.M.M.
New York, N.Y. : Plenum Press; 1991 Aug.
Journal of chemical ecology v. 17 (8): p. 1585-1591; 1991 Aug.
Includes references.

Language: English

Descriptors: Pluchea; Plant composition; Allelopathy; Seed germination; Bioassays; Extracts; Phenolic compounds; Weed control

Abstract: Hesperetin 7-rutinoside (Hesperidin) and taxifolin 3-arabinoside were detected in the soils associated with the rapidly spreading perennial weed, *Pluchea lanceolata*. In the present investigations, inhibitory potential of the aqueous extracts of the two compounds was established and confirmed through growth experiments pertaining to seed germination and seedling growth of radish, mustard, and tomato, with 10^{-4} M solutions or the authentic samples. The significance of the water-soluble compounds present in the rhizosphere zones of the weed and its interference potential is commented upon.

99 NAL Call. No.: S605.5.074
How to handle America's ten least wanted weeds.
Jesiolowski, J.
Emmaus, Pa. : Rodale Press, Inc; 1992 Jul.
Organic gardening v. 39 (6): p. 48-53; 1992 Jul.

Language: English

Descriptors: U.S.A.; Canada; Weeds; Manual weed control; Cultural weed control; Weeding; Cultivation; Domestic gardens

100 NAL Call. No.: SB476.G7
How to use landscape fabrics.
Overland Park, Kan. : Intertec Publishing Corporation; 1993 Mar.
Mar. Grounds maintenance v. 28 (3): p. 60-61; 1993 Mar.

Language: English

Descriptors: U.S.A.; Landscaping; Weed control; Fabrics; Mulches; Stapling

101 NAL Call. No.: S544.3.N6N62
Hydrilla: a rapidly spreading aquatic weed in North Carolina.
Kay, S.H.
Raleigh, N.C. : The Service; 1992 May.
AG - North Carolina Agricultural Extension Service, North Carolina State University (449): 11 p.; 1992 May.

Language: English

Descriptors: North Carolina; Hydrilla verticillata; Weed control; Aquatic weeds; Biological control; Cultural control; Chemical control

102 NAL Call. No.: 99.9 S082
The impact of weeds and two legume crops on Eucalyptus hybrid clone establishment.
Schumann, A.W.
Pretoria : South African Forestry Association; 1992 Mar.
South African forestry journal (160): p. 43-48; 1992 Mar.
Paper presented at the IUFRO Symposium on "Intensive Forestry: The Role of

Eucalypts," held Sept
1991, Durban, South Africa. Includes references.

Language: English

Descriptors: Eucalyptus; Forest plantations; Crop weed
competition; Weed
control; Cultural methods; Mucuna pruriens; Vigna unguiculata;
Herbicides; Cover crops

103 NAL Call. No.: 60.18 J82
An improved method for measuring temperatures during range
fires. Jacoby, P.W.; Ansley, R.J.; Trevino, B.A.
Denver, Colo. : Society for Range Management; 1992 Mar.
Journal of range management v. 45 (2): p. 216-220; 1992 Mar.
Includes references.

Language: English

Descriptors: Texas; Rangelands; Fires; Prescribed burning;
Measurement; Temperature; Thermocouples; Fire behavior

Abstract: A technique for recording time-temperature curves
within field-scale range fires was accomplished using a
commercially available data logger capable of rapidly reading
large numbers of thermocouples. A specially designed fireproof
box was utilized to house and protect the data logger within
the center of the burned area. Programming features allowed
temperatures to be measured and recorded rapidly (each second)
during the passage of the fire front and recorded as 1-minute
means before and after the combustion interval. Strategic
placement of thermocouples provided time-temperature profiles
for various heights above ground, rate of spread, and duration
of heat above specific temperatures. Additionally, measurement
of preheating prior to the actual flame passage was obtained
by placement of the recorder and thermocouples well within the
burned area. This technique may provide better quantification
of fire effects on vegetation, especially woody weeds targeted
for control with fire, by documenting temperature extremes and
their duration at critical growing points on plants.

104 NAL Call. No.: 79.8 W412
Influence of pasture grass and legume swards on seedling
emergence and growth
of *Carduus nutans* L. and *Cirsium vulgare* L.
Wardle, D.A.; Rahman, A.
Oxford : Blackwell Scientific Publications; 1992 Apr.
Weed research v. 32 (2): p. 119-128; 1992 Apr. Includes
references.

Language: English

Descriptors: Pastures; *Dactylis glomerata*; *Phalaris aquatica*;
Lolium perenne; *Bromus catharticus*; *Holcus lanatus*; *Festuca*
arundinacea; *Medicago sativa*; *Trifolium pratense*; *Trifolium*
subterraneum; *Trifolium repens*; Crop weed
competition; *Carduus nutans*; *Cirsium vulgare*; Seedling
emergence; Growth rate; Inhibition; Weed control; Biological
control; Allelopathy

105 NAL Call. No.: 23 AU792
Influence of pre-season weed management and in-crop treatments

on two

successive wheat crops. 2. Take-all severity and incidence of rhizoctonia root rot.

Wong, P.T.W.; Dowling, P.M.; Tesoriero, L.A.; Nicol, H.I. East Melbourne : Commonwealth Scientific and Industrial Research Organization; 1993.

Australian journal of experimental agriculture v. 33 (2): p. 173-177; 1993.

Includes references.

Language: English

Descriptors: New South Wales; Triticum; Weed control; Weeds; Cultural control; Cultivation; Gaeumannomyces graminis; Herbicides; Interactions; Rhizoctonia solani; Root rots; Crop yield

106

NAL Call. No.: 79.8 W41

Influence of tillage, crop rotation, and weed management on giant foxtail

(*Setaria faberi*) population dynamics and corn yield.

Schreiber, M.M.

Champaign, Ill. : Weed Science Society of America; 1992.

Weed science v. 40 (4): p. 645-653; 1992. Paper presented at the "Symposium

on crop/weed management and the dynamics of weed seedbanks," February 11, 1992, Orlando, Florida. Includes references.

Language: English

Descriptors: Indiana; Zea mays; *Setaria faberi*; Weed biology; Seed banks; Population density; Population dynamics; Plowing; No-tillage; Rotations; Allelopathy; Cropping systems; Crop yield; Weed control; Chemical control; Herbicides

Abstract: A long-term integrated pest management study initiated in 1980 and continued through 1991 was conducted to determine interactions of tillage, crop rotation, and herbicide use levels on weed seed populations, weed populations, and crop yield. This paper presents giant foxtail seed population and stand along with corn yield in continuous corn, corn rotated with soybean, or corn following wheat in a soybean-wheat-corn rotation. Increasing herbicide use levels above the minimum reduced giant foxtail seed in the 0-to 2.5-cm depth of soil. Reducing tillage from conventional moldboard plowing to chiseling to no-tilling increased giant foxtail seed in only the top 0 to 2.5 cm of soil. No-tilling increased giant foxtail seed over conventional tillage in each year data were collected. Growing corn in a soybean-corn or soybean-wheat-corn rotation reduced giant foxtail seed from corn grown continuously in all three soil depths sampled: 0 to 2.5 cm, 2.5 to 10 cm, and 10 to 20 cm. Although stands of giant foxtail tended to follow soil weed seed counts, crop rotation significantly reduced giant foxtail stand with maximum reduction in the soybean-wheat-corn rotation in all tillage systems. Giant foxtail stands were reduced following wheat in no-tilling, probably because of the allelopathic influence of wheat straw. Corn yields showed weed management levels above minimum control are not justified regardless of tillage and crop rotation.

Influence of weed-control practices in the first crop on the tillage requirements for the succeeding crops in an upland rice-maize-cowpea cropping sequence.

Elliot, P.C.; Moody, K.

Guildford : Butterworths; 1991 Feb.

Crop protection v. 10 (1): p. 28-33; 1991 Feb. Includes references.

Language: English

Descriptors: Philippines; Oryza sativa; Upland rice; Sequential cropping; Zea mays; Vigna unguiculata; Weeding; Hoeing; Manual weed control; Chemical control; Pendimethalin; No-tillage; Plowing; Harrowing; Crop yield; Grain; Cost benefit analysis

108

NAL Call. No.: 4 AM34P

Inhibition of weed seed germination by microwaves.

Barker, A.V.; Craker, L.E.

Madison, Wis. : American Society of Agronomy; 1991 Mar.

Agronomy journal v. 83 (2): p. 302-305; 1991 Mar. Includes references.

Language: English

Descriptors: Avena sativa; Weeds; Seeds; Microwave treatment; Microwave radiation; Heat treatment; Cultural weed control; Seed germination; Germination inhibitors; Soil sterilization

Abstract: Irradiation with radiofrequency energy (RF), which includes microwaves, brings about dielectric heating of moist materials. Some agricultural applications of dielectric heating by RF have included insects control in stored grains and improved germination of seed stocks. The objective of the present research was to evaluate microwave heating of soils as a technique for weed control. Approximately 800-g masses of soil of variable wetness (10-280 g H₂O/kg soil) containing seeds of oat (*Avena sativa* L.) and indigenous weeds were heated in a microwave (2.45 GHz) oven for 15 to 240 s. Soil masses were 5 cm deep in flats. Oat seeds were placed 2 cm deep into the soil. Heating of soils to 80 degrees C or higher inhibited emergence of oats and weed species. About 120 s of heating were needed to reach 80 degrees C. Maintaining this temperature for 30 s was needed for strong inhibition. Moisture content in this experiment had little effect on dielectric heating. Time required to heat soil to killing temperatures appears to be a factor limiting application of this technique. The procedure may be applicable to soil sterilization in cases in which other physical processes or chemical means are inconvenient or undesirable.

109

NAL Call. No.: 81 M384

In-row rotary tilling for orchard weed control.

McCue, J.J.; Schupp, J.R.

North Amherst, Mass. : The Association; 1992.

New England fruit meetings ... Proceedings of the ... annual meeting -

Massachusetts Fruit Growers' Association v. 98: p. 114-116; 1992.

Language: English

Descriptors: Maine; Malus pumila; Orchards; Weed control; Row tillage; Rotary cultivators; Fruit trees; Growth; Crop yield; Fruit; Size

110 NAL Call. No.: SB469.G76
Integrated weed management (IWM)--does it exist?.
San Rafael, CA : Cooperative Extension; 1992 May.
Growing points - University of California Cooperative Extension v. 28 (10): p. 3-4; 1992 May. Includes references.

Language: English

Descriptors: Landscaping; Weed control; Integrated pest management; Herbicides; Mulching; Trickle irrigation

111 NAL Call. No.: SB610.W39
An integrated weed management procedure for the control of dodder (*Cuscuta indecora*) in alfalfa (*Medicago sativa*).
Cudney, D.W.; Orloff, S.B.; Reints, J.S.
Champaign, Ill. : The Society; 1992 Jul.
Weed technology : a journal of the Weed Science Society of America v. 6 (3): p. 603-606; 1992 Jul. Includes references.

Language: English

Descriptors: California; *Medicago sativa*; *Cuscuta indecora*; Integrated control; Weed control; Trifluralin; Chemical control; Mowing; Burning; Cost analysis; Crop yield; Crop density; Seeds; Viability

112 NAL Call. No.: 4 AM34P
Integrated weed management techniques to reduce herbicide inputs in soybean.
Buhler, D.D.; Gunsolus, J.L.; Ralston, D.F.
Madison, Wis. : American Society of Agronomy; 1992 Nov.
Journal of the American Society of Agronomy v. 84 (6): p. 973-978; 1992 Nov.
Includes references.

Language: English

Descriptors: Minnesota; *Glycine max*; Weed control; Chemical control; Farm inputs; Alachlor; Metribuzin; Application rates; Hoeing; Manual weed control; Chemical vs. cultural weed control; Weeds; Plant density; Crop yield

Abstract: Information on integrated weed management systems is needed so that producers can develop systems that minimize the environmental impacts of weed control without sacrificing profitability of crop production. Reduced rates of broadcast- or band-applied alachlor [2-chloro-N-(2,6-diethylphenyl)-N-(methoxymethyl)acetamide] plus metribuzin [4-amino-6-(1,1-dimethylethyl)-3-(methylthio)-1,2,4-triazin-4(4H)-one] and rotary hoeing, each in combination with between-row cultivation, were evaluated for weed control in soybean

[Glycine max (L.) Merr.]. One or two between-row cultivations allowed for a 50 to 75% reduction in the amount of herbicide used without reducing weed control or soybean yield. Reducing herbicide rates also decreased soybean injury. Two passes of a rotary hoe reduced weed densities up to 75% and increased the effectiveness of subsequent cultivations. However, two passes of the rotary hoe reduced soybean density as compared to other treatments. In 1989, under low weed densities, several mechanical weed control systems resulted in soybean yields similar to the weed-free control. In 1990, under greater weed densities, mechanical weed control systems resulted in reduced soybean yields compared to weed control systems that included herbicides. Based on the results of this research, switching from chemical-intensive systems to mechanical weed management systems under high weed pressure is not advisable. Under high weed pressure, reduced rates of herbicide, broadcasted or banded over the soybean row, in combination with cultivation provided excellent weed control. Mechanical weed control as a part of an integrated weed management system should maximize weed control while minimizing herbicide use.

113 NAL Call. No.: SB610.W39
Integrated wild oat (*Avena fatua*) management affects spring barley (*Hordeum vulgare*) yield and economics.
Barton, D.L.; Thill, D.C.; Shafii, B.
Champaign, Ill. : The Society; 1992 Jan.
Weed technology : a journal of the Weed Science Society of America v. 6 (1): p. 129-135; 1992 Jan. Includes references.

