УЎТ: 633.878.32: 632.7: 632

THE BASICS OF APPLE TREE DISEASES

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Abstract. *Apple trees are vulnerable to several illnesses, including fire blight, apple scab, cedar apple rust, powdery mildew, and viruses. Fire blight is a bacterial disease that causes leaves and twigs to turn black or brown. Apple scab is a fungal disease that affects both leaves and fruits of susceptible varieties. Cedar apple rust can cause orange-yellow lesions on young foliage, which should be treated with fungicides. These preventative measures can help keep apple trees strong and productive.*

Key words: *tree, diseases, apple, infected, fruits, infections, viruses.*

Аннотация. *Яблони подвержены нескольким заболеваниям, в том числе бактериальному ожогу, парше яблони, ржавчине кедровых яблок, мучнистой росе и вирусам. Бактериальный ожог – это бактериальное заболевание, при котором листья и ветки становятся черными или коричневыми. Парша яблони грибковое заболевание, поражающее как листья, так и плоды восприимчивых сортов. Кедровая яблоневая ржавчина может вызывать оранжево-желтые поражения на молодой листве, которые следует лечить фунгицидами.*

Ключевое слова: *дерево, болезни, яблоко, зараженные, фрукты, инфекции, вирусы.*

Аннотация. *Мақолада олма дарахти бактериал куйдиргиси, параш, (қўтир) занг ун шудринг ва вирусли касалликлари билан зарарланиши ҳақида маълумотлар берилган. Бактериал куйдургиси бактериал касалик бўлиб барг ва новдалар қораяди ёки қўнғир тусга киради. Парша бу замбуруғли касалик бўлиб ҳам меваларни ҳам баргларни зараралйди. Олма занг касаллиги баргларда зангори сарғиш доғлар пайдо бўлади. Бу касалликларга қарши курашда самарали фунгицидлардан фойдаланилади. Касалликларни олдини олишда кўчатларни тўғри парвариш қилиш муҳим аҳамиятга эга.*

Калит сўзлар: *дарахт, касаллик, олма, зарарланган, мевалар, инфекция, вирус.*

Introduction. Apple trees are, unfortunately, vulnerable to several illnesses. Common apple tree diseases include fire blight, apple scab, cedar apple rust, powdery mildew, and several viruses. Knowing how to identify and treat these diseases can help you keep your apple trees healthy and productive for years to come. is a bacterial disease that affects apples as well as other plants, such as pears and crabapples. It causes leaves and twigs on infected branches to turn black or brown suddenly, giving them an appearance similar to being burned by fire – hence its name. Fire blight can be treated with antibiotics if caught early enough; however, it's best avoided altogether by planting resistant cultivars of apples like 'Liberty' or 'Empire', which are known for their resistance against this disease.

Apple scab is another common fungal disease that affects both leaves and fruits of susceptible varieties. Symptoms include discolored spots on the surface of the fruit or leaf, which may eventually crack open, leading to premature dropping from the tree before harvest time arrives. Good sanitation practices like removing fallen leaves from around the base of your tree will help reduce infection rates since spores overwinter in debris left behind after harvesting season has ended.

As humidity levels rise in the springtime, cedar apple rust can cause orange-yellow lesions to form on young foliage, resulting in reduced photosynthesis efficiency and stunted growth potentials if left untreated. To mitigate this issue, fungicides containing active ingredients such as myclobutanil or thiophanate methyl should be applied at regular intervals from just prior bud break until petal fall. By using the right timing and application of these preventative measures, you can increase your odds of keeping your apple trees strong and productive during their growing period.

Pic. 1 Typical scab lesions on apple fruit.

Pic. 2 Infected blossoms.

Other common apple tree diseases include fungal pathogens like powdery mildew, anthracnose, and perennial canker, as well as viruses like apple mosaic virus, apple russet ring virus, and apple green crinkle-associated virus. Apple tree diseases can be a complex topic, but understanding the basics is essential for properly caring for and maintaining your apple trees.

