JPRS: 2923

29 June 1960

SOVIET ABSTRACTS
BIOLOGY

SECTION I - PLANT PHYSIOLOGY

Book No. 3, 1959

Abstracts 10578 thru 10632

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SELECTED TRANSLATIONS OF

ABSTRACTS IN REFERATIVNYY ZHURNAL - BIOLOGIYA, No. 3, 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.

COUNTRY : USSR
CATEGORY : Plant Physiology. Respiration and Metabolism. I

ABS. JOUR. : RZhBiol., No. 3 1959, No. 10578

AUTHOR : Kruzhilin, A. S., Shvedskaya, Z. M.
INST. : Institute of Plant Physiology, AS USSR
TITLE : Variation in the Sugar Content in the Process of Vernalization of Two-Year Old Plants.

ORIG. PUB. : Dokl. AN SSSR, 1957, 116, No. 5, 870-873

ABSTRACT : Until the stage of 6-7 leaves, the carrot and cabbage seedlings were grown at a temperature of 20-25°. Then half of the vessels were transfered for vernalization to a greenhouse with a temperature of 2-4° where they remained under the conditions of a naturally short day (7-9 hours). In the carrot and cabbage leaves, the sugar content determined by Bertrand's micromethod, was higher in the vernalized plants in comparison with the control. It was determined by the method of paper chromotography that with vernalization, the leaves contained glucose, fructose and sucrose, and that there was more fructose

CARD: 1/4

COUNTRY :
CATEGORY : I

ABS. JOUR. : RZhBiol., No. 1959, No. 10578

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : and sucrose in the leaves of the vernalized plants than in the control. The roots of carrots and table beets, and the cabbage heads were kept in darkness at 1-2°. From here, the seed plants were placed at different periods in a warm greenhouse for further growth. By the end of vernalization, the sugar content in the roots of beets and carrots, and in the hearts of cabbage heads increased in comparison with the original amount. Cabbage and beets accumulated chiefly the saccharose and

CARD: 2/4

COUNTRY :
CATEGORY : I

ABS. JOUR. : RZhBiol., No. 1959, No. 10578

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : carrots - the monoses. After vernalization, a rapid decrease in the mono- and especially disaccharides was noted in the roots in the process of growth and blossoming of the seed plants, the content of disaccharides being 5/6 - 9/10 less in the leaves than in the roots. In the cabbage hearts, monoses began to predominate over disaccharides from the period of budding. Consequently, the differentiation of the buds, bolting, and the blossoming of the plants is brought about with the participation of sugars, particularly of disaccharides deposited in the

CARD: 3/4

COUNTRY :
CATEGORY : I

ABS. JOUR. : RZhBiol., No. 1959, No. 10578

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : root crops and in the cabbage hearts. The work was carried out at the Institute of Plant Physiology, AS USSR. -- V. V. Nikonova

CARD: 4/4

COUNTRY	:	USSR
CATEGORY	:	Plant Physiology. Respiration and Metabolism. I
ABS. JOUR.	:	RZhBiol., No. 1959, No. 10589
AUTHOR	:	Kalinkevich, A. F.
INST.	:	Academy of Sciences USSR
TITLE	:	The Influence of Synthetic Urea in the Above-Ground Feeding on the Formation of Sulfhydryl Groups in Plants.
ORIG. PUB.	:	Dokl. AN SSSR, 1957, 117, No. 4, 723-724
ABSTRACT	:	In order to explain the causes of the positive effect of urea in the above-ground supplementary feeding, the influence of various forms of nitrogen fertilizers on the formation of SH-groups of proteins entering the composition of ferments and affecting their activity, was studied at VIUAA*) at Barybinskaya Experiment Station (Moscow oblast'). Lettuce grown in soil cultures was sprayed with solutions of various substances ($Ca(NO_3)_2$, NH_4OH, $CS(NH_2)_2$, $(NH_4)_2SO_4$, $CO(NH_2)_2$) in the amount of 50 milligrams of N to a vessel. From all the forms of nitrogen fertilizers,