Language: English

Descriptors: Idaho; *Hordeum vulgare*; Weed control; *Avena fatua*; Chemical control; Diclofop; Tri-allate; Difenzoquat; Cultural weed control; Row spacing; Sowing rates; Integrated control; Crop yield; Grain; Economic analysis; Returns

114 NAL Call. No.: SB610.W39
Integrating reduced herbicide use with mechanical weeding in corn (*Zea mays*).
Mulder, T.A.; Doll, J.D.
Champaign, Ill. : The Weed Science Society of America; 1993 Apr.
Weed technology : a journal of the Weed Science Society of America v. 7 (2): p. 382-389; 1993 Apr. Includes references.

Language: English

Descriptors: Wisconsin; Cabt; *Zea mays*; Weed control; Integrated control; Chemical control; Hoeing; Atrazine; Metolachlor; Herbicide mixtures; Broadcasting; Band placement; Crop yield; Grain; Returns; Economic analysis; Soil compaction; Low input agriculture

115 NAL Call. No.: SB610.W39
Integration of cereal cover crops in ridge-tillage corn (*Zea mays*) production.
Eadie, A.G.; Swanton, C.J.; Shaw, J.E.; Anderson, G.W.
Champaign, Ill. : The Society; 1992 Jul.

Weed technology : a journal of the Weed Science Society of America v. 6 (3): p. 553-560; 1992 Jul. Includes references.

Language: English

Descriptors: Ontario; Zea mays; Cultivars; Minimum tillage; Ridging; Cereals; Cover crops; Crop residues; Intercropping; Biomass production; Weed control; Crop establishment; Plant density; Crop yield

116 NAL Call. No.: 79.8 W41
Interaction of light, soil moisture, and temperature with weed suppression by hairy vetch residue.
Teasdale, J.R.
Champaign, Ill. : Weed Science Society of America; 1993 Jan.
Weed science v. 41 (1): p. 46-51; 1993 Jan. Includes references.

Language: English

Descriptors: Vicia; Vetch; Cover crops; Light relations; Allelopathy; Soil water; Temperature; Shade; Establishment; Zea mays; Abutilon theophrasti; Setaria viridis; Chenopodium album; Night temperature; Weed control; Suppression

Abstract: The influence of light, soil moisture, and temperature on establishment of selected species through hairy vetch residue on the soil surface was investigated under controlled conditions in the greenhouse. Hairy vetch residue at rates ranging from 0 to 616 g m⁻² had no effect on corn, slightly reduced velvetleaf and green foxtail establishment, and severely inhibited common lambsquarters establishment under full sunlight conditions. The same rates of hairy vetch residue reduced velvetleaf, green foxtail, and common lambsquarters establishment more under a shade cloth with 9% light transmittance than under full sunlight. Day/night temperatures of 24/16 or 32/26 degrees C had no effect and soil moistures of 50 or 133% field capacity had little effect on response of all species to residue rates. Weed establishment was similar under shade cloth without residue as under residue with an equivalent light transmittance, suggesting that light was more important than allelopathy or physical impedance for weed suppression by hairy vetch residue.

117 NAL Call. No.: SB610.2.B74
Interactions between three weed species of winter wheat in response to management practices.
McCloskey, M.; Firbank, L.G.; Watkinson, A.R.
Surrey : BCPC Registered Office; 1991.
Brighton Crop Protection Conference-Weeds v. 2: p. 791-798; 1991. Conference held November 18-21, 1991, Brighton, England. Includes references.

Language: English

Descriptors: Triticum aestivum; Bromus sterilis; Galium aparine; Papaver rhoeas; Weed control; Herbicides; Cultural control

118 NAL Call. No.: 79.9 C122
Interplanting cereals and grasses during the last year of an alfalfa stand.
Bendixen, W.E.; Lanini, T.
Fremont, Calif. : California Weed Conference; 1993.
Proceedings / (45th): p. 93-101; 1993. Paper presented at the Conference on
"Weeds and People, Putting Weed Management in Perspective,"
January 18-20, 1993, Costa Mesa, California.

Language: English

Descriptors: California; Cabt; Medicago sativa; Interplanting; Cereals; Grasses; Cultural weed control; Crop weed competition; Competitive ability; Crop yield; Hay; Forage

119 NAL Call. No.: SB476.G7
Irrigation pond weed control.
Gallagher, J.E.
Overland Park, Kan. : Intertec Publishing Corporation; 1991
Oct. Grounds maintenance v. 26 (10): p. 26, 28, 30, 50; 1991
Oct.

Language: English

Descriptors: Irrigation water; Ponds; Weed control; Aquatic weeds; Design; Herbicides; Manual weed control; Chemical control; Carp; Biological control; 2,4-d; Diquat; Endothal; Fluridone; Simazine; Copper sulfate; Glyphosate

120 NAL Call. No.: QD415.A1J6
Isolation of substance from sweet potato (*Ipomoea batatas*) periderm tissue that inhibits seed germination.
Peterson, J.K.; Harrison, H.F. Jr
New York, N.Y. : Plenum Press; 1991 May.
Journal of chemical ecology v. 17 (5): p. 943-951; 1991 May.
Includes references.

Language: English

Descriptors: *Ipomoea batatas*; Periderm; Plant composition; Allelopathy; Seed germination; Inhibition; Weed control

Abstract: Chromatographic procedures were used to isolate inhibitors of seed germination from sweet potato root periderm tissue. The inhibitory activity of all fractions was monitored using a proso millet seed germination bioassay. A single HPLC peak, representing approximately 1.2% of the periderm dry weight, accounted for most of the inhibitory activity. The active fraction was labile in methanolic solution. Further fractionation of this peak by HPLC methods was not successful. In vitro seed germination dose-response relationships were established for the peak. The various seed species exhibited an extremely wide range of sensitivity. The I50 values were 0.16, 0.013 and 0.011 mg/ml for redroot pigweed, velvetleaf, and proso millet, respectively. Tall morning glory was not inhibited by any concentration tested.

121 NAL Call. No.: 79.8 W41

Jointed goatgrass (*Aegilops cylindrica*) ecology and interference in winter wheat.

Anderson, R.L.

Champaign, Ill. : Weed Science Society of America; 1993 Jul.

Weed science v. 41 (3): p. 388-393; 1993 Jul. Includes references.

Language: English

Descriptors: *Triticum aestivum*; *Aegilops cylindrica*; Weed biology; Crop weed competition; Phenology; Emergence; Plant development; Water uptake; Growth rate; Cultural weed control; Crop yield; Yield losses

Abstract: Jointed goatgrass is a serious weed in winter wheat, and presently no herbicides are available for its selective control. This study examined the effect of time of emergence and removal on jointed goatgrass interference in winter wheat, as well as its rate of development and soil water extraction. The goal of this study was to suggest cultural practices that minimize jointed goatgrass interference in winter wheat. Jointed goatgrass development was identical to 'Vona' winter wheat in two crop seasons, even though precipitation differed drastically between seasons. Depth of soil water extraction of both species was also similar. Jointed goatgrass at 18 plants^m-2 reduced grain yield 27 and 17% when emerging 0 and 42 d after Vona, respectively. The relationship between time of jointed goatgrass emergence after winter wheat and grain yield loss was $Y = 30.6 - 0.29X$ ($X = \text{days}$, $r = 0.72$), indicating that plants emerging in late fall still caused yield loss. Removing jointed goatgrass by early March prevented winter wheat grain yield loss. The interference data suggests that producers assess infestation levels and plan control measures in early March.

122 NAL Call. No.: SB476.G7

Keeping turfgrass out of flower beds.

Agnew, N.H.

Overland Park, Kan. : Intertec Publishing Corporation; 1993

Apr. Grounds maintenance v. 28 (4): p. 46, 48; 1993 Apr.

Language: English

Descriptors: U.S.A.; Ornamental plants; Weed control; Grasses; Lawns and turf; Herbicides; Barriers; Manual weed control; Rhizomes; Tillers

123 NAL Call. No.: S541.5.A2R47

Landscape fabrics suppress growth of weed species.

Martin, C.A.; Gilliam, C.H.; Ponder, H.G.

Auburn, Ala. : The Station; 1991 Sep.

Research report series - Alabama Agricultural Experiment Station, Auburn

University (7): p. 29-31; 1991 Sep.

Language: English

Descriptors: Cultural weed control; Polypropylenes

124

NAL Call. No.: 4 AM34P

Light transmittance, soil temperature, and soil moisture under residue of

hairy vetch and rye.

Teasdale, J.R.; Mohler, C.L.

Madison, Wis. : American Society of Agronomy, [1949-; 1993

May. Agronomy journal v. 85 (3): p. 673-680; 1993 May.

Includes references.

Language: English

Descriptors: Maryland; Cabt; New York; Cabt; Secale cereale; Vicia villosa; Cover crops; Crop residues; Biomass; Microenvironments; Weeds; Seed banks; Seed germination; Soil temperature; Light penetration; Soil water content; Cultural weed control

Abstract: Cover crop residue on the surface of soils in no-tillage systems can suppress weed emergence and growth. Although allelopathy often is invoked to explain weed suppression by residue, physical alterations of the seed environment could be important as well. This experiment was conducted to determine the light, temperature, and moisture conditions under cover crop residue. Hairy vetch (*Vicia villosa* Roth) and rye (*Secale cereale* L.) were desiccated with a contact herbicide and residue rates ranging from one-fourth to four times the natural residue biomass were established in experiments at Beltsville, MD and Ithaca, N.Y. Photosynthetic photon flux density (PPFD) was determined above and below residue at approximately monthly intervals after initiation of the experiment. Transmittance of PPFD through residue declined according to an exponential decay function of residue biomass. Transmittance was similar through hairy vetch and rye residue initially, but as the experiment progressed, transmittance through hairy vetch residue was greater than that through rye because of faster decomposition of hairy vetch residue. Spectral analysis from 400 to 1100 nm showed a slight increase in transmittance as wavelength increased resulting in a slight lowering of the red (660 nm) to far-red (730 nm) ratio relative to that of unobstructed sunlight. Soil maximum temperature and daily soil temperature amplitude were reduced by cover crop residue. Residue prevented the decline of soil water content during droughty periods. Results indicated that reductions in light transmittance and daily soil temperature amplitude by cover crop residue were sufficient to reduce emergence of weeds but that maintenance of soil moisture could increase weed emergence.

125

NAL Call. No.: S596.53.S69

Long-term effects of conservation practices on the nitrogen fertility of a

soil cropped annually to wheat.

Wiltshire, G.H.; Du Preez, C.C.

Pretoria : Bureau for Scientific Publications, Foundation for Education, Science and Technology, [1984-; 1993 May.

South African journal of plant and soil; Suid-Afrikaanse

tydskrif vir plant en

grond v. 10 (2): p. 70-76; 1993 May. Includes references.

Language: English

Descriptors: South Africa; Cabt; Triticum aestivum; Agricultural soils; Grassland soils; Uncultivated ground; Comparisons; Soil fertility; Sustainability; Resource

conservation; Straw burning; Stubble mulching; Plowing; No-tillage; Chemical vs. cultural weed control; Nitrogen fertilizers; Application rates; Soil organic matter; Carbon; Nitrogen; Nutrient availability; Mineralization; Nitrogen content; Carbon-nitrogen ratio; Soil depth; Soil degradation

126 NAL Call. No.: 100 C12CAG
Low-input management of weeds in vegetable fields.
Lanini, W.T.; LeStrange, M.
Oakland, Calif. : Division of Agriculture and Natural Resources, University of California; 1991 Jan.
California agriculture v. 45 (1): p. 11-13. ill; 1991 Jan.

Language: English

Descriptors: Weeds; Crop yield; Manual weed control; Herbicides

127 NAL Call. No.: 290.9 AM32T
Mathematical simulation of a water hyacinth (*Eichhornia crassipes*) towing system.
Petrell, R.J.; Smerage, G.H.; Bagnall, L.O.
St. Joseph, Mich. : American Society of Agricultural Engineers; 1992 Sep.
Transactions of the ASAE v. 35 (5): p. 1691-1698; 1992 Sep.
Includes references.

Language: English

Descriptors: Florida; *Eichhornia crassipes*; Mechanical harvesting; Weed control; Mathematical models; Simulation models; Compaction

Abstract: A mathematical model representing a water hyacinth towing system of moderate size was formulated as a network of mechanical components. The system consisted of a rectangular device enclosing water hyacinth mats of various shapes and sizes and towing them by an applied input velocity. Three physical properties of a mat were found to be significant: viscous drag of plant rhizomes in water, viscous friction of leaves sliding over each other during compaction, and masses of the mat and accelerated water. Mass of the enclosure and a spring in the enclosure for measuring towing force also was incorporated in the model. Descriptions of the components and their interconnections were based on experimental observations and physical and hydromechanical fundamentals. Analyses of model behaviour were performed for towing velocity less than 0.4 m/s, the experimentally observed velocity at the onset of mat instability. Effects of different acceleration patterns, mat physical characteristics, and towing velocity on system behaviour were investigated in physical experiments and simulations with the model. The model and new information upon which it was based permit engineering design of different types of systems for harvesting water hyacinths in sewage treatment, canals, and lakes.

128 NAL Call. No.: SB611.M42
Mechanical weed control keys to getting yields while reducing or eliminating

the use of herbicides.

Land Stewardship Project (U.S.)

Lewiston, MN : Land Stewardship Project, [1991?]; 1991.

8 p. : ill. ; 28 cm. Cover title. Includes bibliographical references (p. [3] of cover).

Language: English

Descriptors: Weeds; Conservation tillage; Sustainable agriculture

129 NAL Call. No.: 58.9 In7

Mechanical weed control--the state of the art.

Pullen, D.

Silsoe : Institution of Agricultural Engineers; 1994.

The Agricultural engineer v. 49 (1): p. 25; 1994.

Language: English

Descriptors: England; Cabt; Weed control; Mechanical methods; Equipment

130 NAL Call. No.: 79.8 W412

A model for prediction of yield response in weed harrowing.