Fire blight is a serious bacterial disease that affects apple trees, as well as other hosts such as pear, crabapple, and mountain ash. It is caused by the bacteria Erwinia amylovora, which can infect fruit, flowers, twigs, and leaves of infected plants.

Symptoms of fire blight include wilting of new shoots, dieback of branches or entire limbs, and dark brown to black lesions on bark or stem. The bacteria are spread by wind-borne rain splashes carrying the spores from fallen leaves or infected tissue to healthy wood in springtime. And it really can spread almost as fast as wildfire.

Pic. 2,3 Fire blight on limb of a Gala apple tree. Photo courtesy Adena Sabins MGPC

Some cultivars are more prone to fire blight infection than others. Highly-susceptible varieties include Gala, Fuji, Braeburn, Golden Delicious, Red Delicious, Granny Smith, Jonathan, Jonagold, Mutsu, and Rome. Varieties with some natural resistance to fireblight include Melrose, Priscilla, Redfree, and Winesap.

The best way to prevent infection is to plant resistant cultivars when possible. Pruning out any affected areas during dry weather may also help reduce the spread of fire blight but should be done carefully so as not to spread airborne spores further into healthy parts of the tree. Applying copper-based fungicides at bud break will help protect against fungal infections like honey fungus but won't do anything for bacterial diseases like fire blight.

If your apple tree has already been infected with fire blight, you need to take immediate action; prune off all dead leaves and branches well past the point where they become discolored (at least 8 inches). Disinfect pruning tools between cuts with a solution containing 10% bleach/water mix or 70% rubbing alcohol/water mix before moving onto another part of the tree so you don't risk spreading it further throughout your yard or even worse – an entire apple orchard. Remove all prunings from the area.

To treat existing infections, use antibacterial sprays during bloom time, followed up with additional applications every seven days until harvest time if needed. This should stop any reinfection from occurring and keep your delicious apples safe from harm. Additionally, remove any fallen fruits from around your trees that may have been affected by brown rot (a common fungal infection) so that it does not spread throughout your garden either.

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УЎТ: 633.878.32: 632.7: 632

ПОМИДОРНИНГ АЛЬТЕРНАРИОЗ КАСАЛЛИГИГА ҚАРШИ КУРАШ ЧОРАЛАРИНИ ТАКОМИЛЛАШТИРИШ

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Аннотация. *Бугунги кунга келиб сабзавот экинлари орасида помидор экинининг аҳамияти мухимлиги беқиёсдир. Олинаётган ҳосилдорлик юқори бўлганлиги билан талаб даражасида эмас. Олиб борилган ишланишларга кўра Помидорнинг "Новичок" нави ўсиш ва ривожланиши бўйича тупроқ шароитига тез мосланувчи бўлганлиги сабабли назорат вариантига нисбатан 29.2 см баланд ўсган. Мева шохларида назоратга қараганда 6.5 донага меваси кўп. Шундай бўлсада ҳозирги ишларда ишлаб чиқаришга тадбиқ этилган замонавий кимёвий моддалар помидор кўчатларининг ўсиш ва ривожланишига таъсир этмаган. Касалликларга қарши кимёвий моддаларни барг сатҳига сепилганда энг самарали кимёвий модда "Браво" бўлиб чиқди. Ишлов берилгунча касалланиш 5.7% бўлган бўлса, ишлов берилгандан кейин касалланиш 1.2%га тушган. Хосилдорлик эса 46.9 ц/гадан териб олинган, назоратда бу кўрсатгич 38.4 ц/га бўлган. Улар ўртасидаги фарқ 8.5 ц/га ни ташкил этган.*

Калит сўзлар: *ўтлоқи бўз тупроқ, нав, ўсиш ва ривожланиш,касалланиш, хосилдорлик, 1 та помидор мевасининг оғирлиги, касаллик, кимёвий модда.*

