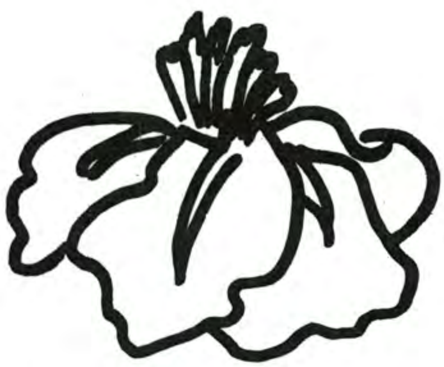
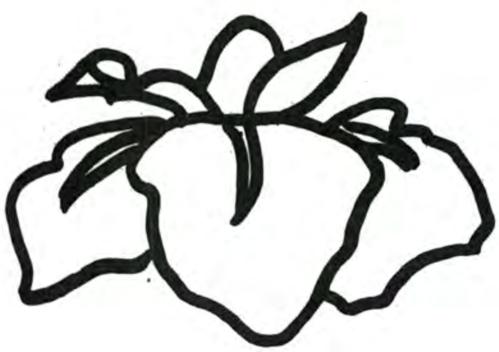
VOLUME 10, NUMBER 2
OCTOBER, 1973





THE REVIEW

OF THE SOCIETY FOR JAPANESE IRISES

THE REVIEW

OF

THE SOCIETY FOR JAPANESE IRISES

Volume 10, Number 2 October, 1973

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Mr. E. H. Wagner, Robin Chairman, Columbus, OH.

FROM THE PRESIDENT'S DESK

It has been a fast, full year in the Japanese sections of the garden! The season began about 3 weeks early (15 May) on some miniature singles from seed sent as a gift from Japan several years ago. These plants are usually about 18"; this year they bloomed on 12-14" stalks, possibly because by the time frost danger was over and spring feeding-time had arrived the bloom stalks were already in evidence, so feeding was a "no-no"!

There was a steady progression of bloom then till late July. The recently obtained Payne varieties were among the latest to bloom; an unexpected bonus on 1 year transplants. Time and Tide, this summer, has been a fair approach to an "everbloomer" giving several stalks in early summer and 3 times at monthly intervals since, another lovely stalk, the last finishing just now (late September).

Incidently, there has been greater interest in I. ensata (kaempferi) since the name correction was publicized this spring, than for many years, nurserywise!

Reports have it that the group at Philadelphia was small but enthusiastic. Small groups, however, are first to feel financial pinching with rising prices...running as they do, on a smaller margin! Your editor is surveying ways of stretching the dues dollars. Suggestions and ideas for this or for swelling the funds would be greatly appreciated, I'm sure!

No blue or maroon spiders were observed "awaiting dinner" in the centers of Japanese Iris blooms. The little white ones, however, were conspicuous in their occasional occupancy of an all-dark bloom, looking just as healthy as if camouflaged by a white bloom!

Lorena M. Reid

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MUTATIONS BY ULTRASONICS

In an article on Ultrasonics in the Smithsonion Treasury of 20th Century Science the author (Laufer) states on page 166 that "The Time required for germination of seeds has been changed, genes have been made to mature at abnormally fast rates and in some cases genes have been altered to yield unusual mutations." No explanation is given of the reference to genes maturing at abnormally fast rates.

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JAPANESE IRIS SAP STAIN

Two members have asked for a method of removing Japanese iris sap stain from clothing. Please send your method, if any, to the Editor.

THE ANNUAL MEETING

Eleanor Westmeyer

The first of the Sectional meetings to be held at the AIS Convention in Philadelphia was the meeting of the Society for Japanese Irises. Acting Chairman, Eleanor Westmeyer, called the meeting to order at 8:30 A.M. on May 29th, 1973. Regret was expressed that our Section seems to be locked into this earliest time spot on every convention program--for many of our members do not check into the hotel until later in the day. It is hoped that our President will contact future convention chairmen in an attempt to schedule our meeting for a later time during the convention.

Attention was called to the beautiful posters on hybridizing and types of Japanese irises sent to the convention by our President, Lorena Reid.

Slides from Arthur Hazzard and Lorena Reid were shown of selected seedlings and introductions of Hazzard, Marx and Payne.

Sid DuBose of Melrose Gardens again displayed two vases full of Japanese irises in bloom which he had brought with him from California. He explained how he and Ben Hager grow them commercially. A discussion of cultivating methods followed.