*) All-Union Institute of Fertilizers, Soil Science and Agricultural Engineering

CARD: 1/2

COUNTRY	:	I
CATEGORY	:	
ABS. JOUR.	:	RZhBiol., No. 1959, No. 10589
AUTHOR	:	
INST.	:	
TITLE	:	
ORIG. PUB.	:	
ABSTRACT	:	urea produced the greatest increase in the content of SH-groups in the plants. Other fertilizers were placed in the following order according to their effect on the formation of SH-groups: $CO(NH_2)_2 > NH_4OH$, $CS(NH_2)_2 > (NH_4)_2SO_4 > CA(NO_3)_2$. -- M. V. Zhuravleva

CARD: 2/2

COUNTRY : USSR
CATEGORY : Plant Physiology. Respiration and Metabolism. I

ABS. JOUR. : RZhBiol., No. 3 1959, No. 10590

AUTHOR : Boyarkin, A. N.
INST. : Academy of Sciences, USSR
TITLE : Drop Method of the Determination of the Total Content of Free Amino Acids and Sugars in Plants.

ORIG. PUB. : V sb.: Pamyati akad. N. A. Maksimova, M., AN SSR, 1957, 318-323

ABSTRACT : The suggested method is based on the comparison of the intensity of the coloration of the stains obtained on filter paper from the liquid being studied, and from the standard solutions of amino acids and sugars in known concentrations after the development of the stains by appropriate reagents. A modified homogenizer for securing extracts from a small amount (5-200 milligrams) of the plant material is described. -- T. F. Koretskaya

CARD: 1/1

COUNTRY : USSR
CATEGORY : Plant Physiology. Respiration and Metabolism. I

ABS. JOUR. : RZhBiol., No. 3 1959, No. 10592

AUTHOR : Pokrovskaya, Ye. I.
INST. : Academy of Sciences, USSR
TITLE : Some Data on the Oxidation and Reducing Processes in Halophytes.

ORIG. PUB. : V sb.: Pamyati akad. N. A. Maksimova, M., AN SSSR, 1957, 268-274

ABSTRACT : The rate of the respiration and activity of phenolases and catalases in 11 species of halophytes was studied at Valuyevskaya Experiment and Amelioration Station (Stalingrad oblast'). A very low rate of respiration and activity of the peroxidase, catalase and phenoloxidase was found in euhalophytes (or salt accumulating halophytes). Crinohalophytes (salt secreting halophytes) were characterized by a rather high rate of respiration and activity of oxidizing ferments, and in contrast to euhalophytes

CARD: 1/3

COUNTRY :
CATEGORY : I

ABS. JOUR. : RZhBiol., No. 1959, No. 10592

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : these characteristics hardly changed with an increase in the salinity of the soil. Glycohalophytes (salt impermeable halophytes) had high rates of respiration and activity of the ferments which declined sharply with the increase in soil salinity. The author explains the reduction in the dimensions of the organs observed in halophytes, by the inhibition of the embryo stage of the growth in the presence of strong salination of the soil. At the same time, the process of the distension of the cells is activated, which leads to an increase in the size of the cells; the plants become succulent and fleshy, the leaf

CARD: 2/3

COUNTRY :
CATEGORY : I

ABS. JOUR. : RZhBiol., No. 1959, No. 10592

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : area decreases with a simultaneous increase in their thickness and the coloration of the leaves becomes pale green. -- O. V. Bogdashevskaya

CARD: 3/3

COUNTRY : USSR
CATEGORY : Plant Physiology. Respiration and Metabolism I

ABS. JOUR. : RZhBiol., No. 3 1959, No. 10598

AUTHOR : Prokof'yev, A. A. Novitskaya, G. V.
INST. : Institute of Plant of Physiology, AS USSR
TITLE : Activity of Lipase and Accumulation of Fat in the Flax and Poppy Seeds.

