Summary of Insect Conditions in Iran 1958

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Cereal and Forage Insects :

DESERT LOCUST (Shistocerca gregaria) invaded Iran for the first time since 1954 and heavy infestations occurred throughout southwestern and southern Iran. Lesser invasions extended into eastern, central and extreme northwestern Iran. Crop damage was held to a minimum through intensive control efforts. Aggregate acreage reported to have been treated in all areas of Iran totaled 2,765,000 acres.

MOROCCAN LOCUST (Dociostaurus moroccanus) infestations were the heaviest in several years in Fars province and heavy damage to rangelands and wheat occurred, notwithstanding extensive control measures. Heavy infestations also occurred in Gorgan, Khorrasan, Khuzistan and Kerman provinces. Aggregate acreage reported to have been treated in all areas of Iran totaled 2,035,000 acres.

NATIVE GRASSHOPPERS (Calliptamus sp., Dociostaurus spp., and others) infested most areas of Iran. Aggregate acreage reported to have been treated totaled 425,000 acres.

SEN PEST (Eurygaster integriceps) infestations continued at low level and no serious damage to cereals was reported anywhere in Iran.

PENTATOMIDS (Aelia furcula and Aelia virgata) were extremely heavy in several localized areas and caused as much as 50 per cent loss of wheat in Hamadan area.

A PENTATOMID (Dolycoris baccarum) (Det. by P. D. Ashlock) invaded cereal fields near Dezful in Khuzistan, with population densities as high as 70 per square meter reported. No important damage was observed.

SCARAB BEETLES (Anisoplia sp.) were reported very numerous in several areas of western Iran and adults damaged maturing wheat heads.

A WHITE GRUB (near Haplida sp.) (Det. by J. G. Rosen) greatly reduced stands of young cereal plantings in Khuzistan during late winter.

EUROPEAN CORN BORER (Pyrausta nubilalis) (Det. by H. W. Capps) infe-

stations were moderately heavy in the limited plantings of field corn in the Caspian area.

DURRA STEM BORER (Sesamia cretica) was the most important pest of corn and sugarcane throughout Iran, and also in conjunction with a CRAMBID STEM BORER (near Chilo sp.) (Det. by H. W. Capps) caused sevère damage to sorghum in Baloutchestan.

A NOCTUID (Leucania loreyi) (Det. by. H. W. Capps) was of minor importance on corn in southern Iran.

CEREAL LEAF MINER (Syringopais temperatella) became increasingly important on wheat and barley in southwestern and southern Iran, particularly in those areas where cereal and opium crop rotation had been discontinued. Complete destruction of many fields occurred in late winter, with 60 to 90 larvae commonly found per single small plant.

LUCERNE FLEA (Sminthurus viridis) (Det. bv D. L. Wray) was present in great abundance in Khuzistan wheat fields and was also common on wild alfalfa in that area.

ENGLISH GRAIN APHID (Macrosiphum granarium) (Det. by L. M. Russell) infestations were heavy on wheat in southern Iran.

GREENBUG (Toxoptera graminum) (Det. by L. M. Russell) was present on cereals in southern Iran, but was nowhere observed in any abundance.

CORN LEAF APHID (Rhopalosiphum maidis) (Det. by L. M. Russell) infested barley in Khuzistan province.

ARCTIID CATERPILLARS (Arctia sp. and others) (Det by H. W. Capps and W. D. Field) fed extensively on all species of range plants in many areas of Iran and frequently invaded adjoining cereal fields.

ALFALFA WEEVIL (Hypera postica) continued to be much the most serious pest of alfalfa, occurred in all areas of Iran, and generally destroyed the first cutting and caused heavy damage to the second cutting.

SPOTTED ALFALFA APHID (Therioaphis maculata) was occasionally of economic importance causing honey-dewing and much difficulty in harvesting.

SWEETCLOVER WEEVIL (Sitona cylindricollis) adults were extremely abundant on alfalfa in the Karadj area, defoliating many plants.

MIRIDS (Deraeocoris punctulatus) (Det. by P. D. Ashlock) and (Calocoris norvegirus) (Det. by R. I. Sailer) were common on alfalfa in the vicinity

of Tehran and Karaj.

Truck Crop Insects :

SPIDER MITES and APHIDS were probably the most destructive of all pests to truck crops, with no crop escaping serious damage.