Dr. Currier McEwen, President of the Society for Siberian Irises reported on his most recent efforts to induce tetraploids. After much experimenting with different methods for germinating seeds, he has discovered that adding a few drops of water to a plastic bag of seeds before storing in the refrigerator will give a much higher percentage of germination.

Bill Gunther exhibited a bloomstock of iris biglumis, formerly known as iris ensata and called our attention to the article, "Corrected Nomenclature of Two Oriental Species" by Le Roy Davidson in the April, 1973 AIS BULLETIN. According to this research, the species we have been calling, "kaempferi," should now properly be called "ensata."

Since the meeting room was scheduled for another Sectional meeting at 10 A.M., the group was adjourned promptly.

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JAPANESE IRIS BLOOMING AT BILL GUNTHER'S

For the envy of those of us who do not live in Southern California Bill Gunther writes as of August 16: "Ten varieties are blooming today. They are: Sea Titan, Night Blizzard, Sky and Water, one of Thornton Abell's new unregistered seedlings, Worley Pink, Rose Tower, Houshin, Veined Beautiful, Flying Tiger and Strut and Flourish. All of them are reblooming in pots which are immersed halfway in ponds. I am quite convinced that it is the combination of the pond culture and the equable climate which brings on the rebloom here. I am equally convinced that the reason none of the blossoms here are so large as they are in Lorena Reid's garden is that our water is heavily chlorinated, heavily alkaline and heavily saline. I think all three of those factors serve to stunt the size of Japanese irises. Any comment???"

FACTORS INFLUENCING GERMINATION OF JAPANESE IRIS SEEDS
and
HEALTH OF THE SPROUTED SEEDLINGS

Dr. O. Currier McEwen

As noted in reports of our efforts to induce tetraploidy in Japanese irises (1,2), two serious handicaps to these efforts have been: (1) the extremely poor germination we have encountered in the seeds on moist, filter paper, which is an essential step in the method used, and (2) death of sprouted seeds from infection before they could reach a stage suitable for treatment with colchicine. In the hope of overcoming these problems, we have tried a number of measures with seeds harvested in the fall of 1971 and 1972 to see if they might help solve them. It is the purpose of this article to report these trials.

Experiments concerned with Germination

A. Dry or moist Storage: In previous years our Japanese iris seeds have been stored in small paper envelopes in the dry state. In September 1970 and 1971, however, a few batches of seeds were dusted with Arasan in the hope of preventing fungal infection and were placed in small plastic bags with 2-3 drops of water; and the bags were then sealed with twisted wire. By March when they were removed to Petri* dishes most of the seeds were still somewhat moist. Evidences of mold were found in very few of the batches; and in contrast to previous experience with seeds stored in the dry state, germination was quite satisfactory. Hence, the usefulness of moist storage was tested more thoroughly with the seeds harvested in the fall of 1972.

Fifty-five pods from 28 crosses provided 2,280 seeds. Most of these pods harvested in August and September 1972 were placed in paper cups and allowed to dry for 10 to 12 weeks to await a less busy time of year. Nine pods, however, were placed while still naturally moist in plastic bags which were sealed and kept at room temperature. This was done in accordance with a procedure previously used with Siberian iris seeds which I had learned from Mr. Eckard Berlin of West Germany. Subsequently, in December, the bags were opened. All the pods were still moist and most were quite moldy. All seeds were removed from the pods and were dusted with Arasan as a precaution against mold. Each batch of seeds was then divided into equal portions and placed in small plastic bags. All were somewhat moist. To some packets 2 to 6 drops of tap water, depending on the number of seeds, were added before the bags were sealed, whereas others were sealed without additional moistening.

The 46 pods which had been allowed to dry were opened in December also. Their seeds invariably were quite dry. These, too, were dusted with Arasan and were divided into packets, 38 of which received 2-6 drops of water before the bags were sealed. The remaining eight packets were sealed without addition of water. All packets were then stored in the refrigerator at 35-37° F. In March, 1973, all packets were opened and the seeds were placed on sterile moist

* A Petri dish is a flat-bottomed glass or plastic dish about four inches in diameter with vertical sides about one-half inch high covered by a flat cover of the same material and shape. It is used by microbiologists to grow pure cultures of bacteria and other microorganisms.

filter paper in Petri dishes at 65-70° F. All seeds stored with the addition of water were still moist. Those from dried pods without water were, of course, quite dry. Most packets showed no evidence of mold but in 3 a few seeds were moldy and were removed. All the packets from one of the crosses were grossly moldy and were discarded.

