SELECTED TRANSLATIONS OF

ABSTRACTS IN REFERATIVNYI ZHURNAL - BIOLOGIYA, No. 1, 1959

This report consists of complete translations of the Russian-language abstracts of articles, which were originally published in the Sino-Soviet bloc and in Yugoslavia.

The subject classification system used in the Russian-language abstracts has been followed in this publication.
RUMANIA / Weeds and Weed Control.

Abs Jour  : Ref Zhur - Biologiya, No 1, 1959, No. 1924

Author    : Stere, Grigore
Inst      : Timisoara Agricultural Institute
Title     : Investigation of Infected Plants in Marsh Soils


Abstract  : Results are presented of a study of infection (in winter sowings, summer sowings, cultivated plants, and garden plants) in 2 types of soils: marsh soils and marsh-saline soils. -- L. D. Stonov

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Abs Jour  : Ref Zhur - Biologiya, No 1, 1959, No. 1925

Author    : Guzairov, Kh. Kh.
Inst      : Bukhara State Pedagogical Institute
Title     : Data on a Method of Investigating Soil for Contamination with Weed Seeds

Orig Pub  : Uch. zap. Bukharsk. gos. ped. in-t, Tashkent, 1957, 43-47

Abstract  : A device is described for excavation to a depth of 5 cm and more (in layers) for soil specimens in determining soil contamination with weed seeds.

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Abs Jour : Ref Zhur - Biologiya, No 1, 1959, No. 1929

Author : Gorst, G.
Inst : Not given
Title : Control of Wild Oats and Treatment of Irrigated Land in Semipalatinskaya Oblast'


Abstract : A new system has been revealed for the treatment of irrigated lands in Semipalatinskaya Oblast'. For speedier extermination of wild oat seeds in the entire arable layer the fallow must be plowed in the fall instead of in the spring. The first two light layers of fallow should be plowed normally to the whole depth with a mold-boardless plow with simultaneous harrowing, and the cultivation which follows should be made to

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Abs Jour : Ref Zhur - Biologiya, No 1, 1959, No. 1929

a depth of 6-8 cm, depending on the appearance of weed shoots. If the summer is dry, it is necessary, as a routine measure, to irrigate the fallow intended for the seeding of winter crops at the end of July or beginning of August. Then a careful pre-sowing tilling is applied to the depth of the covered seeds. Such a type of black fallow is only applied to irrigated fields which have become very contaminated with wild oats before they have been actively used, and to non-irrigated contaminated lands. Excellent results were obtained on fallow seeded with alfalfa. -- L. D. Stonov

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USSR / Weeds and Weed Control.

Abs Jour : Ref Zhur - Biologiya, No 1, 1959, No. 1932

Author : Beshanov, A. V.
Inst : Not given
Title : An Experiment on Eradicating Quarantine Weeds of Ambrosia trifida

Orig Pub : S.-kh. Povolzh'ya, 1958, No 1, 52-54

Abstract : At "Krasny" Sovkhoz in Kuybyshovskaya Oblast' grain sowings were treated with 2,4-D from an airplane. Twofold treatment against Ambrosia trifida was one hundred percent effective. Dosages of the preparation were 1.8 and 1.5 kg/hectare. The cost of the plane spraying was 55 rubles per hectare. -- L. D. Stonov

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Abs Jour : Ref Zhur - Biologiya, No 1, 1959, No. 1933

Author : Vasil'nyev, D. S.
Inst : Not given
Title : Methods of Controlling Common Ragweed


Abstract : Presowing tillage and the cutting of the mass shoots of these weeds drastically reduced contamination of sunflowers and corn by ragweed. A dosage of 2 kg/hectare of 2,4-D, applied before corn sprouts appeared, reduced ragweed contamination on the fields by 87.6%, and the corn yield increased 6.5 centner/hectare. The best dosage for spraying of the corn sprouts was 0.8 kg/hectare. Higher doses of 2,4-D had an adverse effect on the corn and lowered the

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harvest. Burning the left-over stalks after reaping the badly contaminated cultivated plants was an extremely good prophylactic measure. Spring occupancy of partially fallow land was an effective means of coping with contamination of the soil with ragweed seeds. Ragweed was suppressed best of all with 2,4-D on untreated lands. For its complete suppression 2 kg/hectare were sufficient. Later on (from the stage of 2-3 pairs of leaves), resistance of the plants to the herbicide increased, and the killing dosages were increased to 2.5 kg/hectare. -- L. D. Stonov
standard of 2 liters per 10 m² of treated surface. It acted as a herbicide with contact action. -- L. D. Stonov

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Abs Jour : Ref Zhur - Biologiya, No 1, 1959, No. 1935

Author : Kloytman, F.
Inst : Not given
Title : Extermination of Dodder

Orig Pub : Zemledel'ya i zhivotnovodstvo Moldavii, 1958, No 1, 70-71

Abstract : For the extermination of dodder the focus of the parasite was manually removed by the pulling out and burning of the woods and by the immediate spraying of the site with carbolincum solution. Uncut foci of the dodder were successfully sprayed with 2 kg/hectare of 2,4-D. Ammonium dinitrophenolate (18-20 kg/hectare) was effective on dodder sites. Emphasis is placed on the correct storing and transportation of manure
in dodder control. Manure should only be applied to the soil in a thoroughly rotted condition. -- L. D. Stonov