BEET ARMYWORM (Laphygma exigua) infestations dropped to a very low level and in most areas no control measures for this pest were required on sugarbeets.

SUGARBEET CROWN BORER (Gnorimoschema ocellatella) was not of economic importance until late summer, but then rapidly increased to where 100 per cent infestation was common.

A SUGARBEET STEM BORER (Lixus incanescens) was generally present but of minor importance.

SPIDER MITES (Tetranychus sp.) were the most important pest of sugarbeets in some of the more arid regions, whereas the BEAN APHID (Aphis fabae) was the most important pest of sugarbeets in the cooler, northern province of Azarbaïdjan.

SPINACH LEAF MINER (Pegomya hyoscyami) (Det. by R. H. Foote) infestations on sugarbeet were the heaviest in several years and caused serious economic damage in many places throughout central Iran.

FLEA BEETLES (Chaetocnema sp.) caused heavy damage to sugarbeets during the young seedling stage.

BALUCHISTAN MELON FLY (Myiopardalis pardalina) and A MELON BEETLE (Epilachna chrysomelina) damaged melons and cucumbers in all areas of Iran.

RED PUMPKIN BEETLE (Aulacophora foveicollis) was observed to be of lesser importance on melons and was seen only in southern Iran.

CABBAGEWORMS (Pieris rapae, Pieris brassicae, and Plutella maculipennis) were common on cabbage with the most serious damage observed being caused by Pieris rapae.

CABBAGE APHID (Brevicoryne brassicae) heavily infested cabbage and cauliflower throughout the country.

A FLEA BEETLE was observed in great abundance on cabbage throughout the season and in all areas.

A PENTATOMID (Eurydema ventrale)—Nymphs were quite abundant on cab-

bage during late summer in Azarbaïdjan province and causing some damage.

TURNIP WEBWORM (Hellula undalis) (Det. by H. W. Capps) damaged cabbage and sometimes caused serious to turnips.

TURNIP APHID (Rhopalosiphum pseudobrassicae) (Det. by L. M. Russell) was extremely heavy on turnips during late winter in Khuzistan province, and also infested wild crucifers.

A CHRYSOMELID (Colaphellus hofti) caused extensive damage to turnip foliage in Khuzistan province.

EUROPEAN CORN BORER (Pyrausta nubilalis) (Det. by. H. W. Capps) infested bell pepper fruits and stems at Shahi on the Caspian Sea.

TOMATO RUSSET MITE (Vasates lycopersici) caused severe russetting and dropping of tomato foliage in Khorramabad, with severe sunscalding of tomatoes resulting.

A TOMATO FRUITWORM (Heliothis armigera) generally attacked tomatoes, but infestations exceeding five per cent were nowhere observed.

SPIDER MITES were the only pest observed on eggplant and caused heavy dropping of foliage in many areas of western and northwestern Iran.

EGYPTIAN COTTONWORM (Prodenia litura) was a major pest of all types of vegetable crops in Khuzistan province.

Deciduous Fruit Insects :

CODLING MOTH (Carpocapsa pomonella) severely infested apples throughout Iran, attacked pears to a lesser extent, and caused only limited damage to quince.

ERMINE MOTHS (Hyponomeuta sp. or spp.) completely defoliated many apple trees in Azarbaïdjan province and caused serious leaf damage in most apple growing areas. Apricot, plum and quince were also infested.

A PRUNE FRUITWORM (Laspeyresia funebrana) infested from 50 to 90 per cent of the prune crop in many areas. Damage to plums was much less severe.

A LACE BUG (Stephanitis pyri) was observed predominately on apples, but also occurred on pears in all fruit growing areas. Damage ranged from light to very severe. In the latter case foliage showed practically no chlorophyll.

SPIDER MITES particularly the CLOVER MITE (Bryobia praetiosa) heavily infested deciduous fruit trees. A prune orchard near Amol in the Caspian Sea area was almost completely defoliated by the CLOVER MITE.

A CERAMBYCID TWIG BORER killed many terminal branches of apricots, cherries, and apples over a wide area of central and western Iran. Attacks were not confined to weakened trees.

SHOT-HOLE BORERS (Scolytus spp.) killed many previously weakened peach, plum, cherry and apricot trees.

OLIVE SCALE (Parlatoria oleae), OYSTERSHELL SCALE (Lepidosaphes ulmi), HALL SCALE (Nilotaspis halli), and a DIASPID SCALE (Chionapis asiatica) were all important pests of deciduous fruit trees.