ORIG. PUB. : Dokl. AN SSSR, 1957, 116, No. 2, 273-276

ABSTRACT : The activity of lipase was determined at the Institute of Plant Physiology, AS USSR by Yermakov's alkalimetric method with the author's modifications (see Fiziologiya rasteniy, 1954, 1, No. 2, 122), and the content of fat - refractometrically. The relative fat content in the seeds was increasing rapidly during 26 days starting with the time of blossoming (this process proceeds most intensively in the period between the 13th and 26th day). In flax and sunflowers, the maximum intensity of fat accumulation coincided with the maximum activity of lipase. No such complete

CARD: 1/2

COUNTRY :
CATEGORY : I

ABS. JOUR. : RZhBiol., No. 1959, No. 10598

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : coincidence was observed in poppy seeds. The maximum activity of lipase ensues somewhat later than the maximum accumulation of fat in the seeds. This difference in the time of the onset of maximum fat accumulation in poppy seeds and in the activity of lipase, was observed particularly clearly at lower temperatures. The cause of this phenomenon is not clear and is the subject of the author's further studies. -- L. K. Polishchuk

CARD: 2/2

COUNTRY : RUMANIA
CATEGORY : Plant Physiology. Water Conditions. I

ABS. JOUR. : RZhBiol., No. 3 1959, No. 10606

AUTHOR : Nitu, Gh.
INST. : -
TITLE : On the Ascending Sap Flow in Aspen.

ORIG. PUB. : Rev. padurilor, 1957, 71, No. 1, 13-18

ABSTRACT : The ascending movement of sap was studied in 8 aspen trees by the method of injecting 0.3% fuchsin solution into the trunks at different height. The rate of the sap flow at the base of the stem comprised 2-3.1 meters per hour. The sap moves faster in the trunk at the level of the tree crown. The rate of the sap movement depends on the plant species, temperature, and the humidity of the air. The ascending movement of the sap was observed only in the rings of cambium, the movement in its outer part proceeding faster than in the inner part. Only the process of

CARD:1/2

COUNTRY :
CATEGORY : I

ABS. JOUR. : RZhBiol., No. 1959, No. 10606

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : diffusion took place in the heartwood both in the ascending and descending direction. A tangential diffusion of the pigment was also observed. -- P. I. Lopushanskiy

CARD: 2/2

COUNTRY : RUMANIA
CATEGORY : Plant Physiology. Water Conditions. I

ABS. JOUR. : RZhBiol., No. 3 1959, No. 10607

AUTHOR : Georgescu, C. C., Nitu, Gh.
INST. : -
TITLE : The Study of Sap in Healthy and Dessicated Austrian Pine.

ORIG. PUB. : Bul. stiint. Acad. RPR. Sec. biol. si stiinte agric. Ser. bot., 1957. 9, No. 1, 87-103

ABSTRACT : Sap flow in 31 trees (aged 55-60 years) of healthy and withering pine was studied in Mediash rayon (RPR). 0.3% aquecus fuchsin solution was being injected into the tree trunks at the height of 0.5 meters above the ground surface for 3 and 6 hours with the aid of Sevirtsev-Morzetskiy syringe. Fuchsin moved through the cambium and in a small amount through the heartwood and through the entire xylem ring. In the narrow annual rings, fuchsin moved faster than in the wide ones. The curve of the rate of the pigment movement during a day is similar to the curve of transpiration. The rate of the translocation of

CARD: 1/3

COUNTRY :
CATEGORY : I

ABS. JOUR. : RZhBiol., No. 1959, No. 10607

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : fuchsin was decreasing with the withering of the crown: in trees with the crown 75% withered, the rate of translocation equals 0.06-0.09 meters per hour in comparison with 0.5-1.36 meters per hour in healthy trees. The absorption of fluid was increasing with the withering of the crown. In the branches, the pigment moved 3-5 times faster than in the trunk. On the southern side of the crown, the movement of the sap is more intensive than on

CARD: 2/3

COUNTRY	:	
CATEGORY	:	I
ABS. JOUR.	:	RZhBiol., No. 1959, No. 10607
AUTHOR	:	
INST.	:	
TITLE	:	
ORIG. PUB.	:	
ABSTRACT	:	the northern. The translocation of fuchsin along the trunk in the ascending direction proceeded in an irregular spiral to the right or to the left because of the twisted grain of the wood. -- P. I. Lopushanskiy