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Abs Jour : Ref Zhur - Biologiya, No 1, 1959, No. 1940

Author : Shtina, E. A.
Inst : Kirovo Agricultural Institute
Title : Effect of Herbicide 2,4-D on Soil Algae
Orig Pub : Tr. Kirovskogo s.-kh. in-ta, 1957, 12, No 24, 29-34

Abstract : In the cultivation of perennial oats a twofold spraying of the plants with 2,4-D (I) was applied: 1 kg/hectare in the stage when the plants were emerging from the ground and 1.5 kg/hectare in the earing phase. There was no noticeable effect on soil algae with doses of 1 up to 1.5 kg/hectare. In laboratory experiments I was applied in the form of 0.3% and 1% solutions. After the first and second treatments

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the total number of algae remained approximately the same as in the control soil, and only after the third application of the herbicide did the number of algae diminish up to 73% in comparison with the control. The number of blue-green algae, represented almost exclusively by Phormidium autumnale, was notably reduced even after the first dose of herbicide and had practically disappeared by the end of the experiment. The number of diatomic algae also was appreciably reduced. Green algae predominated in the soil treated by I. Favoring the growth of algae in soil, I is desirable for turf-podzolic soils. Combined application of mineral fertilizers and reduced doses of I could also serve as a means of promoting the development of soil algae. -- L. D. Stonov
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Abs Jour: Ref Zhur - Biologiya, No 1, 1959, No. 1941

Author: Stancevičius, A.

Inst: Not given

Title: Methods of Wood Control

Orig Pub: Soc. Žemės ūkis, 1957, No 12, 9-14

Abstract: No abstract given

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USSR / Woods and Wood Control.

Abs Jour: Ref Zhur - Biologiya, No 1, 1959, No. 1942

Author: Makarova, V. A.

Inst: Zornograd State Selection Station

Title: Industrial Experimentation and Introduction of Chemical Weeding of Seeds of Grain Plants in Rostov Region


Abstract: The chemical weeding of grain plantings using 2,4-D and MCPA in a dosage of 1 kg/hectare destroyed 60-80% of the weeds, and sometimes 100%; the harvest was increased 1-2 centner/hectare, and in some cases 4-5 centner/hectare. The quality of the crop was improved, contamination reduced, water-content of the
Abs Jour : Ref Zhur - Biologiya, No 1, 1959, No. 1942

Kernels lessoned, and absolute weight increased. Wild turnip, bindweed, hemp, and sunflower were very sensitive to the herbicide; less sensitive were the weed Falcaria rivini, spurge, saltwort, and sweet clover; Acropiliana picris, wild pea (Lathyrus), and milkweed were resistant to the herbicides. The best time for the spraying of sowings of ear-producing plants and millet was the tillering period. If it is possible to apply chemical weeding in the tillering phase, it is safe to begin it in the period of full sprouting and to continue it during the shooting phase. -- L. D. Stonov

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YUGOSLAVIA / Woods and Wood Control.

Abs Jour : Ref Zhur - Biologiya, No 1, 1959, No. 1943

Author : Arcic, Miloslav; Vojvodic, Djordjo; Janjatovic, Vora

Inst : Not given

Title : Extermination of Broad-Leaved Weeds in Corn by Herbicides of the Hormone Type Applied Before the Appearance of Young Growth

Orig Pub : Archiv poljopr. nauke, 1957, 10, No 29, 91-96

Abstract : The application of 2,4-D and MCPA to corn eight days after sowing can keep the plot clean of weeds and eliminate mechanical working for a month. The treated corn plants have somewhat augmented organs, and increased lateral and adventitious roots. The cells

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YUGOSLAVIA / Woods and Wood Control.

Abs Jour : Ref Zhur - Biologiya, No 1, 1959, No. 1943

are more quickly differentiated. The yield is not reduced. -- L. D. Stonov

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Abs Jour : Ref Zhur - Biologiya, No 1, 1959, No. 1944

Author : Kargapolova, A. P.

Inst : Altay Agricultural Institute

Title : Chemical Method of Destroying Woods in Corn Plantings

Orig Pub : Tr. Altaysk. s.-kh. in-t, 1957, vyp 5, 118-123

Abstract : Preparations of 2,4-D and MCPA were studied in 1956 at the training-experimental farm of the Altay Agricultural Institute; certain plots were sprayed with doses of 1.5 and 2 kg/hectare for 2-3 days before the corn emerged from the ground. Then these same plots were sprayed with a dose of 0.4-0.5 kg/hectare during the 4-5 leaf stage. In the second variant 0.8-1.0 kg/hectare of the spray was applied to the