BLACK SCALE (Saissetia oleae) is reported to be killing many olive trees in the small area of infestation at Rudbar. Intensive control measures are being undertaken by the Iranian government.

Citrus Insects :

A complex of citrus scale insects and the citrus rust mite represent the most important economic pests of Iranian citrus. These occur primarily in the Caspian Sea area. Frequently, heavy infestations of three or four species of scale insects will be found on a single tree. Extensive efforts are being made to reduce this damage, and, in the Caspian citrus growing area more than one and one-half million trees were sprayed during 1958.

CITRUS RUST MITE (Phyllocoptruta oleivora) was probably the most important single citrus pest during the year. Unusually heavy infestations, extensive spread to additional areas, and improper timing of spray or dust applications resulted in the russetting of the entire crop in many groves.

CITRUS RED MITE (Panonychus citri) was common and the most serious damage observed was on citrus nursery stock.

TEXAS CITRUS MITE (Eutetranychus banksi) (Det. by E. W. Baker) was the most common spider mite attacking citrus in the southern parts of Iran.

DICTYOSPERMUM SCALE (Chrysomphalus dictyospermi) was the most widespread of the scale insects in the Caspian region.

CHINESE WAX SCALE (Ceroplastes sinensis) was reportedly becoming more widespread and was causing serious concern in some areas.

PURPLE SCALE (Lepidosaphes beckii), CHAFF SCALE (Parlatoria pergandii), and BLACK PARLATORIA SCALE (Parlatoria zizyphus) were all of major economic importance on citrus along the Caspian Sea.

GLOVER SCALE (Lepidosaphes gloveri), YEW SCALE (Pulvinaria floccifera), ORANGE PULVINARIA SCALE (Pulvinaria aurantii), CITRICOLA SCALE (Coccus paeudomagnoliarum), SOFT SCALE (Coccus hesperidum), YELLOW SCALE (Aonidiella citrina), and CALIFORNIA RED SCALE (Aonidiella aurantii) infested citrus in scattered areas of the Caspian region but were generally more limited in importance.

BLACK SCALE (Saissetia oleae) did not infest citrus, although present on immediately adjoining oleanders.

COTTONY-CUSHION SCALE (Icerya purchasi) was a problem on citrus only in those areas where other host plants adjoining citrus trees were heavily infested.

ORIENTAL YELLOW SCALE (Aonidiella orientalis) was the only scale insect observed to be of importance on citrus in the hot and arid regions of southern Iran.

LEMON BUTTERFLY (Papilio demoleus) (Det. by H. W. Capps) occurred only in scattered areas of southern Iran and was of limited importance.

CITRUS LEAF MINER (Phyllocnistis citrella) was reported to be important in the limited citrus areas of southeastern Iran.

Nut Insects :

Loss of pistachios and almonds to insect pests is extremely heavy each year in Iran. Even though almond production is high, it was not uncommon to find orchards where practically 100 per cent of the nuts were lost to the almond nut borer. The pistachio insect problem is much more complex, with twelve different species of insect pests observed causing major damage in 1958, plus other insects that caused some damage. Reliable sources estimate that 50 per cent of the entire 1958 pistachio crop will be lost to insects, even though several million trees were sprayed by farmers and the Iranian government. This would represent a loss of between 4 and 5 million dollars worth of pistachios. An orchard near Kerman was observed where 95 per cent or more of the pistachio crop was destroyed by a combination of insects.

ALMOND NUT BORER (Eurytoma amygdali) was the most important insect pest on almonds and severe damage to the crop occurred in the large almond producing region of northwestern Iran.

PISTACHIO LEAFHOPPER (Idiocerus stali) (Det. by J. P. Kramer) was considered the most serious pistachio insect until very recent years. This pest was still of primary importance in unsprayed orchards but was of only minor importance where proper control measures were applied.

PISTACHIO PSYLLID (Agonoscena targioni) infestations were very heavy and were not completely controlled even with multiple spray applications. In addition to heavy loss of nuts, severe damage to the bud crop for next year resulted due to extensive leaf - drop.

PISTACHIO NUT BORERS (Eurytoma plotnikovi (Det. by B. D. Burks) and Megastigmus pistaciae) caused very heavy damage in most pistachio orchards throughout Iran. Infestation counts at Kerman showed up to 70 per cent of the nuts in some orchards to be infested.