Rasmussen, J.

Oxford : Blackwell Scientific Publications; 1991 Dec.

Weed research v. 31 (6): p. 401-408; 1991 Dec. Includes references.

Language: English

Descriptors: Denmark; Cultural weed control; Harrowing; Crop yield; Responses; Prediction; Models; Crop damage; Hordeum vulgare; Weeds; Sowing; Phacelia tanacetifolia; Brassica napus

131 NAL Call. No.: QH540.E23

A model of the effects of tillage on emergence of weed seedlings. Mohler, C.L.

Tempe, Ariz. : Ecological Society of America; 1993 Feb.

Ecological applications v. 3 (1): p. 53-73; 1993 Feb.

Includes references.

Language: English

Descriptors: Weeds; Seedling emergence; Plowing; No-tillage; Rotary cultivation; Seeds; Survival; Soil depth; Mathematical models; Seed banks; Manual weed control; Cultural weed control

132 NAL Call. No.: 1.98 AG84

More for less--a new way to grow tomatoes.

Stanley, D.

Washington, D.C. : The Service; 1991 Oct.

Agricultural research - U.S. Department of Agriculture, Agricultural Research

Service v. 39 (10): p. 14-15; 1991 Oct.

Language: English

Descriptors: Maryland; Lycopersicon esculentum; Mulches; Vicia

villosa; Weed
control; Insect control; Plant residues; Crop yield; Growth

133 NAL Call. No.: S37.F72
Moss and algae control in lawns.
Boyd, J.
Little Rock : The Service; 1992 Aug.
FSA - Cooperative Extension Service, University of Arkansas
(2110): 2 p.; 1992
Aug.

Language: English

Descriptors: Lawns and turf; Mosses; Algae; Weed control;
Herbicides; Cultural control

134 NAL Call. No.: S544.3.N7S3
Mulches are alternatives for orchard weed control.
Merwin, I.
Canton, N.Y. : Agricultural Division, St. Lawrence County
Cooperative
Extension Association; 1993 Feb.
St. Lawrence County agricultural news v. 77 (2): p. 7-8; 1993
Feb.

Language: English

Descriptors: Orchards; Weed control; Mulches

135 NAL Call. No.: SB1.J66
Mulches: durability, aesthetic value, weed control, and
temperature.
Skroch, W.A.; Powell, M.A.; Bilderback, T.E.; Henry, P.H.
Washington, D.C. : Horticultural Research Institute; 1992 Mar.
Journal of environmental horticulture v. 10 (1): p. 43-45;
1992 Mar. Includes references.

Language: English

Descriptors: Ornamental woody plants; Mulches; Wood chips;
Pine needles; Pine
bark; Hardwoods; Polyethylene film; Weed control; Soil
temperature; Aesthetic
value; Longevity

136 NAL Call. No.: SB435.5.A645
Mulching: benefits backed by survey.
Rakow, D.A.
Van Nuys, Calif. : Gold Trade Publications; 1992 Sep.
Arbor age v. 12 (9): p. 22, 27, 29; 1992 Sep.

Language: English

Descriptors: U.S.A.; Trees; Mulches; Surveys; Weed control;
Soil water; Bark; Wood chips; Stones; Safety; Ph; Mulching;
Landscaping

137 NAL Call. No.: 1.962 C5T71
Mulching effects of plant fiber and plant fiber--polyester
mats combined with

fertilizer on loblolly pine seedlings.
Haywood, J.D.; Youngquist, J.A.
Washington, D.C. : The Service; 1991.
Tree planters' notes - U.S. Department of Agriculture, Forest
Service v. 42
(3): p. 32-35; 1991. Includes references.

Language: English

Descriptors: Pinus taeda; Seedlings; Mulching; Mulches; Plant
fibers; Polyesters; Jute; Survival; Weed control

138 NAL Call. No.: 275.29 I09PA
Multiflora rose and its control.
Hartzler, R.G.; Owen, M.D.K.
Ames, Iowa : The Service; 1992 Mar.
PM - Iowa State University, Cooperative Extension Service v.):
2 p.; 1992 Mar.

Language: English

Descriptors: Rosa multiflora; Weed control; Herbicides;
Cultural control; Biological control

139 NAL Call. No.: SB610.W39
Narrow row spacing and canopy formation reduces weed
resurgence in soybeans
(Glycine max).
Yelverton, F.H.; Coble, H.D.
Champaign, Ill. : The Society; 1991 Jan.
Weed technology : a journal of the Weed Science Society of
America v. 5 (1): p. 169-174; 1991 Jan. Includes references.

Language: English

Descriptors: North Carolina; Glycine max; Row spacing; Canopy;
Leaf area; Cultural weed control; Cultivars; Varietal
reactions; Planting date; Irrigated
conditions

140 NAL Call. No.: QD1.A45
Natural phytotoxins as herbicides.
Duke, S.O.; Lydon, J.
Washington, D.C. : The Society; 1993.
ACS Symposium series - American Chemical Society (524): p.
110-124; 1993. In
the series analytic: Pest control with enhanced environmental
safety / edited
by S.O. Duke, J.J. Menn, and J.R. Plimmer. Includes
references.

Language: English

Descriptors: Phytotoxins; Plant composition; Herbicidal
properties; Allelopathy

Abstract: Natural products of plants and microbes offer a
vast array of secondary compounds with biological activity,
including phytotoxicity. Many of these compounds have the
potential to be used directly as herbicides or as structural
leads for new synthetic herbicides. Although natural compounds
have made a large impact in the insecticide area, relatively

few successes have been obtained with these compounds as herbicides. The most notable success is that of glufosinate. Use of natural products in a herbicide discovery strategy has been hindered by several problems. The number of options that must be considered in discovery and development of a natural product as a herbicide is larger than for a synthetic herbicide. Furthermore, the molecular complexity, limited environmental stability, and low herbicidal activity of many phytotoxic natural products are discouraging. Rediscovery of known natural phytotoxins can be time-consuming and expensive. However, advances in chemistry and biotechnology are increasing the speed and ease with which humankind can discover and develop natural products as herbicides, while diminishing returns are being experienced with conventional herbicide discovery efforts based on "synthesize and screen" strategies.

141 NAL Call. No.: 99.8 F7632
Needlefall, canopy light interception, and productivity of young intensively managed slash and loblolly pine stands.
Dalla-Tea, F.; Jokela, E.J.
Bethesda, Md. : Society of American Foresters; 1991 Nov.
Forest science v. 37 (5): p. 1298-1313; 1991 Nov. Includes references.

Language: English

Descriptors: Florida; Pinus taeda; Pinus elliottii; Forest plantations; Intensive silviculture; Canopy; Light; Interception; Weed control; Pine needles; Leaf fall; Leaf area index; Fertilizers; Biomass production; Plant competition

Abstract: Canopy dynamics, light interception, and productivity of 6-yr-old slash (*Pinus elliottii* var. *elliottii* Engelm.) and loblolly pine (*P. taeda* L.) were investigated using a 2 X 2 X 2 factorial experiment (species, annual fertilization, sustained weed control) in north central Florida. The strong nutritional gradient imposed by the cultural treatments significantly accelerated canopy development. Needlefall (NF) mass for the weed control + fertilization treatments was increased over the checks by about 400% (0.8 to 4.0 Mg ha⁻¹) for slash pine and 1050% (from 0.4 to 4.6 Mg ha⁻¹) for loblolly pine. Levels of annual NF were strongly correlated ($r^2 > 0.90$) with stand basal area, and cumulative NF through time was successfully modeled using a logistic function. Cultural treatments had no significant effect on needle longevity or temporal NF patterns; however, large treatment-related responses in leaf area index (LAI; all-sided) were apparent for both species (slash pine = 1.5 to 7.2 m²m⁻²; loblolly pine = 1.0 to 10.6 m²m⁻²). Mean annual light interception (photosynthetically active radiation) for the check and combination treatments paralleled LAI responses and ranged from 28 to 74% for slash pine and 22 to 81% for loblolly pine. Significant species differences in aboveground biomass production (loblolly pine = 3.1 to 16.0 Mg ha⁻¹yr⁻¹; slash pine = 3.5 to 8.0 Mg ha⁻¹ yr⁻¹) were principally due to greater LAI (reflecting differences in specific leaf area and branch structure) and higher light use efficiency (0.81 vs. 0.47 g MJ⁻¹) of loblolly pine.

142 NAL Call. No.: 79.9 C122
Non-herbicidal techniques for IWM programs.
Kempen, H.M.
Fremont, Calif. : California Weed Conference; 1992.
Proceedings - California Weed Conference (44th): p. 147-155;
1992. Paper
presented at the meeting on "Many Benefits of Weed Control,"
January 20-22, 1992, Sacramento, California. Includes
references.

Language: English

Descriptors: California; Weed control; Cultural weed control;
Cultivars; Weeders

143 NAL Call. No.: SB321.G85
Now that the strawberry harvest is over.
Lord, W.; Handley, D.
Storrs, Conn. : Cooperative Extension Service, U.S. Department
of Agriculture, College of Agriculture and Natural Resources,
The University of Connecticut,; 1993 Jun.
The Grower : vegetable and small fruit newsletter / v. 93 (6):
p. 7; 1993 Jun.

Language: English

Descriptors: New england states of U.S.A.; Cabt; Fragaria
ananassa; Weed
control; Fertilizers; Mulching; Irrigation

144 NAL Call. No.: 79.9 C122
Nutsedge control in carrots.
Bell, C.E.
Fremont, Calif. : California Weed Conference; 1993.
Proceedings / (45th): p. 102-104; 1993. Paper presented at
the Conference on
"Weeds and People, Putting Weed Management in Perspective,"
January 18-20, 1993, Costa Mesa, California. Includes
references.

Language: English

Descriptors: California; Cabt; Daucus carota; Weed control;
Cyperus esculentus; Cyperus rotundus; Chemical control;
Cultural weed control; Herbicides

145 NAL Call. No.: 4 AM34P
Oat companion crop seeding rate effect on alfalfa
establishment, yield, and
weed control.
Lanini, W.T.; Orloff, S.B.; Orr, J.P.; Vargas, R.N.; Marble,
V.L.; Grattan, S.R.
Madison, Wis. : American Society of Agronomy; 1991 Mar.
Agronomy journal v. 83 (2): p. 330-333; 1991 Mar. Includes
references.

Language: English

Descriptors: California; Medicago sativa; Companion crops;
Crop density; Avena
sativa; Sowing rates; Crop establishment; Intercropping; Crop
yield; Forage; Herbage; Dry matter accumulation; Weeds;

Population density; Irrigated farming

Abstract: Companion crops have been used in alfalfa (*Medicago sativa* L.) establishment to increase forage yield and decrease weeds. When oat (*Avena sativa* L.) is used as a companion crop, the typical seeding rate is 50 to 75 kg ha⁻¹. In irrigated situations this seeding rate has depressed alfalfa yield and stand density. This study was conducted under irrigated conditions to evaluate alfalfa yields, forage composition at first harvest and alfalfa and weed densities at four oat seeding rates; 0 to 36 kg ha⁻¹. Two field experiments were established at Madera and one at Courtland, CA. The interplanting of oat with alfalfa increased first-harvest forage yields 2.45 to 8.62 Mg ha⁻¹, relative to alfalfa planted alone. Alfalfa yields at subsequent cuttings during the first season were reduced by the oat companion crop. By the last cutting in the first season and all cuttings in the second season, yields were equal for all treatments. First-season forage yields were increased 1.54 to 5.05 Mg ha⁻¹ by an oat companion crop. The oat component of the first cutting ranged from 71 to 98%. Alfalfa and weed biomass were both reduced by the oat companion crop. The oat companion crop reduced alfalfa stand density during establishment, but density was higher at the beginning of the second season at two of the three sites when the oat seeding rate was 18 kg ha⁻¹. Alfalfa established with an oat companion crop had an average of 30% fewer weeds in the second year when 9 kg ha⁻¹ were used and almost 50% fewer weeds at 18 kg ha⁻¹. Thus, the seeding rate of an oat companion crop considered best for optimizing yields and reducing weeds under irrigation in California is approximately 18 kg ha⁻¹.

146 NAL Call. No.: SB610.W39
On-farm evaluation of mechanical and chemical weed management practices in corn (*Zea mays*).
Hartzler, R.G.; Van Kooten, B.D.; Stoltenberg, D.E.; Hall, E.M.; Fawcett, R.S.
Champaign, Ill. : The Weed Science Society of America; 1993
Oct. Weed technology : a journal of the Weed Science Society of America v. 7 (4): p. 1001-1004; 1993 Oct. Includes references.

Language: English

Descriptors: Iowa; Cabt; *Zea mays*; Weed control; Chemical control; Herbicides; Band placement; Broadcasting; Chemical vs. cultural weed control; Cultural weed control; Hoeing; Tillage; Rotary cultivation; Weeds; Population density; Crop yield; On-farm training; Extension

147 NAL Call. No.: SB610.2.B74
Optimising the intensity of harrowing for mechanical weed control in winter wheat.
Rasmussen, J.
Surrey : BCPC Registered Office; 1991.
Brighton Crop Protection Conference-Weeds v. 1: p. 177-184; 1991. Includes references.

Language: English

Descriptors: *Triticum aestivum*; Weed control; Mechanical

methods

148 NAL Call. No.: SB1.H6
Orchard floor management practices influence elemental concentrations in young pecan trees.
Goff, W.D.; Patterson, M.G.; West, M.S.
Alexandria, Va. : American Society for Horticultural Science; 1991 Nov.
HortScience v. 26 (11): p. 1379-1381; 1991 Nov. Includes references.