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plots in the 4-5 leaf stage. In the third variant the plots were sprayed in the 8-9 leaf stage with a dosage of 0.8-1 kg/hectare of active ingredients. The standard amount of solution used was 200 liter/hectare. The most effective variant was a combination of spraying before sprouts appeared and in the phase of 4-5 leaves with preparations of 2,4-D or MCPA in a dosage of 2 + 0.4 kg/hectare. Contamination by broad-leaved weeds was loosened 87-93%, part of the weeds germinating with the grains were killed, and the harvest of the green portion of the corn increased 12.5-20.5%. MCPA herbicide gave the best results. -- L. D. Stonov

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Abs Jour : Ref Zhur - Biologiya, No 1, 1959, No. 1944

Author : Borozovskiy, M. Ya.
Inst : Not given
Title : Herbicides and Perspectives of Their Application
Orig Pub : Zashchita rast. ot vrodit. i bolezney, 1958, No 2, 28-31

Abstract : Characteristic of the recent industrial development of herbicides is the trend toward specialization. Substances have appeared which, on the strength of high selectivity, destroy many types of wood plants and are not toxic for specific plants. 2-chloro-bis-ethylamino-triazino (simazine) is a special herbicide for corn plantings. Introduced into
the soil in a dosage of 1-2 kg/hectare simultaneously with the sowing, it is injurious to the weeds and does not harm the corn. 2-chloro-bis-diethylaminotriazine (chlorazine) is a specific herbicide for the cotton plant. Chloro-N,N-diallyl acetamide is harmful to annual grass weeds in corn plantings; α-naphthylphthalamic acid exterminates wood annuals in squash sowings. The best preparations with a general action are N-4-chlorophenyl-N, N-dimethylurea (monuron) and N-3,4-dichlorophenyl-N, N-dimethylurea (diuron). 3-amino-1,2,4-triazole has a broad range of herbicidal action. Of the now, highly effective arboricides there are known 2-(2,4,5-trichlorophenoxy)-propionic acid and 2-(2,4,5-trichlorophenoxyethyl)-2,2-propionate (arbon). -- L. D. Stonov
Annual and short-lived woods predominate. Perennials play a negligible role. Wood seeds can be divided into 2 groups: long latency with short-lived ones and latency of short duration. These are typical of annual woods and partly of perennials. In order to exterminate woods which appear in the

fall after the first rains, it is necessary to make extensive use of shallow plowing. -- L. D. Stonov
Author: Sevast'yanova, K. I.
Inst: Not given
Title: Herbicides in Vegetable Farming
Orig Pub: Sad i ogorod, 1958, No 4, 23-25

Abstract: In experiments made by the Scientific Experimental Institute of Vegetable Farming excellent results were obtained in the treatment of carrot sowings in the 2-3 leaf stage, using tractor kerosene at the rate of 300 kg/hectare. Rows were sprayed, and in between the rows the soil was treated with cultivators. 98-100% of the woods were killed. As a result of application of chloro-PC on the 5-6th day after seeding of the carrots (12 kg/hectare of active ingredients), 53% of the woods perished. The harvest of carrots on the section treated with chloro-PC was higher than in the control where the vegetables were twice weeded by hand. In treating the rows only with a KRN-2,8 appliance on the cultivator, the herbicide dose could be less than half. In the treatment of onion seeds before sprouts appeared (on the 8th day after sowing) with 16 kg/hectare of chloro-PC, 500.2 centner/hectare of seedlings were obtained, and in the control - 4.8 centner/hectare 8.2% of the woods were killed. Daisics and overlattings were resistent. On the sowings of carrots and onions excellent results were obtained from the application of TOL. In the treatment of carrots
before the appearance of young growth, 6 kg/hectare of TCI killed 56.3% of the woods, and the carrot yield was 27.4 centner/hectare, and in the control - 237 centner/hectare. For blackseed onions the best dose was 16 kg/hectare of active ingredients before sprouts appeared. On onion sowings in adequately moist areas calcium cyanamide (200-300 kg/hectare) was applied. It was applied after the sowing 2-3rd day before sprouts appeared) and over the sprouts when the onion plants were 5-8 cm high. The common onion in the stage of 4-5 leaves was treated with triethanolamine salt of dinitrophenol (8-12 kg/hectare). 83.2-84.7% of the woods were killed. Burning of the leaf tips did not prevent a harvest of the common onion 15.2-22.6% higher than in the control.

-- L. D. Stonov
Abstract: In 1956-1957 the Sumsk Agricultural Station studied the influence of chloro-PC (I) and TCA (II) on woods of grass families in sowings of carrots of the Gornad variety. I in doses of 4 and 8 kg/hectare and II in doses of 12 kg/hectare of active ingredients were applied prior to the sowing of the carrots with a fixed harrow. The standard output of liquid was 500 liter/hectare. I influenced the growth of the carrots, and II inhibited germination of the seeds, but the effect was stronger on the woods. In variants to which the herbicides were applied, contamination by bristle foxtail grass was less than in the control. I also suppressed pigweed. I increased the harvest and average weight of the tubers, and II decreased the number of plants on 1 hectare and the total harvest despite the fact that the average weight of the tubers in this variant was highest. Application of I on carrot sowings in the amount of 8 kg/hectare increased the harvest 40-65%. -- L. D. Stonov