CARD: 3/3

COUNTRY	:	POLAND
CATEGORY	:	Plant Physiology. Water Conditions. I
ABS. JOUR.	:	RZhBiol., No. 3 1959, No. 10609
AUTHOR	:	Strebeyko, P., Domanska, H.
INST.	:	-
TITLE	:	The Effect of Leaf Water Content Change on Dry Matter Increases in Oats and Rape.
ORIG. PUB.	:	Roczn. nauk rolniczych, 1957, A75, No. 3, 339-365
ABSTRACT	:	Oat and rape plants were grown in vegetative vessels in soil with a moisture content of 10-50% of the capillary moisture capacity. A month after the sowing, the diurnal course in the variations of water content in the leaves was studied for 3 days. In the daytime the water content was lower than at night. Changes in soil moisture affected the water content negligibly in the leaves but had a strong effect on the growth of the plants and increase in

CARD: 1/2

COUNTRY :
CATEGORY : I

ABS. JOUR. : RZhBiol., No. 1959, No. 10609

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : dry matter, which the authors explain by the change in the activity of photosynthesis. Rape proved to be more sensitive to moisture deficiency than oats. With water deficiency in the soil, the growth of the stems was retarded more severely than the growth of the roots. Bibliography of 35 titles. -- M. P. Shternberg

CARD: 2/2

COUNTRY : USSR
CATEGORY : Plant Physiology. Water Conditions. I

ABS. JOUR. : RZhBiol., No. 3 1959, No. 10611

AUTHOR : Aliyev, Ch. E.
INST. : Azerbaydzhan University
TITLE : The Influence of Micronutrients on Water Level in Wheat.

ORIG. PUB. : Uch. zap. Azerb. un-t, 1957, No. 12, 80-91

ABSTRACT : The effect on two varieties of wheat of different doses of microelements applied into the soil prior to sowing and by means of supplementary feeding, and also in the form of above-ground supplementary feeding at the earing stage, was studied in the field experiments on the territory of Karabekhskaya Zonal Experiment Station. B was producing an increase in the water content of the leaves during the entire period of vegetation. Mn, Zn, and particularly Cu

CARD: 1/3

COUNTRY :
CATEGORY : I

ABS. JOUR. : RZhBiol., No. 1959, No. 10611

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : produced a decrease in the water content in winter. B produced an increase and Mn, Cu, and Zn - a decrease in the transpiration in winter period. All of the microelements (especially Mn and Cu) produced a considerable decrease in the loss of water by wilted leaves. Mn and Cu raised the concentration of the cell sap; B and Zn did not show a similar effect. Conclusion is made that an increase in the waterholding power in wheat leaves under the influence of B and Zn is explained by an increase in the amount of hydrophilic colloids, and under the influence of

CARD: 2/3

COUNTRY :
CATEGORY : I

ABS. JOUR. : RZhBiol., No. 1959, No. 10611

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : Mn and Cu also by an increase in the concentration of the cell sap resulting from an increase in the sugar content. -- M. S. Shternberg

CARD: 3/3

COUNTRY : USSR
CATEGORY : Plant Physiology. Water Conditions. I

ABS. JOUR. : RZhBiol., No. 3 1959, No. 10612

AUTHOR : Il'kun, G. M.
INST. : Institute of Forestry, Academy of Sciences Ukrainian SSR
TITLE : Transpiration in One-Year and Two-Year Pine on the Sands of Lower Dnieper.