Аннотация. *На сегодняший день значение урожая томатов среди овощных культур несравнимо. Урожайность получается высокая и не на уровне спроса. По проведенным исследованиям сорт томата " Новичок" вырос на 29,2 см выше контрольного варианта за счет быстрой адаптации к почвенным условиям в плане роста и развития. На плодовых ветвах на 6,5 плодов больше, чем на контроле. Однако современные химикаты, используемые в настоящее время в производстве, не повлияли на рост и развитие рассады тоиатов. Было обнаружено, что "Браво" является наиболее эффективным химическим веществом при внекорневом применении химичестких средств для борьбы с болезнями. Заболеваемость до применения препарата составила 5,7%, после применения заболеваемость снизилась до 1,2%. Урожайность собрана с 46,9 ц/га, в луговой серозем,контролеи38,4 ц/га. Разница между ними составила 8,5 ц/га.*

Ключевые слова. *Луговой серезом, сорт, рост и развитие, болезни, урожайность.масса 1 плода томата.*

Annotation. *To date, the importance of the tomato crop among vegetable crops is incomparable. The yield is high and not at the level of demand. According to the studies, the tomato variety "Novichok" grew 29.2 cm higher than the control variant due to rapid adaptation to soil conditions in terms of growth and development. There are 6.5 more fruits on the fruit branches than on the control. However, the modern chemicals currently used in production have not affected the growth and development of toiate seedlings. Bravo has been found to be the most effective chemical in foliar application of chemical agents for disease control. The incidence before the use of the drug was 5.7%, after application, the incidence decreased to 1.2%. The yield was collected from 46.9 c/ha, in meadow gray soil, control and 38.4 c/ha. The difference between them was 8.5 centners per hectare.*

Keywords. *Meadow cut, variety, growth and development, diseases, productivity. weight of 1 tomato fruit.*

Сабзавотчиликда помидор муҳим аҳамиятга эга бўлган экин бўлиб ҳисобланади. Бу экиннинг фойдали томони шундаки мевасининг таркибида кўплаб витаминлар мавжуд бўлиб, халқимизни севимли озиқ овқатларни истеъмоли учун хизмат қилувчи сабзавот экини бўлиб хисобланади. Бу экиндан кейинги йилларда юқори ҳосил олаётган фермер хўжаликлар сони кўпаймоқда. Лекин олинаётган ҳосил миқдори истеъмол талабини қондира олмайди, чунки турли касалликлар жумладан альтернариоз касаллиги таъсирида бир қисм ҳосил камайибгина қолмай, шунинг билан бирга сифатсиз бўлиб қолишига олиб келади.

Кейинги йилларда республикамиз олимлари томонидан олиб борилаётган тажрибаларидан келиб чиққан ҳолда [1] помидорнинг альтернариоз (*Alternaria alternata f. sp. lycopersici*) замбуруғи фитофториоз замбуруғи билан бир хил ҳароратда ривожланади, Лекин альтернариоз замбуруғи намликни севувчи бўлгани учун доминантли формада бўлиб, тез ривожланади ва помидорнинг барча ер устки қисмларини зарарлаш хусусиятига эга бўлади. Яна бир тажриба мисолида кўриш мумкинки, альтернариоз замбуруғи картошкани узоқ йиллар давомида етиштириб келинган майдонда тез ривожланиб, фақатгина картошка ва помидорни зарарлабгина қолмай , балки бошқа экинларни ҳам кучли касаллантириш хусусиятига эга бўлган патоген бўлиб ҳисобланади [2].

Тажриба схемаси

Тажриба вариантлари	Кимёвий моддаларнинг меъёрлари	Кимёвий моддаларнинг қўллаш муддатлари	Тажриба учун ажратилган экин майдони. га./ хисобида
Назорат			0,5
.Мис кукуни (эталон)	3-4 кг/га	Вегетация даврида	0,5
Балеар 72%	2.0 л/га	Вегетация даврида	0,5
Браво 50% с.п	2.5 -3.0 л/га	Вегетация даврида	0,5