The results with regard to germination are shown in Table 1.

TABLE 1

Prior state of pods	Storage condition of seeds	Number of seeds	Seeds germinated No.	%	No. of days before first germination
A. Bagged*	Water added	150	124	83.	4 to 7
B. " *	No water added	88	16	18.	7 to 13
C. Dry	Water added	1920	1605	83.	4 to 7
D. "	No water added	330	6	1.8	21**

* Pods kept moist in plastic bags 10 weeks prior to removal of seeds.

** In 2 of 7 batches. There was no germination in the other 5 batches kept 60 days before they were discarded.

The importance of storing the seeds in the moist state (Table 1, lines A and C) is apparent. Indeed the addition of water was very helpful even in the case of the seeds from pods which had been kept in plastic bags and which therefore were somewhat moist when removed from the pods (Table 1, Lines A and B). When water was added at storage of the seeds, prior holding of the pods in plastic bags gave no additional benefit (Table 1, lines A and C).

Comment: In the case of seeds dropped on the ground in nature, they probably remain more or less moist most of the winter; and this is true also of seeds in flats left out of doors. In the case of seeds stored in the refrigerator, however, they naturally become dry unless steps are taken to keep them moist. Our experience indicates that under the conditions of these experiments dried seeds germinate very slowly and poorly. Hence keeping them moist is of considerable importance.

B. Storage Temperature: It has been shown (3) that the temperature at which the seeds of daylilies are stored plays an important role in their subsequent germination. In our experiment 80 to 200 seeds of each of 7 batches of Japanese iris seeds harvested in August and September 1971 were divided into four equal batches. The seeds in each batch were dusted with Arasan as protection against fungal infection, were placed in small plastic bags and 2-3 drops of water were added before the packet was sealed against water loss. One packet (A) of each batch was kept from early November to early April at house temperature (55° to 70° F). A second (B) was stored for the same length of time in the refrigerator at 35° to 37° F. The other two were handled in ways designed to mimic nature, where seeds dropped on the ground in the fall from the ripened pods are exposed all winter to freezing or alternate freezing and less-than-freezing weather. One (C) was kept continuously in the freezer at 8° to 11° F. and the fourth (D) was moved back and forth at weekly intervals between the refrigerator and the freezer. In April 1972 the seeds from all packets were placed in sterile Petri dishes on sterile moist filter paper at 65^{o}-70^{o}.

TABLE 2

Group Storage Temperature	Batches of Seeds		Seeds		Days before Germ.	
	No.	No. Germinating	No.	% Germinating	1st Germ.	Peak
A. House 55^{o}-70^{o}	7	3	218	16%	20	30
B. Refrig. 35^{o}-37^{o}	7	6	"	82%	7	15
C. Freezing 8^{o}-11^{o}	7	0	"	0	-	-
D. Intermittent Freezing	7	0	"	0	-	-

The results are shown in Table 2. It is obvious that under the conditions of this experiment best and earliest germination occurred in the seeds stored at just above freezing temperature. This was much superior to storage at house temperature; and no germination occurred in any seeds kept at $8^{o}$to 11^{o} either constantly or intermittently.

Comment: The failure of germination of seeds stored below freezing was unexpected but subsequent reading has revealed that Griesbach found the same to be true for hemerocallis seeds (3). Obviously conditions must be different in the case of seeds dropped in the wild on the ground or planted in the ground and in flats kept out of doors. These experimental results indicate clearly, however, that if Japanese iris seeds are to be germinated on moist paper they should have prior storage at temperature slightly above freezing. It is possible that seeds to be planted in flats might also profit from similar winter storage followed by planting in the spring but we have not tested this. In this study of Japanese iris seeds all were stored for 3 months. A shorter period at 35-37^{o} F. probably would serve equally well, however, for in the case of hemerocallis seeds Griesbach (3) has shown that maximal benefit can be obtained in about 2 weeks.