A GELECHIID NUT BORER (Recurvaria pistacicola) was generally present and caused severe damage to pistachios in April and May. The young larvae penetrated the young nut and destroyed the developing germ before the shell hardened.

A HAIRY CATERPILLAR (Ocneria terebynthina) became much more widespread in Kerman province and caused complete defoliation of pistachios in some unsprayed orchards.

PISTACHIO LEAF MINER (Stigmella (Nepticula) promissa) was observed to have destroyed 50 to 60 per cent of the leaf surface in two orchards at Rafsenjan, resulting in heavy leaf drop and some drying and shriveling of immature nuts.

A SCOLYTID BORER (Chaetoptelius vestitus) (Det. by W. H. Anderson) was quite heavy in some orchards, with as many as six to eight adult beetles being found in the terminal portion of twigs within a distance of 4 to 6 inches. New buds were killed by penetration of the beetle at the base of the buds.

A BUPRESTID BORER (Capnodis cariosa hauseri) caused very serious damage to pistachio trees at Rafsenjan ,30 to 40 per cent of the trees in one orchard were killed by this borer.

A LEPIDOPTEROUS TWIG BORER became more widespread on pistachios and many nuts were destroyed by the penetration of the young larvae into the stem of the nut cluster.

A PISTACHIO SCALE (Lepidosaphes pistaciae) and SPIDER MITE (Tetranychus sp.) populations became very heavy and caused severe weakening of trees in orchards where an incomplete spray schedule was followed.

Grape Insects :

VINE MOTH (Lobesia botrana) caused minimum damage to grapes due to a very effective control program in infested areas.

A GRAPE MOTH (Sparganothis pilleriana) infested grapes in the vicinities of Ghazvin and Tahkestan.

GRAPE ERINEUM MITE (Eriophyes vitis) was common in Azerbaïdjan province, but onlyminor damage was observed.

CICADAS (Cicadatra spp.) infested grape roots in the Hamadan and Kermanshah areas causing an undetermined amount of damage, but sufficient to cause much concern.

Cotton Insects :

SPINY BOLLWORM (Earias insulana) infestations were reported and generally observed to be much less severe than in 1957. This probably may be attributed to more effective control measures, and climatic conditions that were less favorable for build-up.

A COTTON BOLLWORM (Heliothis armigera) caused less damage to cotton in the Caspian region than in 1957. Rarely did boll infestations exceed 25 per cent, and most commonly ranged from 5 to 10 per cent.

SPIDER MITES (Tetranychus spp) were an important pest of cotton in southern Iran and frequently necessitated the application of control measures.

APHIDS, THRIPS and WHITEFLIES were common on cotton causing serious damage in scattered localities.

NOCTUIDS (Laphygma exigua, Prodenia litura, and Xanthodes graellsii) (Det. by. H. W. Capps) attacked young cotton in Khuzistan province, but damage was usually limited.

Forest, Ornamental, and Shade Tree Insects:

AN ERMINE MOTH (Hyponomeuta sp.) completely defoliated many willow trees during the early spring in the Shiraz area.

A TINGID (Monustria inermis) commonly infested poplars in many areas of Iran. Leaf damage was sometimes quite severe.

POPLAR LEAF BEETLE (Melasoma populi) was generally distributed and caused extensive defoliation, particularly of poplar nursery trees, in western Iran.

A POPLAR TRUNK APHID (Phloeomyzus passerinii) was very heavy on the trunks of poplar trees in Borujerd.

POPLAR LEAF APHIDS—Several species attacked the different species of poplar and caused severe honey—dewing.

BUPRESTID BORERS (Capnodis sp.) killed a large percentage of the trees in poplar nurseries at Borujerd. These same borers attacked larger trees to a lesser degree.

GYPSY MOTH (Porthetria dispar), BROWN—TAIL MOTH (Nygmia phaeorrhoea), and SATIN MOTH (Stilpnotia salicis) all occur in the deciduous forests of the Elburz Mountains, but no serious damage was reported nor observed as caused by these pests.

MOROCCAN LOCUST (Dociostaurus moroccanus)—Adult flying locusts completely devastated an area of approximately ten square miles near Kazerun, stripping all leaves from Zizyphus trees and shrubs.