Language: English

Descriptors: Alabama; *Carya illinoensis*; Orchards; Crop weed competition; Chemical vs. cultural weed control; Irrigation scheduling; Soil fertility; Potassium; Nitrogen; Phosphorus; Calcium; Magnesium; Boron; Copper; Iron; Manganese; Zinc; Soil pH; Plant composition; Plant analysis; Nutrient uptake

Abstract: Nutrient status of young pecan [*Carya illinoensis* (Wangenh.) C. Koch] trees grown under eight combinations of orchard floor management and irrigation was determined by leaf and soil analyses. Orchard floor management practices were weedy-unmowed, weedy-mowed, weed control with herbicides, and weed control by disking, with trees either irrigated or nonirrigated. The element most affected by treatment was K. Mean leaf K for the two sample years was significantly ($P < 0.01$) lower in the weedy plots (0.56% K) than in those where weeds were controlled (0.76% K), suggesting a highly competitive effect of weeds for K with young pecan trees. Weed competition also suppressed leaf Ca and Mg, but presence of weeds or sod resulted in higher soil pH and higher leaf Zn. Leaf concentrations of N, P, B, Cu, and Fe were not significantly affected by the treatments.

149 NAL Call. No.: SB610.W39
Perennial sowthistle (*Sonchus arvensis*) interference in soybean (*Glycine max*) and dry edible bean (*Phaseolus vulgaris*).
Zollinger, R.K.; Kells, J.J.
Champaign, Ill. : The Weed Science Society of America; 1993 Jan. Weed technology : a journal of the Weed Science Society of America v. 7 (1): p. 52-57; 1993 Jan. Includes references.

Language: English

Descriptors: Michigan; Cabt; *Glycine max*; *Phaseolus vulgaris*; Crop weed competition; *Sonchus arvensis*; Plant density; Crop yield; Yield losses; Growth rate; Seed quality; Seed germination; Yield components; Seed weight; Cultural weed control; Tillage; Weed biology

150 NAL Call. No.: 100 C12CAG
Perennial weeds respond to control by soil solarization.
Elmore, C.L.; Roncoroni, J.A.; Giraud, D.D.
Oakland, Calif. : Division of Agriculture and Natural Resources, University of California; 1993 Jan.

California agriculture v. 47 (1): p. 19-22; 1993 Jan.

Language: English

Descriptors: Cynodon dactylon; Sorghum halepense; Convolvulus arvensis; Soil solarization; Weed control; Regrowth; Polyethylene film

151 NAL Call. No.: 100 F663
Performance of crisphead lettuce cultivars on plastic-mulched, drip-irrigated sandy soils in Florida.
Cantliffe, D.J.
Belle Glade, Fla. : The Center; 1993 Feb.
Belle Glade EREC research report EV - Florida University Agricultural Research and Education Center (1993-2): p. 48-56; 1993 Feb. Paper presented at the Lettuce Research Workshop, February 4, 1993, Belle Glade, Florida. Includes references.

Language: English

Descriptors: Florida; Lactuca sativa; Mulches; Trickle irrigation; Plastic film; Crop yield; Sandy soils; Crop quality; Fertilizers; Weed control

152 NAL Call. No.: QD415.A1J6
Phenolic acid content of soils from wheat-no till, wheat-conventional till, and fallow-conventional till soybean cropping systems.
Blum, U.; Wentworth, T.R.; Klein, K.; Worsham, A.D.; King, L.D.; Gerig, T.M.; Lyu, S.W.
New York, N.Y. : Plenum Press; 1991 Jun.
Journal of chemical ecology v. 17 (6): p. 1045-1068; 1991 Jun. Includes references.

Language: English

Descriptors: Triticum aestivum; Glycine max; Phenolic acids; Soil chemistry; Allelopathy; Fallow systems; Tillage; Weed control; Biological control

Abstract: Soil core (0-2.5 and/or 0.10 cm) samples were taken from wheat-no till, wheat-conventional till, and fallow-conventional till soybean cropping systems from July to October of 1989 and extracted with water in an autoclave. The soil extracts were analyzed for seven common phenolic acids (p-coumaric, vanillic, p-hydroxybenzoic, syringic, caffeic, ferulic, and sinapic; in order of importance) by high-performance liquid chromatography. The highest concentration observed was 4 micrograms/g soil for p-coumaric acid. Folin & Ciocalteu's phenol reagent was used to determine total phenolic acid content. Total phenolic acid content of 0- to 2.5-cm core samples was approximately 34% higher than that of the 0- to 10-cm core samples. Phenolic acid content of 0- to 2.5-cm core samples from wheat-no till systems was significantly higher than those from all other cropping systems. Individual phenolic acids and total phenolic acid content of soils were highly correlated. The last two observations were confirmed by principal component analysis. The concentrations were confirmed by principal component

analysis of individual phenolic acids extracted from soil samples were related to soil pH, water content of soil samples, total soil carbon, and total soil nitrogen. Indirect evidence suggested that phenolic acids recovered by the water-autoclave procedure used came primarily from bound forms in the soil samples.

153 NAL Call. No.: QK900.J67
Plant strategy types and vegetation development reflecting different forms of vineyard management.
Wilmanns, O.
Uppsala, Sweden : Opulus Press; 1993 Feb.
Journal of vegetation science v. 4 (2): p. 235-240; 1993 Feb.
In the series
analytic: Mechanisms and processes in vegetation dynamics / edited by A.D.Q.
Agnew, S.L. Collins, and E. van der Maarel. Presented at the 34th IAVS Symposium on "Mechanisms in vegetation dynamics", August 26-30, 1991, Eger, Hungary. Includes references.

Language: English

Descriptors: Germany; Vitis vinifera; Crop management; Herbicides; Mulching; Plant ecology; Viticulture; Weed control

154 NAL Call. No.: 275.29 OK41C
Prescribed burning of pastures.
Gillen, R.L.
Stillwater, Okla. : The Service; 1991 Mar.
Circular E - Oklahoma State University, Cooperative Extension Service (901): p. 49-57; 1991 Mar. Paper presented at the "Old World Bluestem Conference," March 29, 1988, Cheyenne, Oklahoma.

Language: English

Descriptors: Oklahoma; Pastures; Prescribed burning; Weed control; Brush control; Fire control; Timing; Firebreaks; Sprayers; Weather; Grassland management; Grazing

155 NAL Call. No.: 275.29 G29B
Principles and practices of weed control in cotton.
Brown, S.M.
Athens, Ga. : The Service; 1991 Feb.
Bulletin - Cooperative Extension Service, University of Georgia, College of Agriculture v.): 15 p. ill; 1991 Feb. Includes references.

Language: English

Descriptors: Gossypium; Weed control; Cultural methods; Herbicides

156 NAL Call. No.: SB950.A1C62
Products: flame weeding in the garden.
Daar, S.
Berkeley, CA : Bio Integral Resource Center, c1984-; 1992.

Common sense pest control quarterly v. 8 (3): 13-14; 1992.

Language: English

Descriptors: U.S.A.; Cabt; Europe; Cabt; Domestic gardens; Weed control; Flame cultivators; Burning; Pest control; *Leptinotarsa decemlineata*; Timing

157 NAL Call. No.: QL461.I57
Prospects for cultural and biological control of cowpea pests.
Ezueh, M.I.
Nairobi, Kenya : ICIPE Science Press; 1991.
Insect science and its application v. 12 (5/6): p. 585-592;
1991. Special
issue: Aspects of pest management in relation to agricultural
production and
environmental conservation in Africa / edited by A.M. Alghali,
N.K. Maniania, Mbaye Ndoye, and Z.M. Nyiira. Includes
references.

Language: English

Descriptors: Nigeria; *Vigna unguiculata*; Insect pests; Biological control; Cultural control; Harvesting date; Natural enemies; Planting date; Parasites of insect pests; Predators of insect pests; Weed control

Abstract: Insect pest problems on cowpeas can be reduced by use of strategies which involve ecological manipulations. These include crop diversification (mixed cropping, etc.), alteration or planting dates, crop rotation, trap-cropping and weed control. The merits of these cultural methods of pest control are discussed. The status of biological control of cowpea pests is still low but promising. The crop is an annual and therefore offers very limited possibilities for the application of the classical biological control techniques. However, a large number of parasitic Hymenoptera, Diptera and predatory Hemiptera, notably Reduviids have been identified in the cowpea ecosystem. Ecological studies of some of these have been carried out and levels of parasitism determined in a few cases, but their significance in the dynamics of cowpea pest populations have not been fully established. It is however known that conservation of parasites and predators in their wild environment is one of the traditional biological control methods. Therefore, a rationalized pesticide programme for the control of cowpea pests should aim at preventing hazards to their natural enemies so as to increase their biocontrol efficiency.

158 NAL Call. No.: SB599.C8
Protection of crops against parasitic weeds.
Parker, C.
Guildford : Butterworths; 1991 Feb.
Crop protection v. 10 (1): p. 6-22; 1991 Feb. Literature
review. Includes references.

Language: English

Descriptors: Parasitic weeds; Scrophulariaceae; Orobanchaceae; Convolvulaceae; Viscaceae; Loranthaceae; Crop losses; Cultural weed control; Chemical control; Biological control; Pest resistance; Genetic control; Varietal susceptibility; Plant

breeding; Host parasite relationships; Mycoherbicides;
Herbicides; Plant
protection; Literature reviews

159 NAL Call. No.: 60.18 J82
Recent rates of mesquite establishment in the northern
Chihuahuan Desert.
Gibbens, R.P.; Beck, R.F.; McNeely, R.P.; Herbel, C.H.
Denver, Colo. : Society for Range Management; 1992 Nov.
Journal of range management v. 45 (6): p. 585-588; 1992 Nov.
Includes references.

Language: English

Descriptors: New Mexico; *Prosopis glandulosa* var. *glandulosa*;
Brush control; Chemical control; Fenuron; Manual weed control;
Plant density; Seedlings; Survival; Grasslands; Deserts;
Rangelands; Arid zones

Abstract: Honey mesquite (*Prosopis glandulosa* Torr. var. *glandulosa*) populations continue to expand and become more dense, even on areas once "successfully" treated either with herbicides or by bulldozing in southern New Mexico. Areas treated from 1958-1964 for mesquite control on the USDA-ARS Jornada Experimental Range and the New Mexico State University College Ranch were sampled to determine mesquite density changes. On herbicide treated areas sampled in 1976 and again in 1988, mesquite densities increased 10% to 128% and had densities from 67 to 494 plants/ha. Two areas treated by either bulldozing or fenuron in 1959-60, and with original kills near 100%, had an average density of 377 plants/ha by 1988, with an establishment rate of 13.5 plants/ha/year. On the College Ranch, mesquite densities increased 11%, from 130 (1982) to 147 (1988) plants/ha. Only 19% of a cohort of mesquite seedlings which germinated in 1989 were still alive in May 1990. Even though only a small percentage of the mesquite that germinated survived into the second year, this is enough to change former grasslands into mesquite-dominated rangelands.

160 NAL Call. No.: 275.29 W27Pn
Red sorrell--*Rumex acetosella* L.
Fitzsimmons, J.P.; Burrill, L.C.
Corvallis, Or. : Washington, Oregon, and Idaho State
Universities, Cooperative
Extension Service; 1993 Mar.
PNW (446): 2 p.; 1993 Mar. In subseries: Weeds.

Language: English

Descriptors: *Rumex acetosella*; Identification; Toxicity;
Chemical vs. cultural
weed control

161 NAL Call. No.: SB610.W39
Reduced-herbicide weed management systems for no-tillage corn
(*Zea mays*) in a
hairy vetch (*Vicia villosa*) cover crop.
Teasdale, J.R.
Champaign, Ill. : The Weed Science Society of America; 1993
Oct. Weed technology : a journal of the Weed Science Society
of America v. 7 (4): p. 879-883; 1993 Oct. Includes

references.

Language: English

Descriptors: Maryland; Cabt; Zea mays; No-tillage; Cover crops; Vicia villosa; Live mulches; Weed control; Chemical control; Cultural weed control; Low input agriculture; Sustainability; Crop yield; Atrazine; Dicamba; Metolachlor; Sulfonylurea herbicides; Paraquat; Efficacy; Chemical vs. cultural weed control; Crop weed competition

162 NAL Call. No.: QH541.5.F6F67
Reducing bearclover by repeated growing-season prescribed burns: preliminary test results.
Weatherspoon, C.P.; Skinner, C.N.; Simpton, C.S.
Redding, Calif. The Conference; 1991.
Proceedings ... annual Forest Vegetation Management Conference (12): p. 1-9; 1991. Meeting held May 14-16, 1991, Redding, California. Includes references.

Language: English

Descriptors: California; Pinus ponderosa; Woody weeds; Weed control; Prescribed burning

163 NAL Call. No.: 79.9 W52
"Relay-planting" from alfalfa to cotton, blackeyes or silage corn. Kempen, H.M.; Muner, D.; Gonzalez, M.P.
Reno, Nev. : The Society; 1991.
Proceedings - Western Society of Weed Science v. 44: p. 103-108; 1991.
Meeting held March 12-14, 1991, Seattle Washington.

Language: English

Descriptors: Medicago sativa; Gossypium; Phaseolus vulgaris; Zea mays; Relay cropping; Cultural weed control

164 NAL Call. No.: SB451.34.V8V57
Research: landscape fabrics for weed control in home landscapes. Derr, J.F.
Blacksburg, Va. : Extension Division, Virginia Polytechnic Institute and State University; 1992 Jan.
The Virginia gardener v. 11 (1): p. 3; 1992 Jan.

Language: English

Descriptors: Plastic fabric; Weed control; Mulches

165 NAL Call. No.: 60.18 J82
Response of cottontail rabbit populations to herbicide and fire applications on cross timbers rangeland.
Lochmiller, R.L.; Boggs, J.F.; McMurry, S.T.; Leslie, D.M. Jr; Engle, D.M.
Denver, Colo. : Society for Range Management; 1991 Mar.
Journal of range management v. 44 (2): p. 150-155; 1991 Mar.