C. <u>Effect of Light and Darkness on Germination</u>: It is well established that seeds of some plants germinate better if kept in the dark whereas others do better if exposed to light (4). These requirements have been studied more thoroughly in annuals than in perennials but they are known for many of the latter also. We have found that Siberian iris (5) and daylily (6) seeds belong among those which do not have rigid requirements though in our experiments germination was somewhat better when they were exposed to light .

The tests with Japanese iris seeds were carried out in 1972 using seeds harvested in 1971. Only 20 seeds of Japanese irises were planted in Jiffy Mix in Multipots, of which 10 were exposed to lights 24 hours daily and 10 were kept in the dark. Approximately 1350 seeds were placed for germination on moist filter paper in Petri dishes. The source of light was fixture holding one

General Electric Daylight and one Cool White fluorescent tube at a distance of 8 inches above the seeds. Darkness was achieved by wrapping the Multipots and Petri dishes in two layers of black plastic.

TABLE 3
Effect of Darkness and Light on Germination

Germinated in	Kept Continuously in	Number of Seeds	% Germination
Jiffy Mix	Light	10	80
	Darkness	10	30
Petri Dishes	Light	660	33
	Darkness	695	20

The results are shown in Table 3. The number of seeds planted in Jiffy Mix was too small for an adequate test, but certainly there is no suggestion that darkness enhances germination. In the case of the seeds germinated on filter paper the samples are of adequate size and whereas germination was better in the light, it was not overwhelmingly so. The strikingly better germination of these light-exposed seeds planted in Jiffy Mix than of those on filter paper is in agreement with results testing Siberian iris seeds (5). This is in contrast to results with daylily (6) seeds which have germinated easily and equally well when planted in the Mix or placed on moist filter paper. Indeed daylily seeds germinate so readily that many are found to be sprouted when the packets are removed from the refrigerator in the spring.

It should be noted that the seeds used in these "light and darkness" trials were harvested in 1971 when only 1 or 2 drops of water were added prior to storage. This probably accounts for the far better germination (83%) recorded in line C of Table 1; for the seeds germinated in the light in that experiment carried out a year later had been stored with 2 to 6 drops of water. This may also account for the difference between germination in Jiffy Mix and on moist filter paper. The 80% germination of the small number of seeds in Jiffy Mix compares with that of 83% shown in line C of Table 1 for seeds on moist filter paper which had had prior storage with "plenty" of water, suggesting that the difference in Table 3 merely indicates that comparatively dry seeds absorb water better when they are imbedded in moist Jiffy Mix than when lying on moist filter paper.

D. Effect of "Skinning" Seeds: In the case of hemerocallis seeds, scraping off the outer covering over the end of the seeds from which the sproud will appear results, unless the seeds are non-viable, in germination within the next 24-48 hours. (3). This procedure therefore was tried with seeds of Siberian and Japanese irises. In the case of the latter, the firm oval seed was removed from the large, flat, paper-like envelope in which it lies and the thin brown "skin" was then gently scraped off also.

Results: This procedure was entirely ineffectual in inducing germination in approximately 25 seeds each of Siberian and Japanese irises.

Efforts to Prevent Infection of Sprouted Seeds

In our previous experience as noted earlier a serious problem in addition to the very poor germination was death of the sprouted seeds from infection before they reached a stage suitable for treatment with colchicine (1,2). Experience with the 1972 seeds was very much more satisfactory. Mold occurred in only 11 of 55 packets and in most of these was seen on only one or two seeds which were probably non-viable from the outset and hence susceptible to such infection. In 5 packets, however, up to half the seeds had to be discarded. Attempts to isolate and identify the causative microorganism were not made but in 3 the mold was of a gray, fluffy type like that seen on spoiled vegetables whereas in the other two the roots turned red in color and died without the appearance of any fluffy mycelium, suggesting a bacterial rather than fungal infection. When these infections occurred the affected seeds were removed and the filter paper was drenched with a solution of Captan mixed with Benomyl. In most instances the rest of the seeds in these dishes remained healthy and could be used for colchicine treatment. The better results as regards infected seeds this year probably are due in part to the more rapid germination discussed in the first part of this article; for the longer the dishes must be kept and opened every 3 to 4 days for moistening of the filter paper the greater the chance is for contaminating molds to get in. The use of Arasan also probably helped. It was omitted in only two batches of seeds. One of these remained healthy but the other was heavily contaminated with fluffy mold and had to be discarded. Finally, the use of Captan and Benomyl mixture also appeared to be helpful. Half of the seeds in most of the packets were placed in Petri dishes with filter papers moistened with sterile water and the other half in dishes with filter papers moistened with the Captan plus Benomyl solution. Germination was equally good in both. When mold occurred, far fewer seeds were affected in the Captan plus Benomyl dishes. Also when such infection showed itself it could be largely controlled by adding the solution. I did not try the effect of Captan or of Benomyl alone so do not know what the relative merit of either one used alone might be.