CITRUS BLACKFLY (Aleurocanthus woglumi) was common on Zizyphus throughout Khuzistan province.

COTTONY—CUSHION SCALE (Icerya purchasi) infestations were extremely heavy on maple trees in Babol and was observed in several Caspian localities as very heavy on Spanish broom (Spartium junceum). It is reported that VEDALIA (Rodolia cardinalis) will not attack this scale when it occurs on these host plants.

GREEDY SCALE (Aspidiotus camelliae) killed sections of Euonymus and boxwood hedges in several Caspian Sea localitions.

BLACK SCALE (Saissetia oleae) heavily infested oleander at Ramsar. Sooty-mold associated with this scale was very dense.

Miscellaneous Insects :

OLD WORLD DATE MITE (Oligonychus afrasiaticus) severely damage the date crop in many widely scattered areas of southern Iran.

A DATE FULGORID (Ommatissus binotatus)—Extent of damage not reported, but government control operations were greatly reduced in 1958.

DATE STEM BORER (Oryctes elegans) was reported to be an important pest in Jahrom and Bam areas.

DICTYOSPERMUM SCALE (Chrysomphalus dictoyospermi) was generally light on tea in the Caspian region, however infestations sometimes became puite heavy in densely shaded plantings.

SOFT SCALE (Coccus hesperidum)—Light infestations occasionally found on tea.

SPIDER MITES—A light infestation found on tea at Ramsar.

EUROPEAN CORN BORER (Pyrausta nubilalis) (Det. by H. W. Capps) attacked "Kenaf" (Hibiscus cannabinus), a fiber plant grown for jute, throughout the Caspian region. Infestations averaged about ten per cent. Infested plants usually broke at the point of entry of the borer, and the portion above died. This borer was also found in the stems of Abutilon avicenna, a native malvaceous plant that is grown as a fiber crop in other parts of the world.

A SESAME POD BORER (Antigastra catalaunalis) (Det. by H. W. Capps) was generally distributed in sesame growing areas of Iran and frequently destroyed a high percentage of seed pods.

A SESAME LEAFHOPPER (Circulifer opacipennis) was considered to be the most important pest of sesame in Khuzistan province, destroying large areas or even entire fields of sesame.

A LEAFHOPPER (Oriosus albicinctus) also attacked sesame, but was considered to be much less important.

WHITEFLIES (Bemisia sp.) and SPIDER MITES commonly infested sesame in Khuzistan province.

TOBACCO APHIDS were the most common and serious pest on tobacco. In Azarbaïdjan province extremely heavy aphid infestations caused severe honeydewing of tobacco.

A TERMITE (Amitermes vilis) (Det. by T. E. Snyder) caused heavy damage to building timbers and railroad ties in Khuzistan province.

A TERMITE (Anacanthotermes vagans septentrionalis) (Det, by. T. E. Snyder) was reported to occur throughout Iran, but was not generally considered as causing extensive damage.

Beneficial Insects :

SEN PEST PARASITE (Microphanurus semistriatus)—About 80 million were again artificially reared this year for field release.

VEDALIA (Rodolia cardinalis)—About 22,000, either collected from the field or reared in the insectary, were released for the biological control of COTTONY-CUSHION SCALE.

COCCINELLIDS (Brumus octosignatus, Chilocorus bipustulatus, Adonia variegata, Prophylaea 14-punctata, and Exochomus flavipes) (Det by E. A. Chapin) were important predators of aphids and spider mites.

A BRACONID PARASTTE (Phanerotoma sp.) (Det. by C. F. W. Muesebeck) was reared from the SESAME POD BORER (Antigastra catalaunalis).

ICHNEUMONID PARASITES (Dicaelotus sp. and Horogenes sp.) (Det. by L. M. Walkley) were reared from the SUGARBEET CROWN BORER (Gnorimoschema ocellatella).

A PTEROMALID PARASITE (Dinarmus pistaciae) (Det. by B. D. Burks) was reared from the PISTACHIO NUT BORER (Eurytoma plotnikovi).

A BRACONID PARASITE (Bracon brevicornis) (Det. by C. F. W. Muesebeck)—Great numbers were reared from Noctuid larvae.

BRACONID PARASITES (Trioxys utilis and Praon pallitans) continued to effect economic control of SPOTTED ALFALFA APHID (Therioaphis maculata) in all areas of Iran.