Includes references.

Language: English

Descriptors: Oklahoma; *Sylvilagus floridanus*; Population dynamics; Population density; Habitats; Brush control; Range management; Tebuthiuron; Triclopyr; Prescribed burning; Ecotones; Forests; Prairies

Abstract: Knowledge of how resident wildlife populations respond to brush management strategies is especially limited for rangelands in the cross timbers vegetation type of Oklahoma. We examined how cottontail rabbit (*Sylvilagus floridanus*) density and habitat use were influenced by applications of tebuthiuron or triclopyr, with and without annual burning, on cross timbers rangeland. Line transect flush-counts, mark-recapture livetrapping, and fecal pellet counts were used to evaluate seasonal differences in population density among 5 brush control treatments. Cottontail rabbits (n = 225) were flushed along 362 km of line transects during 5 census periods. Density in winter was consistently lower than summer for all treatments, except for the untreated control in winter 1987. Line transect density estimates varied from 0 to 1.975 rabbits/ha and suggested that herbicide and annual burning treatments had a positive influence on cottontail rabbit populations compared to untreated controls. Mark-recapture density estimates did not differ among treatments. Fecal pellet counts were greater on herbicide-treated pastures than an untreated control in both spring and fall. Prairie-eastern redcedar (*Juniperus virginiana* L.) and forest-prairie ecotone habitats were utilized greater than expected by cottontail rabbits. Mature hardwood overstory and mixed-brush habitats were avoided. Tebuthiuron and triclopyr effectively decreased hardwood overstory and increased preferred habitats for cottontail rabbits.

166 NAL Call. No.: QH301.A76
Response of ground flora to varying cultivation and weed control programmes on three contrasting farm forestry sites in Scotland. Davies, D.H.K.; Palmer, H.E.; Carnegie, H.; Gwynne, D.; Talbot, M. Wellesbourne, Warwick : The Association of Applied Biologists; 1992. Aspects of applied biology (29): p. 219-224; 1992. In the series analytic: Vegetation management in forestry, amenity and conservation areas. Paper presented at the conference of the Association, April 7-9, 1992, University of York, England. Includes references.

Language: English

Descriptors: Scotland; Farm woodlands; Ground cover plants; Weed control; Weeds; Monitoring; Site factors; Trees; Establishment

167 NAL Call. No.: S592.7.A1S6
Response of soil microbial biomass and plant litter decomposition to weed management strategies in maize and asparagus cropping systems. Wardle, D.A.; Yeates, G.W.; Watson, R.N.; Nicholson, K.S.

Exeter : Pergamon Press; 1993 Jul.
Soil biology & biochemistry v. 25 (7): p. 857-868; 1993 Jul.
Includes references.

Language: English

Descriptors: New Zealand; Cabt; Zea mays; Asparagus
officinalis; Cultural weed
control; Manual weed control; Chemical control; Soil flora;
Biomass; Biological activity in soil; Litter (plant);
Microbial degradation

Abstract: Five weed management strategies (sawdust mulching, repeated spring-summer cultivation, hand-hoeing and two herbicide treatments) were applied to each of two cropping systems (maize and asparagus) near Hamilton, New Zealand. Assessments of the response of microbial activity and biomass were made over an entire annual cropping cycle (from August 1990 to October 1991). Soil respiration and substrate-induced respiration (SIR) were strongly stimulated by sawdust mulch over the experimental period, probably as a result of the enhanced soil moisture status, but the other treatments did not exert any strong consistent effects. Use of the selective inhibitor technique demonstrated temporary stimulatory effects of mulching, cultivation and (occasionally) herbicide application on both the bacterial and fungal components of the soil system. The fumigation-incubation technique also suggested that mulching had stimulatory effects on microbial activity and biomass but only when control values were not subtracted. Most of the effects detected occurred in the top 5 cm of the mineral soil. Placement of litter-bags on the surface and at 10 cm depth indicated that litter decomposition was often most rapid in the sawdust-mulched plots, probably as a result of enhanced abiotic decomposition. Soil respiration and SIR were also greatest for the litter placed on the mulched plots, over most of the annual cropping cycle. We concluded that weed management strategies which influence soil moisture contents are likely to induce the most significant responses by the soil microflora.

168 NAL Call. No.: 275.29 OK41C
Response of understory vegetation to herbicides and burning on the cross timbers experimental range.
Engle, D.M.; Stritzke, J.F.; McCollum, F.T.
Stillwater, Okla. : The Service; 1992 Feb.
Circular E - Oklahoma State University, Cooperative Extension Service (905): p. 6-7; 1992 Feb. In the series analytic:
Range research highlights, 1983-1991 / edited by T.G. Bidwell, D. Titus and D. Cassels.

Language: English

Descriptors: Oklahoma; Range management; Weed control;
Herbicides; Prescribed
burning; Savannas; Tebuthiuron; Field tests

169 NAL Call. No.: 79.8 W41
Response of weed to tillage and cover crop residue.
Teasdale, J.R.; Beste, C.E.; Potts, W.E.
Champaign, Ill. : Weed Science Society of America; 1991 Apr.
Weed science v. 39 (2): p. 195-199; 1991 Apr. Includes
references.

Language: English

Descriptors: Maryland; Zea mays; Secale cereale; Vicia villosa; Cover crops; Plant residues; No-tillage; Plowing; Weeds; Population density; Mollugo verticillata; Chenopodium album; Eleusine indica; Digitaria sanguinalis; Eragrostis cilianensis; Cultural weed control

Abstract: Total weed density increased after 1 yr of no-tillage and after 2 yr of conventional tillage in a 4-yr experiment with repeated assignment of the same treatment to the same plots. Large crabgrass, goosegrass, and carpetweed densities were higher in the no-tillage compared with the conventional-tillage treatment in at least 1 yr whereas common lambsquarters density was greater in the conventional-tillage treatment the last year of the experiment. Within the no-tillage treatment, rye or hairy vetch residue reduced total weed density an average of 78% compared to the treatment without cover crop when cover crop biomass exceeded 300 g m⁻² and when residue covered more than 90% of the soil. Goosegrass, stinkgrass, and carpetweed densities were reduced by cover crop residue in at least 1 yr whereas large crabgrass was unaffected. Common lambsquarters density increased where rye was grown as a cover crop prior to conventional tillage. Despite differences in weed density among treatments, weed biomass was equivalent in all.

170

NAL Call. No.: 79.8 W412

A review of the ecology and control of thistles in Australia. Sindel, B.M.

Oxford : Blackwell Scientific Publications; 1991 Aug. Weed research v. 31 (4): p. 189-201; 1991 Aug. Literature review. Includes references.

Language: English

Descriptors: Australia; Carduus nutans; Carduus pycnocephalus; Carduus tenuiflorus; Carthamus lanatus; Cirsium vulgare; Onopordum acanthium; Onopordum illyricum; Silybum marianum; Weed biology; Plant ecology; Weed control; Pastures; Crop weed competition; Life cycle; Seed germination; Seed dormancy; Plant development; Cultural weed control; Chemical control; Grazing effects; Edaphic factors

171

NAL Call. No.: 10 EX72

The role of weeds in the productivity of Amazonian bush fallow agriculture.

Staver, C.

Cambridge : Cambridge University Press; 1991 Jul. Experimental agriculture v. 27 (3): p. 287-304; 1991 Jul. Includes references.

Language: English

Descriptors: Peru; Zea mays; Manihot esculenta; Musa; Shifting cultivation; Shrubs; Trees; Weed control; Weed biology; Weed competition; Crop weed competition; Crop yield; Herbage

172 NAL Call. No.: S451.N7A5
Rotary hoe removes young weeds in corn fields.
Pleasant, J.M.
Belmont, N.Y. : Cooperative Extension Association of Allegany
County; 1992
Feb21.
Allegany agriculture v. 17 (1): p. 3-4; 1992 Feb21.

Language: English

Descriptors: Zea mays; Weed control; Rotary hoes; Field tests

173 NAL Call. No.: 79.9 C122
Rotation techniques for control of weeds.
Kempen, H.M.; Agamalian, H.; Elmore, C.; Cudney, D.
Fremont, Calif. : California Weed Conference; 1991.
Proceedings - California Weed Conference (43rd): p. 70-77;
1991. Meeting held
January 21-23, 1991, Santa Barbara, California. Includes
references.

Language: English

Descriptors: Cultural weed control; Rotations

174 NAL Call. No.: SB610.W39
Runoff and erosion following mechanical and chemical control
of Creosotebush
(*Larrea tridentata*).
Wood, M.K.; Garcia, E.L.; Tromble, J.M.
Champaign, Ill. : The Society; 1991 Jan.
Weed technology : a journal of the Weed Science Society of
America v. 5 (1): p. 48-53; 1991 Jan. Includes references.

Language: English

Descriptors: New Mexico; *Larrea tridentata*; Brush control;
Chemical control; Cultural weed control; Deep plowing;
Tebuthiuron; Erosion; Runoff; Sediment
yield

175 NAL Call. No.: SB950.2.I3I4
Rye: more than a mulch for weed control.
Doll, J.; Bauer, T.
Urbana, Ill. : Cooperative Extension Service, Univ of Illinois
at Urbana-Champaign; 1991.
Illinois Agricultural Pesticides Conference summaries of
presentations January
8, 9, 10, 1991, Urbana, Illinois / Univ of Illinois at
Urbana-Champaign, Coop
Ext Serv, in coop with the Illinois Natural History Survey. p.
146-149; 1991.
"Proceedings of the 1991 Illinois Agricultural Pesticides
Conference," January
8-10, 1991, Urbana, Illinois. Includes references.

Language: English

Descriptors: Wisconsin; Rye; Weed control

176 NAL Call. No.: SB610.W39
Seed germination, physical and chemical control of Catclaw
mimosa (*Mimosa*
pigra var. *pigra*).
Creager, R.A.
Champaign, Ill. : The Weed Science Society of America; 1992
Oct. Weed technology : a journal of the Weed Science Society
of America v. 6 (4): p. 884-891; 1992 Oct. Includes
references.

Language: English

Descriptors: Florida; Cabt; *Mimosa pigra*; Aquatic weeds;
Growth; Seed
germination; Herbicides; Chemical control; Efficacy; Burning;
Cutting; Cultural control; Weed control

177 NAL Call. No.: SB610.W39
Seeding arrangement on winter wheat (*Triticum aestivum*) grain
yield and
interaction with Italian ryegrass (*Lolium multiflorum*).
Appleby, A.P.; Brewster, B.D.
Champaign, Ill. : The Weed Science Society of America; 1992
Oct. Weed technology : a journal of the Weed Science Society
of America v. 6 (4): p. 820-823; 1992 Oct. Includes
references.

Language: English

Descriptors: Oregon; Cabt; *Triticum aestivum*; *Lolium*
multiflorum; Weeds; Drilling; Sowing rates; Crop yield; Crop
weed competition; Weed control; Cultural control

178 NAL Call. No.: SB610.W39
Seeding date, seeding rate, and row spacing affect wheat
(*Triticum aestivum*)
and cheat (*Bromus secalinus*).
Koscelny, J.A.; Peeper, T.F.; Solie, J.B.; Solomon, S.G. Jr
Champaign, Ill. : The Society; 1991 Oct.
Weed technology : a journal of the Weed Science Society of
America v. 5 (4): p. 707-712; 1991 Oct. Includes references.

Language: English

Descriptors: Oklahoma; *Triticum aestivum*; *Bromus secalinus*;
Crop weed
competition; Row spacing; Sowing rates; Sowing date; Cultural
weed control; Crop yield; Grain; Tillering

179 NAL Call. No.: SB610.2.B74
Selective wavelength transmitting mulch for yellow nutsedge
control.
Majek, B.A.; Neary, P.E.
Surrey : BCPC Registered Office; 1991.
Brighton Crop Protection Conference-Weeds v. 1: p. 263-268;
1991. Includes references.

Language: English

Descriptors: Vegetables; Weed control; Mulches; Plastic film;
Cyperus
esculentus

180

NAL Call. No.: SB610.W39

SELOMA: expert system for weed management in herbicide-intensive crops.

Stigliani, L.; Resina, C.

Champaign, Ill. : The Weed Science Society of America; 1993 Jul. Weed technology : a journal of the Weed Science Society of America v. 7 (3): p. 550-559; 1993 Jul. Includes references.

Language: English

Descriptors: Weed control; Decision making; Expert systems; Hordeum vulgare; Zea mays; Avena sativa; Secale cereale; Beta vulgaris; Sorghum bicolor; Triticum durum; Computer hardware; Computer software; Weeds; Integrated control; Herbicides; Chemical control; Cultural weed control

181

NAL Call. No.: 79.8 W41

Simulation analysis of weed population dynamics in ridge-tilled fields.

Jordan, N.

Champaign, Ill. : Weed Science Society of America; 1993 Jul. Weed science v. 41 (3): p. 468-474; 1993 Jul. Includes references.

Language: English

Descriptors: Abutilon theophrasti; Setaria pumila; Weed biology; Population dynamics; Persistence; Conservation; Tillage; Seed banks; Cultural weed control; Threshold models; Simulation models; Emergence; Sexual reproduction; Survival

Abstract: Effects of nonchemical weed control on weed and seedbank demography in ridge-tilled fields were simulated to examine long-term effects on weed population dynamics. Ridge tillage entails active seedbank management, including removal of much of the seedbank from the crop growth zone (ridge) to the interridge zone (furrow) at planting, and other seedbank manipulations. Dynamics of simulated yellow foxtail and velvetleaf populations were sharply sensitive to the rate of seed removal from the ridge. Variation in winter seed survival, ridge plant demography (emergence, survival, and seed production), and seed survival in the furrow after removal from the ridge also had strong effects on simulated dynamics. To prevent rapid population growth in a simulated corn-soybean rotation, very effective control of seedlings emerging with each crop was necessary to offset seed production from seedlings emerging after ridge rebuilding in corn years. Dynamics of both species were highly sensitive to cultivation efficiency. Effective "rescue" weed control must be available to prevent sharp increases in weed seedbanks during years when cultivation is ineffective.