Conclusions

1. In these experiments in which seeds were sprouted on moist filter paper in Petri dishes, germination was greatly enhanced by:
   a. over-winter storage in the moist state.
   b. storage at temperature of 35 to 37° F.
2. Storing at temperature of 8 to 11° F was lethal and storing at 35 to 37° F in the dry state gave very poor results.
3. Germination in the light was somewhat better than in darkness.
4. "Skinning" the seeds caused no improvement in germination.
5. Dusting the seeds with Arasan before they were moistened and stored appeared to lessen fungal infection.
6. Germinating the seeds on filter papers moistened with a solution of Captan and Benomyl also appeared to be helpful in controlling fungal infection.

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LOST ADDRESS LABELS

In the April, 1973, issue of The Review we reported two copies of the October, 1972, issue having been returned without address labels. We guessed it was due to a few glued labels used on that issue. However, three copies of the April, 1973, issue were returned without labels, all of which had been prepared with pressure-sensitive labels. All labels on the October, 1973, issue have been pressed with a flat iron. In addition all copies have been held for three days and all labels checked for tightness.

If you did not receive your copy of the two preceding issues of The Review, please write the Editor - Mr. W. E. Ouweneel, R.R. 31, Box 206, Terre Haute, IN., 47803.

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WANTED VARIETIES

Your Editor has been asked for a source of the following varieties of Japanese irises: Kemuru-yuzora, Mogamigawa, Sanaezora, Ko-aozora, Akashigata, Natsusugata, Kurokomo, Kazabana, Asahimaru, Miyama-no-kasumi, Suiha, I-no-ichigo, Kokonoe-no-sakura. Any information will be appreciated.

JAPANESE IRIS WITH FIVE-DAY BLOOMS

W. L. Ackerman, Research Horticulturist,
U. S. Plant Introduction Service, USDA

The Japanese iris, Iris kaempferi Sieb., commonly called the saucer iris, has many virtues as a showy garden flower, yet it occupies a minor role in American plantings compared with the German iris (tall-bearded iris). A summer flower, the Japanese iris begins to blossom in Maryland during the latter part of June, shortly after the bearded iris are gone, and continues through July. Colors range from white to pale pink through lavender to blue and deep purple. The flowers are single or double and occur in solid colors and in many intricate patterns, some with contrasting dark-colored veins. Flower texture varies from light and filmy to heavy and velvet-like. Size varies from four to more than ten inches across, depending on the cultivar and cultural treatment. Through a program of breeding, selecting, and analyzing the flower longevity of seedlings, U.S.D.A. plant breeders have found a way to provide gardeners with Japanese iris with flowers that are long lasting.

Japanese iris generally are hardy throughout the United States, with the possible exception of the coldest areas of the Middle West and mountain states. Like that of the Siberian iris, the foliage dies down to the crown each autumn and remains dormant during the winter. Japanese iris begin growth quite late in the spring. The plants thrive with high moisture conditions during the growth period and are intolerant of neutral or alkaline soil. While they may grow quite satisfactorily in ordinary garden beds, the huge plate-size flowers for which these iris are famous are seldom seen except under very moist conditions.

A disadvantage of the Japanese iris, which may in part affect its popularity in this country, is the short life span of the individual blossoms. This averages two to three days, compared to three to six days for the German bearded iris. Increased floral longevity would perhaps induce more gardeners to plant Japanese iris.

Seeds from hand-polinated choice garden hybrids of the Kumamoto strain were obtained in 1956 by Dr. J. L. Creech, Agricultural Explorer, Agricultural Research Service, U.S.D.A., from the Seiko-en Nursery, Kanemoru, Hiroshima-ken, Japan. Introduced as P.I. 235584 to the U.S. Plant Intruduction Station, Glenn Dale, Maryland, they were grown for test and evaluation. The seeds were germinated in flats of milled sphagnum moss, transplanted to three-inch pots, and grown in a greenhouse for the first season. The plants were grown in a cold frame for the second season and then transferred to a moist field plot next to an irrigation pond. A total of 395 seedling plants were established in the first generation planting.