ORIG. PUB. : Ukr. botanichniy zh., 1957, 14, No. 3, 84-90

ABSTRACT : In 1952-1953, the diurnal rate of transpiration was determined (by the method of quick suspension) in pine seedlings set out at the age of one year into hills 40 centimeters in depth with an addition of 10 or 5 kilograms of peat mixed with sand (1.1), and also without peat. On 1-2 year plantings, the application of peat with a sufficient water supply increased the efficiency of the transpiration (by 27-50%), the vital activity and resistance to summer draught. In the period of maximum transpiration, the water content in the needles in the presence of peat decreased by 2-3%, in the absence of peat - by 10-15%. The transpiration rate in the variant without

CARD: 1/3

COUNTRY :
CATEGORY : I

ABS. JOUR. : RZhBiol., No. 1959, No. 10612

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : fertilizer depended on the availability of moisture in the 25-30 cm sand layer; with fertilizer, it depended on meteorological conditions. Under equal conditions, the seedlings from the seeds which originated in Cherkasskiy pine forest in Cherkasskaya oblast', Ukrainian SSR, and in the pine forest strips in Pavlogradskaya oblast', Kazakh SSR, did not differ in the intensity and rate of transpiration. With the application of 5 kilograms of

CARD: 2/3

COUNTRY :
CATEGORY : I

ABS. JOUR. : RZhBiol., No. 1959, No. 10612

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : peat, its positive effect was limited to the first half of the growing period. The work was carried out at the Institute of Forestry, AS Ukrainian SSR. -- B. Ye. Kravtsova

CARD: 3/3

COUNTRY : BULGARIA
CATEGORY : Plant Physiology. Water Conditions. I

ABS. JOUR. : RZhBiol., No. 3 1959, No. 10613

AUTHOR : Stoilov, M., Dankov, T.
INST. : Bulgarian Academy of Sciences
TITLE : Studies on the Diurnal Rate and Intensity of the Transpiration in Some Subtropical Plants.

ORIG. PUB. : Inv. In-ta gorata. B"lg. AN, 1958, kn. 3, 449-459

ABSTRACT : The diurnal rate and intensity of the transpiration in tea and lemon plants in the presence of differnt amounts of air and soil moisture were studied for 2 years by means of the determination of evaporated water with Stefanov method. The intensity of transpiration of 2 and 3-year old tea and lemon plants was higher in the presence of low humidity of the air, and also in June in comparison with October and November. With the relative humidity of

CARD: 1/2

COUNTRY :
CATEGORY :

I

ABS. JOUR. : RZhBiol., No. 1959, No. 10613

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : the air at 42-45%, the upper leaves of the tea plant wilted even in the presence of a comparatively high soil moisture content. With the lowering of the soil moisture to 10-12% of the full water capacity, the intensity of the transpiration rapidly decreased. The diurnal rhythm in the variation of the intensity of transpiration was determined. -- M. B. Shternberg

CARD: 2/2

COUNTRY : USSR
CATEGORY : Plant Physiology. Water Conditions.

I

ABS. JOUR. : RZhBiol., No. 3 1959, No. 10614

AUTHOR : Petinov, N. S. , Lebedev, G. V.
INST. : Academy of Sciences USSR
TITLE : The Water Content in Tea Plants Cultivated under Irrigation.

ORIG. PUB. : Vsb.: Pamyati akad. N. A. Maksimova. M., AN SSR, 1957, 87-97

ABSTRACT : The index of refraction, concentration of cell sap, water holding and water absorbing capacity of adult tea leaves were being determined in the presence of different amounts of soil moisture for the purpose of ascertaining the water application dates for the tea plantations in Lankoranskiy rayon of Azerbaydzhan SSR. in the period of rainfall on the unirrigated plot and the sprinkled plot, the difference in the indices of refraction is not great. In the period of high temperatures and relatively low

CARD: 1/2

COUNTRY :
CATEGORY : I

ABS. JOUR. : RZhBiol., No. 1959, No. 10614

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : humidity on the unirrigated plot, the sap's index of refraction climbed rapidly. One did not succeed in observing a distinct relation between the value of the cell sap refractive index and the applied irrigation. Irrigation of the plantations reduced cell sap concentration in the tea plants and raised leaf water concentration. In connection with the plants having a good water supply on irrigatedplots, the water absorptivity of the leaves is considerably lower than on unirrigated plots. It is recommended that tea plant water requirements be judged according to the amount of leaf water absorptive capacity. The bibliography lists 20 titles. --T.F. Koretskaya

CARD:2/2

COUNTRY : USSR
CATEGORY : Plant Physiology. Water Conditions. I

ABS. JOUR. : RZhBiol., No. 3 1959, No. 10615

AUTHOR : Dvoretskaya, Ye. I., Makerova, N. I., Kitaygora, T. A.
INST. : Academy of Sciences USSR
TITLE : On the Characteristics of Water Metabolism and Drought Resistance in Some Tree and Shrub Species.