182

NAL Call. No.: 79.9 C122

Soil solarization.

Bell, C.E.

Fremont, Calif. : California Weed Conference; 1991. Proceedings - California Weed Conference (43rd): p. 188-191; 1991. Meeting

held January 21-23, 1991, Santa Barbara, California. Includes references.

Language: English

Descriptors: Soil solarization; Cultural weed control

183 NAL Call. No.: SB610.W39
Soil solarization for weed management in U.A.E.
Al-Masoom, A.A.; Saghir, A.R.; Itani, S.
Champaign, Ill. : The Weed Science Society of America; 1993
Apr. Weed technology : a journal of the Weed Science Society
of America v. 7 (2): p. 507-510; 1993 Apr. Includes
references.

Language: English

Descriptors: United arab emirates; Cabt; Lactuca sativa;
Allium sativum; Cultural weed control; Soil solarization;
Sequential cropping; Efficacy; Residual effects

184 NAL Call. No.: 79.9 C122
Soil solarization: weed control using solar energy.
Bell, C.E.
Fremont, Calif. : California Weed Conference; 1993.
Proceedings / (45th): p. 4-7; 1993. Paper presented at the
Conference on
"Weeds and People, Putting Weed Management in Perspective,"
January 18-20, 1993, Costa Mesa, California. Includes
references.

Language: English

Descriptors: Cultural weed control; Soil solarization

185 NAL Call. No.: 64.8 C883
Soil temperature and moisture effects on downy brome vs.
winter canola, wheat, and rye emergence.
Blackshaw, R.E.
Madison, Wis. : Crop Science Society of America; 1991 Jul.
Crop science v. 31 (4): p. 1034-1040; 1991 Jul. Includes
references.

Language: English

Descriptors: Alberta; Bromus tectorum; Winter; Crops; Brassica
napus var.
oleifera; Triticum aestivum; Secale cereale; Cultural weed
control; Soil
temperature; Soil water content; Effects; Emergence;
Seedlings; Weed
competition

Abstract: Downy brome (*Bromus tectorum* L.) causes serious yield reductions in winter cereals in the western USA and Canada. Current control practices often are ineffective. A study was conducted under controlled-environment and field conditions to determine the effect of soil temperature (5-30 degrees C) and moisture (-0.03 to - 1.53 MPa) on the rate and total emergence of downy brome relative to that of winter cultivars of canola (*Brassica napus* L.), wheat (*Triticum aestivum* L.), and rye (*Secale cereale* L.) with the aim of

developing improved cultural control measures. A strong temperature-moisture interaction was found for all species. Downy brome emergence was affected more by varying soil temperature and moisture conditions than rye or wheat but less than winter canola. Wheat and rye emergence was > 88 and 82%, respectively, across the entire range of soil temperature and moisture conditions. Canola emergence decreased to < 60% in cool, dry soils. Downy brome emergence remained > 70% for all soil temperature and moisture conditions, a sufficiently high percentage to pose a serious weed problem. Downy brome usually emerged more slowly than the crop species, but the additional time required to reach 50% emergence compared with that of the crop species was no more than 8 d. Results indicated that differences between downy brome and canola, wheat, and rye in their soil temperature and moisture requirements for optimal emergence are likely insufficient to allow development of cultural control practices to reduce the establishment of competitive stands of downy brome in these winter crops.

186 NAL Call. No.: 99.8 F7623

Some future directions for biologically based vegetation control in forestry research.

Jobidon, R.

Ottawa : Canadian Institute of Forestry; 1991 Oct.

The Forestry chronicle v. 67 (5): p. 514-519; 1991 Oct. Paper presented at

the symposium on "Recent Advances in Forest Pest Management", Oct 21, 1990, Sault Ste. Marie, Ontario. Includes references.

Language: English

Descriptors: Vegetation management; Weed control; Biological control; Phytotoxins; Allelopathy; Microbial pesticides; Research

Abstract: During the past decade, considerable research efforts have been devoted towards non-chemical weed control. Some of these efforts have been directed towards the control of forest weed species. Non-chemical control of forest vegetation encompasses many approaches and techniques and only a few of them are discussed in this paper. Three major and promising research areas are identified: 1) allelopathy, (2) microbially produced phytotoxins, and 3) bio-control. Each of these weed management strategies is briefly presented and discussed using examples from the forestry literature.

187 NAL Call. No.: 275.29 W27Pn

St. Johnswort--*Hypericum perforatum* L.

Fitzsimmons, J.P.; Burrill, L.C.

Corvallis, Or. : Washington, Oregon, and Idaho State Universities, Cooperative

Extension Service; 1993 Mar.

PNW (442): 2 p.; 1993 Mar. In subseries: Weeds.

Language: English

Descriptors: California; Cabt; Washington; Cabt; Oregon; Cabt; *Hypericum perforatum*; Weeds; Chemical vs. cultural weed control; Biological control

188 NAL Call. No.: SB599.C8
Strategies for the control of *Avena sterilis* in winter wheat
production systems
in central Spain.
Gonzalez-Andujar, J.L.; Fernandez-Quintanilla, C.
Oxford : Butterworths-Heinemann Ltd; 1993 Dec.
Crop protection v. 12 (8): p. 617-623; 1993 Dec. Includes
references.

Language: English

Descriptors: Spain; Cereals; Triticum; Winter wheat; *Avena
sterilis*; Continuous
cropping; Fallow; Cultural control; Weed control; Chemical
control; Herbicides; Plant density; Infestation; Crop yield;
Fixed costs; Economic
analysis; Profitability; Deterministic models

189 NAL Call. No.: QL461.I57
Status of biological control of *Parthenium hysterophorus* L. in
India: a
review.
Srikanth, J.; Pushpalatha, N.A.
Nairobi, Kenya : ICIPE Science Press; 1991 Aug.
Insect science and its application v. 12 (4): p. 347-359; 1991
Aug. Literature review. Includes references.

Language: English

Descriptors: India; *Parthenium hysterophorus*; Biological
control; Weed
control; Insects; Mites; Pathogens; Mycotoxins; Parasitic
plants; Natural
enemies; Allelopathy; Surveys; Literature reviews

Abstract: Biological control efforts on *Parthenium
hysterophorus* L. (Asteraceae) in India have gained momentum
after the limitations of other methods were realized. Native
surveys revealed a large number of insects, but none of them
was host specific. Although the introduced beetle *Zygogramma
bicolorata* Pallister (Coleoptera: Chrysomelidae) has
established at the sites of initial releases, its real impact
on the weed and performance in different parts of the country
need further evaluation. Fungal pathogens of the weed hold
promise for classical as well as microherbicidal control. The
use of *parthenium* phyllody MLO as a biocontrol agent requires
establishment of host and vector specificity. Mycotoxins are a
potential group of herbicides on which serious studies are yet
to begin. Studies on control of the weed through interference
and allelopathy by *Cassia uniflora* Mill.(= *C. sericea* Sw.)
(Leguminosae) have produced promising results. Toxic leachates
of *C. uniflora* and autotoxic principles of the weed deserve
attention. integrated biocontrol strategies envisaged for
wastelands using introduced insects and pathogens,
allelopathic plants, and agroecosystems using native
pathogens, mycotoxins and autotoxic principles, will help
combat this apparently invincible weed.

190 NAL Call. No.: QH301.A76
Strategy for the control of giant hogweed (*Heraclium
mantegazzianum*) on the
River Ayr in Scotland.
Tiley, G.E.D.; Philp, B.

Wellesbourne, Warwick : The Association of Applied Biologists; 1992.

Aspects of applied biology (29): p. 463-466; 1992. In the series analytic: Vegetation management in forestry, amenity and conservation areas. Paper presented at the conference of the Association, April 7-9, 1992, University of York, England. Bibliography. Includes references.

Language: English

Descriptors: Scotland; *Heracleum mantegazzianum*; Introduced species; Invasion; Weed control; Chemical control; Glyphosate; Mechanical methods; Public health

191 NAL Call. No.: SB950.A1P3

Studies of weeding frequency in cassava in Cameroon.

Ambe, J.T.; Agboola, A.A.; Hahn, S.K.

London : Taylor & Francis; 1992 Jul.

Tropical pest management v. 38 (3): p. 302-304; 1992 Jul.

Includes references.

Language: English

Descriptors: Cameroon; *Manihot esculenta*; Cultivars; Weeds; Manual weed control; Frequency

192 NAL Call. No.: SB950.A1P3

Studies on integrated weed management in sorghum.

Ramakrishna, A.; Ong, C.K.; Reddy, S.L.N.

London : Taylor & Francis; 1991 Apr.

Tropical pest management v. 37 (2): p. 159-161; 1991 Apr.

Includes references.

Language: English

Descriptors: Andhra pradesh; *Sorghum bicolor*; Weed control; Integrated control; Chemical control; Metolachlor; Bentazone; Atrazine; Herbicide mixtures; Application rates; Manual weed control; Crop yield; Grain

193 NAL Call. No.: S601.A34

Subterranean clover living mulch: an alternative method of weed control.

Ilnicki, R.D.; Enache, A.J.

Amsterdam : Elsevier; 1992 May.

Agriculture, ecosystems and environment v. 40 (1/4): p.

249-264; 1992 May. In

the Special Issue: Biotic Diversity in Agroecosystems / edited by M.G.

Paoletti and D. Pimentel. Proceedings from a symposium on Agroecology and

Conservation Issues in Tropical and a Temperate Regions,

September 26-29, 1990, Padova, Italy. Includes references.

Language: English

Descriptors: New Jersey; Weed control; Live mulches; *Trifolium subterraneum*; Mulches; *Secale cereale*; Cover crops; *Zea mays*;

Glycine max; Cucurbita pepo; Brassica oleracea; Phaseolus vulgaris; Lycopersicon esculentum; Tillage; Minimum tillage; No-tillage; Herbicides; Weeds; Biomass production; Crop yield; Alternative farming

194 NAL Call. No.: SB950.A1P3
Suitability of organic mulch (distillation waste) and herbicides for weed management of perennial aromatic grasses.
Singh, A.; Singh, K.; Singh, D.V.
London : Taylor & Francis; 1991 Apr.
Tropical pest management v. 37 (2): p. 162-165; 1991 Apr.
Includes references.

Language: English

Descriptors: Essential oil plants; Cymbopogon winterianus; Cymbopogon flexuosus; Cymbopogon martinii; Weed control; Chemical control; Simazine; Atrazine; Diuron; 2,4-d; Oxyfluorfen; Cultural weed control; Mulching; Plant residues; Distillers' residues; Waste utilization; Crop yield; Essential oils

195 NAL Call. No.: S605.5.074
Super secrets of successful weed warriors.
Jesiolowski, J.
Emmaus, PA : Rodale Press, c1988-; 1993 Jul.
Organic gardening v. 40 (6): p. 26-28; 1993 Jul.

Language: English

Descriptors: U.S.A.; Cabt; Vegetable growing; Weed control; Mulching; Live mulches; Geese; Intensive cropping; Alternative farming

196 NAL Call. No.: QK900.J67
Suppression of annuals by Tribulus terrestris in an abandoned field in the sandy desert of Kuwait.
El-Ghareeb, R.M.
Knivsta, Sweden : Opulus Press; 1991 Apr.
Journal of vegetation science v. 2 (2): p. 147-154; 1991 Apr.
Includes references.

Language: English

Descriptors: Kuwait; Tribulus terrestris; Weed competition; Allelopathy; Germination inhibitors; Invasion; Leachates; Phenolic compounds; Sandy soils; Annuals; Deserts; Plant communities; Site factors

197 NAL Call. No.: SB610.2.B74
Surveys of straw disposal methods in England and Wales and farmers' attitudes to the forthcoming ban on burning straw.
Townsend, G.M.; Wright, E.; Orson, J.H.
Surrey : BCPC Registered Office; 1991.
Brighton Crop Protection Conference-Weeds v. 2: p. 829-834; 1991. Conference held November 18-21, 1991, Brighton, England. Includes

references.

Language: English

Descriptors: England; Wales; Crop residues; Straw burning; Air pollution; Weed control

198 NAL Call. No.: S601.A34
Survival and growth of peach trees and pest populations in orchard plots managed with experimental ground covers.
Meyer, J.R.; Zehr, E.I.; Meagher, R.L. Jr; Salvo, S.K.
Amsterdam : Elsevier; 1992 Sep.
Agriculture, ecosystems and environment v. 41 (3/4): p. 353-363; 1992 Sep.
Includes references.

Language: English

Descriptors: Prunus persica; Crop management; Ground cover plants; Species; Cover crops; Survival; Growth; Plant pests; Populations; Population density; Crop damage; Species differences; Integrated pest management; Weed control; Cultural control

199 NAL Call. No.: 79.9 C122
Synthetic mulches of weed control.
Elmore, C.L.
Fremont, Calif. : California Weed Conference; 1991.
Proceedings - California Weed Conference (43rd): p. 64-69; 1991. Meeting held January 21-23, 1991, Santa Barbara, California. Includes references.

Language: English

Descriptors: Cultural weed control; Mulches

200 NAL Call. No.: 450 C16
Tillage and rotation influences on weed community composition in wheat (*Triticum aestivum* L.) in southwestern Saskatchewan.
Hume, L.; Tessier, S.; Dyck, F.B.
Ottawa : Agricultural Institute of Canada; 1991 Jul.
Canadian journal of plant science; Revue canadienne de phytotechnie v. 71 (3): p. 783-789; 1991 Jul. Includes references.