ORIG. PUB. : V sb.: Pamyati akad. N. A. Maksimova., AN SSSR, 1957, 42-54

ABSTRACT : In the conditions of a moister climate in the forest steppe zone of Ukraine, the intensity of transpiration was higher and osmotic pressure lower than in the same woody plants in the arid conditions of Stalingrad oblast'. Black locust had the greatest heat tolerance; common ash and Pennsylvania ash - the lowest. The greatest water holding ability was observed in the leaves of Norway maple and common ash; the smallest - in the leaves of

CARD: 1/2

COUNTRY :
CATEGORY : I

ABS. JOUR. : RZhBiol., No. 1959, No. 10615

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : black locust. It is supposed that the water holding ability is of no particular significance in the phenomena of heat tolerance. Bibliography of 28 titles. -- T. F. Koretskaya

CARD: 2/2

COUNTRY : HUNGARY
CATEGORY : Plant Physiology. Water Conditions. I

ABS. JOUR. : RZhBiol., No.3 1959, No. 10619

AUTHOR : Petrasovits, I
INST. : -
TITLE : Coefficient of Transpiration in Rice

ORIG. PUB. : Növénytermelés, 1957, 6, No. 3, 203-206

ABSTRACT : No abstract.

CARD: 1/1

COUNTRY : HUNGARY
CATEGORY : Plant Physiology. Water Conditions. I

ABS. JOUR. : RZhBiol., No. 3 1959, No. 10620

AUTHOR : Polgar, S.
INST. : -
TITLE : Suction in Rice Sprouts of Several Varieties.

ORIG. PUB. : Növénytermelés, 1957, 6, No. 3, 209-216

ABSTRACT : No abstract.

CARD: 1/1

COUNTRY : CHINA
CATEGORY : Plant Physiology. Water Conditions. I

ABS. JOUR. : RZhBiol., No. 3 1959, No. 10621

AUTHOR : Yü Shu-wen
INST. : -
TITLE : Plant Water Content.

ORIG. PUB. : Chih-wu shen-li-hsüeh t'ung-hsün, 1958, No. 2, 5-17

ABSTRACT : No abstract.

CARD: 1/1

COUNTRY : USSR
CATEGORY : Plant Physiology. Growth and Development. I

ABS. JOUR. : RZhBiol., No. 3 1959, No. 10622

AUTHOR : Guzev, Yu. L.
INST. : Institute of Genetics, AS USSR
TITLE : A Study of the Rest Period in Fruit-Bearing Plants.

ORIG. PUB. : Zh. obshch. biologii, 1957, 18, No. 4, 298-311

ABSTRACT : On the basis of published data and experiments carried out at the Institute of Genetics, AS USSR in 1954-1956, the author draws the conclusion that a forced rest is caused by unfavorable conditions whereas the biological rest is a necessary stage in the development of the plant and is explained by its heredity. During the period of biological rest, qualitative changes take place in the cells of the growth point, without which further growth is impossible even under favorable conditions. Plants of temperate climate fall into the state of biological rest under conditions still favorable for growth, the condition

CARD: 1/3

COUNTRY :
CATEGORY : I

ABS. JOUR. : RZhBiol., No. 1959, No. 10622

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : of dormancy enveloping the entire above-ground part of the plant. In order to pass through the period of rest, the tree and shrub plants of temperate climate require an obligatory continuous action of positive lower temperatures of 0-10° (temperatures somewhat below 0° are possible). The duration of the period of biological rest in a moderate belt depends on temperature and lasts about 50 days, i.e. it ends in December or even in November. Thus, the maximum frost resistance, and also the dates of