Language: English

Descriptors: Saskatchewan; *Triticum aestivum*; *Setaria viridis*; *Hordeum jubatum*; Weed associations; Crop weed competition; Tillage; Rotation; Cultural weed control

201 NAL Call. No.: 75.8 P842
Timing of herbicide application and potato hilling.
Renner, K.A.
Orono, Me. : Potato Association of America; 1992 Mar.

American potato journal v. 69 (3): p. 167-177; 1992 Mar.
Includes references.

Language: English

Descriptors: Michigan; Solanum tuberosum; Weed control;
Chemical control; Metribuzin; Eptc; Metolachlor; Linuron;
Herbicide mixtures; Sethoxydim; Oils; Application rates;
Application date; Timing; Cultural weed control; Hilling;
Cultivars; Crop weed competition; Varietal reactions

202 NAL Call. No.: S494.5.S86S8
Towards promoting sustainable agriculture in Sub-Saharan
Africa: the case of
manual versus chemical weed control among small-holders in
Bauchi State of
Nigeria.
Eziakor, I.G.
Binghamton, N.Y. : Food Products Press; 1992.
Journal of sustainable agriculture v. 3 (1): p. 65-80; 1992.
Includes references.

Language: English

Descriptors: Nigeria; Traditional farming; Tropics; Weed
control; Chemical
control; Manual weed control; Comparisons; Sustainability

203 NAL Call. No.: 100 F663
Transplanting lettuce in a weedy field culture system using
five weed
suppressing treatments and their effect on yields and quality
of crisphead
lettuce.
Guzman, V.L.
Belle Glade, Fla. : The Center; 1993 Feb.
Belle Glade EREC research report EV - Florida University
Agricultural Research
and Education Center (1993-2): p. 25-31; 1993 Feb. Paper
presented at the
Lettuce Research Workshop, February 4, 1993, Belle Glade,
Florida.

Language: English

Descriptors: Florida; Lactuca sativa; Transplanting; Weeds;
Weed control; Herbicides; Crop yield; Crop quality; Manual
weed control

204 NAL Call. No.: 275.29 W27Pn
Tuber oatgrass--*Arrhenatherum elatius* L. Presl. var. *bulbosum*
(Willd).
Spenner.
Fitzsimmons, J.P.; Burrill, L.C.
Corvallis, Or. : Washington, Oregon, and Idaho State
Universities, Cooperative
Extension Service; 1993 Mar.
PNW (445): 2 p.; 1993 Mar.

Language: English

Descriptors: *Arrhenatherum elatius* subsp. *bulbosum*;

Identification; Chemical
vs. cultural weed control

205 NAL Call. No.: 80 AC82
The use of black plastic mulch and ridges in the production of
herbicide free
herbs.
Galambosi, B.; Szebeni-Galambosi, Z.
Wageningen : International Society for Horticultural Science;
1992 May.
Acta horticulturae (306): p. 353-356; 1992 May. Paper
presented at the
International Symposium on Medicinal and Aromatic Plants,
September 4-6, 1990, Budapest, Hungary and at the XXIIIrd
International Horticultural Congress, August, 1990, Florence,
Italy. Includes references.

Language: English

Descriptors: Finland; Medicinal plants; Weed control; Plastic
film; Ridges; Crop yield

206 NAL Call. No.: SB599.C8
Use of tillage to control *Cynodon dactylon* under small-scale
farming
conditions.
Phillips, M.C.
Oxford : Butterworths-Heinemann Ltd; 1993 Jun.
Crop protection v. 12 (4): p. 267-272; 1993 Jun. Includes
references.

Language: English

Descriptors: Botswana; Cabt; Sorghum; *Cynodon dactylon*;
Regrowth; Plowing; Frequency; Winter; Spring; Tillage; Crop
yield; Stover; Grain; Residual
effects; Weed control; Cultural control

207 NAL Call. No.: SB950.A1C62
Using animals for weed management.
Olkowski, H.; Olkowski, W.
Berkeley, CA : Bio Integral Resource Center, c1984-; 1992.
Common sense pest control quarterly v. 8 (2): p. 5-13; 1992.
Includes references.

Language: English

Descriptors: U.S.A.; Cabt; Weed control; Fowls; Geese; Sheep;
Donkeys; Firebreaks; Animal husbandry; Feeds; Animal manures;
Centaurea solstitialis; Electric fences; Fencing; Sheep dogs

208 NAL Call. No.: 442.8 Z8
Variation within flax (*Linum usitatissimum*) and barley
(*Hordeum vulgare*) in
response to allelopathic chemicals.
Ray, H.; Hastings, P.J.
Berlin, W. Ger. : Springer International; 1992.
Theoretical and applied genetics v. 84 (3/4): p. 460-465;
1992. Includes references.

Language: English

Descriptors: *Hordeum vulgare*; *Linum usitatissimum*; *Avena fatua*; *Linum*; Genetic variation; Cultivars; Tolerance; Allelopathins; Allelopathy; P-coumaric acid; Shoots; Roots; Growth; Phenolic acids; Plant extracts

Abstract: A possible method of manipulating allelopathy would be to develop crop varieties showing an increased tolerance to allelopathic chemicals. We therefore examined four flax (*Linum usitatissimum*) varieties and two wild *Linum* species in the presence of p-coumaric acid and four barley (*Hordeum vulgare*) varieties in the presence of p-coumaric acid, scopoletin and wild oat (*Avena fatua*) extract. Analysis of variance indicates significant interaction between variety and treatment for shoot and root growth for seedling flax, shoot growth for older flax, and root growth for seedling barley. These differences in tolerance between varieties could be exploited to develop varieties with greater tolerances to the allelochemicals produced by weeds or in crop residues and therefore potentially more tolerant of the presence of weeds.

209

NAL Call. No.: 60.18 J82

Vegetation changes following brush control in creosotebush communities.

Morton, H.L.; Melgoza, A.

Denver, Colo. : Society for Range Management; 1991 Mar.

Journal of range management v. 44 (2): p. 133-139; 1991 Mar.

Includes references.

Language: English

Descriptors: Arizona; Mexico; *Larrea tridentata*; Brush control; Deserts; Tebuthiuron; Manual weed control; Tillage; Grasses; Plant density; Botanical composition; Shrubs; Canopy; Desert plants; Discing

Abstract: Changes in herbaceous plant density and canopy cover of creosotebush (*Larrea tridentata* Sesse & Moc. ex DC) and associated shrubs following brush control treatments were measured in Sonoran and Chihuahuan Desert communities. Treatments were applied in 2 successive years at the Santa Rita Experimental range, Arizona, and 3 locations in Chihuahua, Mexico. Across all locations and years 1.5 kg/ha tebuthiuron (N-[5-(1,1-dimethylethyl)-1,3,4-thiadiazol-2-yl]-N,N'-dimethylurea) > 1.0 kg/ha tebuthiuron = disking = disking with furrowing > 2-way raveling > 0.5 kg/ha tebuthiuron > land imprinting in reducing canopy cover of creosotebush and associated shrubs. At the Santa Rita Experimental Range annual precipitation was above long-term mean in 1982, 1983, 1984, and 1985; and grass density increased on all treated and untreated plots. Annual precipitation was below long-term mean during 1986 and 1987 and grass density decreased on both treated and untreated plots but did not decrease to pre-treatment densities. Forb densities were less than 3 plants/m² throughout the study, except in 1987 when Russian thistle (*Salsola iberica* Sennen & Pau) increased on all plots. At the Chihuahuan locations, grass densities usually increased during the first year of the study, but very low precipitation throughout the study caused subsequent reductions in grass and forb densities. In dry years brush control treatments did not increase herbaceous plant density.

210 NAL Call. No.: 79.9 C122
Vegetation management in table grapes.
Jehle, M.
Fremont, Calif. : California Weed Conference; 1992.
Proceedings - California Weed Conference (44th): p. 197-199;
1992. Paper
presented at the meeting on "Many Benefits of Weed Control,"
January 20-22, 1992, Sacramento, California.

Language: English

Descriptors: California; Vitis; Weeds; Weed control;
Herbicides; Cultural weed
control

211 NAL Call. No.: 60.18 J82
Vegetation responses to 2 brush management practices in south
Texas.
Bozzo, J.A.; Beasom, S.L.; Fulbright, T.E.
Denver, Colo. : Society for Range Management; 1992 Mar.
Journal of range management v. 45 (2): p. 170-175; 1992 Mar.
Includes references.

Language: English

Descriptors: Texas; Brush control; Rangelands; Acacia
berlandieri; Acacia
rigidula; Aloysia lycioides; Habitats; Wildlife; Odocoileus
virginianus; Discing; Vegetation management

Abstract: Brush management for improving wildlife habitat in
South Texas is important because of the economic value of
wildlife. We determined vegetation responses to (1) roller
chopping of guajillo (*Acacia berlandieri* Benth.)-blackbrush
acacia (*A. rigidula* Benth.)-dominated rangeland and (2) heavy
discing of whitebrush (*Aloysia lycioides* Cham.)-dominated
rangeland to improve white-tailed deer (*Odocoileus virginianus*
Raf.) habitat. Canopy cover of vegetation was estimated
seasonally during August 1988 to April 1990. Both treatments
reduced brush canopy cover, but herbaceous response depended
on rainfall. Mean herbaceous cover was 65 and 136% higher on
roller chopped sites than on untreated sites when averaged
across all sampling dates. Heavy discing reduced relative
canopy cover of whitebrush but increased cover of spiny
hackberry (*Celtis pallida* Torr.), an important browse species.
Forb species richness was higher on roller chopped and disced
sites than on untreated sites, but species diversity was
similar. Because herbaceous response to brush removal may
depend on rainfall, other factors such as effects on browse
availability and nutritional quality may need to be considered
when planning brush management strategies to improve white-
tailed deer habitat.

212 NAL Call. No.: 275.29 W27PN
Velvetleaf: (*Abutilon theophrasti* Medic.).
Roche, C.
Corvallis, Or. : The Service; 1991 Jun.
PNW - Pacific Northwest Extension Publication, Washington,
Oregon, and Idaho
State Universities, Cooperative Extension Service (368): 2 p.;
1991 Jun. In
subseries: Weeds.

Language: English

Descriptors: Idaho; Washington; Oregon; Abutilon theophrasti;
Manual weed
control

213 NAL Call. No.: 1.98 AG84

Victims no one mourns.
Hays, S.M.
Washington, D.C. : The Service; 1992 Feb.
Agricultural research - U.S. Department of Agriculture,
Agricultural Research
Service v. 40 (2): p. 10-11; 1992 Feb.

Language: English

Descriptors: Weed control; Aquatic weeds; Allelopathy;
Biological control

214 NAL Call. No.: S605.5.074

Visual guide to weeds & volunteers.
Jesiolowski, J.
Emmaus, PA : Rodale Press, c1988-; 1994 Apr.
Organic gardening v. 41 (4): p. 28-30, 32-36; 1994 Apr.

Language: English

Descriptors: Weeds; Identification; Weed control; Cultural
control; Domestic
gardens

215 NAL Call. No.: SF85.A1R32

Warm-season grasses in the Northern Great Plains.
Tober, D.A.; Chamrad, A.D.
Denver, Colo. : Society for Range Management; 1992 Aug.
Rangelands v. 14 (4): p. 227-230; 1992 Aug.

Language: English

Descriptors: North Dakota; South Dakota; Minnesota; Nebraska;
Manitoba; Gramineae; Cultivars; Rangelands; Summer; Prescribed
burning; Revegetation; Seed drills; Weed control; Field tests;
Grazing; Plant communities; Wildlife

216 NAL Call. No.: 79.9 C122

Water savings and weed control with mulches and plastics.
Elmore, C.L.; Tafoya, S.M.
Fremont, Calif. : California Weed Conference; 1993.
Proceedings / (45th): p. 147-154; 1993. Paper presented at
the Conference on
"Weeds and People, Putting Weed Management in Perspective,"
January 18-20, 1993, Costa Mesa, California. Includes
references.

Language: English

Descriptors: Cultural weed control; Mulches; Plastic film;
Water conservation; Soil water content

217 NAL Call. No.: SB610.W39

Weed and corn (*Zea mays*) responses to a hairy vetch (*Vicia villosa*) cover crop.

Hoffman, M.L.; Regnier, E.E.; Cardina, J.
Champaign, Ill. : The Weed Science Society of America; 1993
Jul. Weed technology : a journal of the Weed Science Society of America v. 7 (3): p. 594-599; 1993 Jul. Includes references.

Language: English

Descriptors: Ohio; Cabt; *Zea mays*; No-tillage; Cover crops; *Vicia villosa*; Cultural weed control; Alternative farming; Low input agriculture; Glyphosate; Application rates; Efficacy; *Chenopodium album*; Competitive ability; Crop yield; Yield losses; Sowing date

218 NAL Call. No.: 275.29 AL13P
Weed control in cole crops, carrots, lettuce, and peas for 1991. Fairbanks, Alaska : The Service; 1991 Jul.
Publication - University of Alaska, Cooperative Extension Service v.): 7 p.; 1991 Jul.

Language: English

Descriptors: Alaska; Brassica; *Daucus carota*; *Lactuca sativa*; *Pisum sativum*; Weed control; Herbicides; Cultural control

219 NAL Call. No.: S544.3.A2C47
Weed control in home gardens.
Everest, J.W.; Williams, J.D.
Auburn, Ala. : The Service; 1992 Feb.
Circular ANR - Alabama Cooperative Extension Service, Auburn University (322): 4 p.; 1992 Feb. In subseries: Agronomy.