CARD: 2/3

COUNTRY :
CATEGORY : I

ABS. JOUR. : RZhBiol., No. 1959, No. 10622

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : blossoming do not depend on the condition of biological rest; more likely they are not directly connected with it. The ability of the tree and shrub species to fall into the condition of rest is an adaptability to overwintering, and the period of biological rest resembles the vernalization stage in herbaceous plants but is not identical with it. Bibliography of 22 titles. -- N. M. Ushakova

CARD: 3/3

COUNTRY : USSR
CATEGORY : Plant Physiology. Growth and Development. I

ABS. JOUR. : RZhBiol., No. 3 1959, No. 10625

AUTHOR : Satarova, N. A., Bokarev, K. S.
INST. : Academy of Sciences USSR
TITLE : Distribution of S^{35} in Potato Plants Treated with Potassium Thiocyanate Labeled with Radioactive Sulfur.

ORIG. PUB. : V sb.: Pamyati akad. N. A. Maksimova. M., AN SSSR, 1957, 160-166

ABSTRACT : Potato plants were treated with solutions of potassium thiocyanate containing S^{35}. The test specimens from the plants were taken every 1 and 5 days after the treatment. The largest content of S^{35} was in the variant with the irrigation of the roots on the 1st day and then of the leaves - on the 5th day. On plants sprayed with the solution of potassium thiocyanate, the high activity of S^{35} was observed in younger plants - up to 10,500 imp/min per 1 gram of the dry weight of the leaf. The uptakeof the

CARD: 1/2

COUNTRY :
CATEGORY : I

ABS. JOUR. : RZhBiol., No. 1959, No. 10625

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : stimulant into the leaves was better with the ascending flow, and into the roots and tubers - with the descending flow. The S^{35} uptake into the tubers was insignificant. In spite of this, the treatment of the plants with the stimulator led to the breaking of the dormancy in the young tubers. According to the author's hypothesis, after the splitting of its molecule, S of potassium thiocyanate is concentrated in the leaves and does not take part in the formation of physiologically active substances entering the tubers. Bibliography of 27 titles. -- Ye. A. Yablonskiy

CARD: 2/2

COUNTRY : HUNGARY
CATEGORY : Plant Physiology. Growth and Development. I

ABS. JOUR. : RZhBiol., No. 3 1959, No. 10626

AUTHOR : Varga, N. B., Ferenczy, L.
INST. : Hungarian Academy of Sciences
TITLE : Quantitative Changes in Growth-Promoting and Growth-Inhibiting Substances in Rindite-Treated and Untreated Potato Tubers.
ORIG. PUB. : Acta bot. Acad. sci. hung., 1957, 3, No. 1-2, 111-121

ABSTRACT : Tubers of Rannyy Zheltyy potato were planted on 31 March 1955 and picked on the 11 July. Tubers treated with rindite (a mixture of ethylene chlorohydrin, ethylene dichloride and carbon tetrachloride in the ratio of 7:3:1) in the concentration of 0.8 milligrams/kg, started to grow in 5 days; the control - after 4 weeks. The following growth substances were found in the rindite-treated and untreated tubers: auxin, indolyl-3-acetonitrile and stimulant X (R_f 0.1), and also an inhibitor of unknown

CARD: 1/2

COUNTRY :
CATEGORY :

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ABS. JOUR. : RZhBiol., No. 1959, No. 10626

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : nature with R_f 0.65. With the rindite treatment of fresh potato tubers, a quickened disappearance of the inhibitor during the period of rest was observed within 5 days (instead of 30), and an increase in the content of auxin in the skin. It is supposed that auxin is formed from indolyl-3-acetonitrile, and possibly from indolyl-3-pyroracemic acid. Bibliography of 33 titles. -- A. Ye. Petrov-Spiridonov

CARD: 2/2

COUNTRY : BULGARIA
CATEGORY : Plant Physiology. Growth and Development.

I

ABS. JOUR. : RZhBiol., No. 3 1959, No. 10632

AUTHOR : Botev, B. At.,
INST. : -
TITLE : Culture of Plant Tissues and Organs.

ORIG. PUB. : Priroda (B"lg.), 1958, 7, No. 2, 55-59

ABSTRACT : No abstract.

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1561

CARD: 1/1