Language: English

Descriptors: Domestic gardens; Weed control; Mulching; Herbicides; Weeds

220 NAL Call. No.: QH301.A76
Weed control in linseed: a review.
Lutman, P.J.W.
Wellesbourne, Warwick : The Association of Applied Biologists; 1991.
Aspects of applied biology (28): p. 137-144; 1991. In the series analytic: Production and protection of linseed / edited by R.J.
Froud-Williams, P.
Gladders, M.C. Heath, J.F. Jenkyn, C.M. Knott, A. Lane, and D. Pink.
Literature review. Includes references.

Language: English

Descriptors: *Linum usitatissimum*; Weeds; Chemical vs. cultural weed control; Crop weed competition; Herbicides; Literature reviews

221 NAL Call. No.: S544.3.N9C46
Weed control in North Dakota turfgrasses.

Smith, R.C.; Zollinger, R.
Fargo, N.D. : The University; 1991 Mar.
NDSU Extension Service [publication] - North Dakota State
University (H-1009): 4 p.; 1991 Mar.

Language: English

Descriptors: North Dakota; Lawns and turf; Weed control;
Cultural control; Herbicides; Weeds

222 NAL Call. No.: ViB1bVLD5655.V855 1992.V364
Weed control in no-till corn as affected by cultivation,
herbicide banding, and cover crop suppression.
VanLieshout, Lawrence Anthony, 1992; 1992.
xii, 142 leaves : ill. ; 28 cm. Vita. Abstract.
Bibliography: leaves 133-141.

Language: English

Descriptors: Corn; No-tillage

223 NAL Call. No.: SB950.3.A8P535
Weed control in pastures--are we winning?.
Campbell, M.H.
Victoria : R.G. Richardson; 1991.
Plant protection quarterly v. 6 (2): p. 55-63; 1991.
Literature review.
Includes references.

Language: English

Descriptors: Australia; Range pastures; Weeds; Introduced
species; Quarantine; Infestation; Geographical distribution;
Cost benefit analysis; Weed control; Grazing; Biological
control; Burning; Cultural weed control; Chemical control;
Literature reviews

224 NAL Call. No.: 79.9 C122
Weed control in small grains.
Wright, S.D.
Fremont, Calif. : California Weed Conference; 1993.
Proceedings / (45th): p. 88-92; 1993. Paper presented at the
Conference on
"Weeds and People, Putting Weed Management in Perspective,"
January 18-20, 1993, Costa Mesa, California. Includes
references.

Language: English

Descriptors: California; Cabt; Cereals; Grain crops; Weed
control; Chemical
control; Cultural weed control

225 NAL Call. No.: SB610.2.B74
Weed control in the developed world without chemicals:
implications for
agriculture, agriculture-related industries and consumers.
Askew, M.F.
Surrey : BCPC Registered Office; 1991.
Brighton Crop Protection Conference-Weeds v. 2: p. 775-788;
1991. Conference

held November 18-21, 1991, Brighton, England. Includes references.

Language: English

Descriptors: Weed control; Herbicides; Cultural weed control; Crop production

226 NAL Call. No.: S544.3.N7A4
Weed control must suit orchard situation.
Stiles, W.C.
Middletown, N.Y. : Cornell Cooperative Ext.--Orange County
Agriculture
Program, Education Center; 1991 Apr.
Agfocus : publication of Cornell Cooperative Extension--Orange
County. p. 12; 1991 Apr.

Language: English

Descriptors: Orchards; Tree fruits; Weed control; Manual weed control; Mulching; Mowing; Herbicides

227 NAL Call. No.: SB317.5.L65
Weed control strategies: mulches.
Der, J.
Riverhead, N.Y. : Cornell Cooperative Extension; 1991 Feb.
Long Island horticulture news. p. 3; 1991 Feb. Special
landscape insert, page
3.

Language: English

Descriptors: Cultural weed control; Mulching

228 NAL Call. No.: 100 AR42F
Weed control with crop allelopathy.
Dilday, R.H.; Frans, R.E.; Semidey, N.; Smith, R.J.; Oliver,
L.R. Fayetteville, Ark. : The Station; 1992 Jul.
Arkansas farm research - Arkansas Agricultural Experiment
Station v. 41 (4): p. 14-15; 1992 Jul. Includes references.

Language: English

Descriptors: Oryza sativa; Helianthus annuus; Gossypium
hirsutum; Glycine max; Weed control; Allelopathy; Crop yield

229 NAL Call. No.: SB321.G85
Weed IPM in sweet corn.
Ashley, R.A.
Storrs, Conn. : Coop. Ext. Serv., USDA, College of Agriculture
& Natural
Resources, Univ. of Conn; 1992 Apr.
The Grower : vegetable and small fruit newsletter v. 92 (4):
p. 4; 1992 Apr.

Language: English

Descriptors: Zea mays; Weed control; Integrated pest
management; Herbicides; Cultural control; Row spacing;
Nitrogen

230

NAL Call. No.: 64.8 C883

Weed management and tall fescue quality as influenced by mowing, nitrogen, and herbicides.

Dernoeden, P.H.; Carroll, M.J.; Krouse, J.M.

Madison, Wis. : Crop Science Society of America, 1961-; 1993 Sep. Crop science v. 33 (5): p. 1055-1061; 1993 Sep. Includes references.

Language: English

Descriptors: Maryland; Cabt; Festuca arundinacea; Lawns and turf; Nitrogen fertilizers; Application rates; Fenoxaprop; Pyridine herbicides; Pendimethalin; Weed control; Digitaria ischaemum; Trifolium repens; Crop quality; Chemical control; Cultural weed control; Mowing; Height; Chemical vs. cultural weed control

Abstract: A 3-yr field study was conducted to determine the influence of N level (98 and 196 kg ha⁻¹ yr⁻¹), mowing height (3.2, 5.5, and 8.8 cm), and three herbicides on weed encroachment and overall quality of tall fescue *Festuca arundinacea* Schreb. cv. Rebel II. The major objective of this study was to identify cultural methods of excluding weed development in tall fescue. Dithiopyr [3,5-pyridinedicarbothioic acid, 2-(difluoromethyl)-4-(2-methylpropyl)-6-(trifluoromethyl)-S,S-dimethyl-ylester] and pendimethalin [N-(1-ethylpropyl)-3,4-dimethyl-2,6-dinitrobenzenamine] were applied preemergence for smooth crabgrass [*Digitaria ischaemum* (Schreber) Schreber ex Muhlenb.] control, and fenoxaprop [(+/-)-2-[4-[(6-chloro-2-benzoxazolyl)oxy]-phenoxy]propanoic acid] was applied postemergence for crabgrass control. Rates of dithiopyr and pendimethalin were reduced or eliminated on selected plots in the last 2 yr of the study to determine if reduced herbicide inputs would continue to provide effective crabgrass control. Tall fescue mowed at 8.8 cm resisted smooth crabgrass invasion, exhibited best visual summer turf quality in 1990 and 1991, had poorest winter turf quality, and had highest white clover (*Trifolium repens* L.) populations. Other environmental factors and lower mowing height (3.2 or 5.5 cm) reduced summer turf quality in 1990 and 1991. High N improved fall and winter turf quality, but not summer quality. Nonherbicide-treated plots receiving high N had less smooth crabgrass than low N plots, but high N provided no additional crabgrass reduction in herbicide-treated plots. High mowing (8.8 cm) was the best cultural management strategy for reducing smooth crabgrass encroachment and maintaining tall fescue cover. Results indicated that smooth crabgrass control with label use rates of herbicides was warranted when mowing tall fescue at 3.2 or 5.5 cm.

231

NAL Call. No.: 26 T754

Weed management in a low-input cropping system in the Peruvian Amazon region.

Mt Pleasant, J.; McCollum, R.E.; Coble, H.D.

London : Butterworth-Heinemann; 1992 Jul.

Tropical agriculture v. 69 (3): p. 250-259; 1992 Jul.

Includes references.

Language: English

Descriptors: Peru; Oryza sativa; Vigna unguiculata; Weed control; Cultural control; Cropping systems; Herbicides; Mulches; Plant density; Tillage

232 NAL Call. No.: 275.29 I09PA
Weed management in conservation tillage.
Hartzler, R.G.; Owen, M.D.K.
Ames, Iowa : The Service; 1993 Feb.
PM - Iowa State University, Cooperative Extension Service v.):
4 p.; 1993 Feb.

Language: English

Descriptors: Conservation tillage; No-tillage; Herbicides; Cultural weed control

233 NAL Call. No.: SB321.G85
Weed management in day-neutrals.
Bonanno, A.R.
Storrs, Conn. : Coop. Ext. Serv., USDA, College of Agriculture & Natural Resources, Univ. of Conn; 1992 Jun.
The Grower : vegetable and small fruit newsletter v. 92 (6):
p. 7-8; 1992 Jun.
Includes references.

Language: English

Descriptors: Fragaria vesca; Weed control; Herbicides; Cultivation; Cultural control; Regulations

234 NAL Call. No.: SB950.A1P3
Weed problems in wheat and their control in the Indian subcontinent.
Mustafee, T.P.
London : Taylor & Francis; 1991 Jul.
Tropical pest management v. 37 (3): p. 245-251; 1991 Jul.
Literature review.
Includes references.

Language: English

Descriptors: India; Triticum aestivum; Weeds; Weed competition; Crop weed competition; Manual weed control; Weeding; Cultural weed control; Minimum tillage; Herbicides; Herbicide mixtures; Chemical control; Literature reviews

235 NAL Call. No.: SB610.W39
Weed science--the step child.
Burnside, O.C.
Champaign, Ill. : The Weed Science Society of America; 1993 Apr.
Weed technology : a journal of the Weed Science Society of America v. 7 (2): p. 515-518; 1993 Apr. Includes references.

Language: English

Descriptors: U.S.A.; Cabt; Weed control; Weeds; Agricultural sciences; Integrated control; Cultural weed control; Biological control; Chemical control; Crop production; Trends; History

236 NAL Call. No.: 79.8 W41

Weed seedbank response to tillage, herbicides, and crop rotation sequence.

Ball, D.A.

Champaign, Ill. : Weed Science Society of America; 1992.

Weed science v. 40 (4): p. 654-659; 1992. Paper presented at the "Symposium

on crop/weed management and the dynamics of weed seedbanks," February 11, 1992, Orlando, Florida. Includes references.

Language: English

Descriptors: Zea mays; Phaseolus vulgaris; Beta vulgaris; Weed biology; Weed control; Chemical control; Herbicides; Seed banks; Plowing; No-tillage; Conservation tillage; Population dynamics; Cropping systems; Models

Abstract: Changes in the weed seedbank due to crop production practices are an important determinant of subsequent weed problems. Research was conducted to evaluate effects of primary tillage (moldboard plowing and chisel plowing), secondary tillage (row cultivation), and herbicides on weed species changes in the soil seedbank in three irrigated row crop rotational sequences over a 3-yr period. The cropping sequences consisted of continuous corn for 3 yr, continuous pinto beans for 3 yr, or sugarbeets for 2 yr followed by corn in the third year. Cropping sequence was the most dominant factor influencing species composition in the seedbank. This was partly due to herbicide use in each cropping sequence producing a shift in the weed seedbank in favor of species less susceptible to applied herbicides. A comparison between moldboard and chisel plowing indicated that weed seed of predominant species were more prevalent near the soil surface after chisel plowing. The number of predominant annual weed seed over the 3-yr period increased more rapidly in the seedbank after chisel plowing compared to moldboard plowing unless effective weed control could be maintained to produce a decline in seedbank number. In this case, seedbank decline was generally more rapid after moldboard plowing. Row cultivation generally reduced seedbanks of most species compared to uncultivated plots in the pinto bean and sugarbeet sequences. A simple model was developed to validate the observation that rate of change in the weed seedbank is influenced by type of tillage and weed control effectiveness.

237 NAL Call. No.: S1.N32

Weeder geese boost berry profits \$222/A: unlike herbicides, they don't leach, drift or worry consumers.

Cramer, C.

Emmaus, Pa. : Rodale Institute; 1992 May.

The New farm v. 14 (4): p. 38-40; 1992 May.

Language: English

Descriptors: Strawberries; Weed control; Biological control;

Geese

238 NAL Call. No.: S544.5.A17W74
Weeds.
Parker, R.; Krall, J.
S.l. : Cooperative Extension, Washington State University,
etc. .; 1991 Jun.
WREP - Western Region Extension Publication - Cooperative
Extension Service
v.): 20 p.; 1991 Jun. In the series analytic: Alfalfa seed
production and
pest management.

Language: English

Descriptors: Medicago sativa; Seed production; Weed control;
Seeds; Cultural
weed control; Herbicides

239 NAL Call. No.: S1.N32
What goes a-roundup, comes a-roundup.
Logsdon, G.
Emmaus, Pa. : Rodale Institute; 1992 Mar.
The New farm v. 14 (3): p. 42-45, 56; 1992 Mar.

Language: English

Descriptors: Herbicides; Chemical vs. cultural weed control

240 NAL Call. No.: 275.29 W27Pn
Wild carrot--*Daucus carota* L.
Fitzsimmons, J.P.; Burrill, L.C.
Corvallis, Or. : Washington, Oregon, and Idaho State
Universities, Cooperative
Extension Service; 1993 Mar.
PNW (447): 2 p.; 1993 Mar. In subseries: Weeds.

Language: English

Descriptors: *Daucus carota*; Identification; Chemical vs.
cultural weed control

241 NAL Call. No.: 275.29 W27Pn
Wild garlic--*Allium vineale* L.
Fitzsimmons, J.P.; Burrill, L.C.
Corvallis, Or. : Washington, Oregon, and Idaho State
Universities, Cooperative
Extension Service; 1993 Mar.
PNW (444): 2 p.; 1993 Mar. In subseries: Weeds.

Language: English

Descriptors: Oregon; Cabt; *Allium vineale*; Weeds; Chemical vs.
cultural weed
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