Floral descriptive records showed the color range to be typical for the species and present in both solid colors and in veination patterns. Floral longevity studies were made by tagging each individual flower as it began to show color. Daily flower sequence data were recorded on each tag, beginning with full bud and extending through four stages of development to the fading of the flowers. A minimum of ten flowers were tagged for each clone.

The range of distribution for the average life span of flowers on individual clones varied from one to five days, with the greatest number lasting from two to three days. Thirty-nine clones of good floral quality with average life spans of four to five days were selected. Their crowns were divided in half and transplanted as two replications to a new location. Clones in the new planting were allowed to cross-pollinate, and seeds were gathered for a second-generation planting. Floral descriptions and longevity data were recorded for the second-generation seedlings.

The range of distribution for the average life span of flowers on second-generation clones varied from two and one-half to five days, with the greatest number lasting from three to four days. Thus, the average floral longevity was advanced by one day in the second-generation compared to that of the original seedlings. No flower from either seedling population lasted more than five days, which appears to be the limit of floral longevity, at least for the Kumamoto strain used in this study, and possibly may be the limitation for the species.

A nucleus of eighteen clones with an average floral longevity of five days has been acquired in the two generations. Selective breeding among these clones would appear to present distinct possibilities for the development of long-blooming Japanese iris with desirable floral qualities.

EDITOR'S NOTE

The preceding article appeared originally in the Spring, 1973, issue of American Horticulturist and is reprinted with permission from the American Horticultural Society.

In a letter received by the Editor since the original publication of the article, Mr. Ackerman expresses a slightly more modest estimate of the work described in the article which apparently has some editorial changes. He states that when any clones produced in his work are released "it will be through USDA plant releasees. In this case the variety will be publicized through the Agricultural Information Service and will be distributed to nurserymen and plant breeders interested in iris."

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LESSON 1973

Your Editor is happy to report that Benomyl appears to cure almost instantly a diseased condition of Japanese irises which he has diagnosed as rust.

Benomyl comes as a powder. It is sold by garden supply houses and is advertised as a systemic fungicide. In April several plants were observed with yellowing tips on the foliage and a few small distinct, dark-brown spots in those areas. In addition two plants appeared to be dead. All were sprayed with Benomyl spray. Plants which had some green foliage when sprayed appeared to recover immediately. Of the two apparently dead plants, one has developed new shoots and shows no signs of infection.

HOW EFFECTIVE ARE BIOLOGIC CONTROLS?*

Aren't biological controls preferable to chemical poisons for plant protections? Our guest columnist offers his answer.

By R. Milton Carleton

The implication in such a question is that all that's needed to control a pest causing millions of dollars in crop damage is to go out with a butterfly net and capture a perfect control for that pest.

Second, it assumes that biologic controls are not working except for one or two highly-publicized instances.

Third, it assumes that only insects are susceptible to such controls, overlooking that some 30,000 species of weeds, 50,000 fungi (that cause some 1,500 serious plant diseases) and 15,000 species of nematodes are problems for which a biologic control would be a godsend.

Fourth, it assumes that the only biologic controls are other insects or birds, ignoring other methods that have been developed, such as breeding for resistance in food and fiber crops--usually far more effective than finding some exotic "bug" in a foreign climate.

The most unfortunate assumption, however, is that scientists and manufacturers are avoiding deliberately the use of biologic controls, and are even working to prevent their use by others.

Attempts to control harmful insects by biologic means have occupied the attention of entomologists for exactly 100 years; it was in 1873 that the Videlia beetle was released in California to control cottony cushion scale to save the citrus industry. Although thousands of predators have been imported since then, only one or two have been outstanding triumphs and perhaps 110 can be counted as partial or complete successes.

The introduction of a predator which may feed on a given species in its native habitat is not as simple as it seems. Many introduced predators refuse to accept domestication--they cannot be bred in captivity. Others do not adapt to a new environment, even though the species on which they formerly preyed did adjust.

One qualification for a successful biologic control is that it must be omnivorous--not only in its native habitat, but when introduced into the United States, it must accept as food species which it finds here. If it feeds only on its intended prey, it will wipe out all but a few individuals. Because these are the most vigorous, the most agile and the best-fitted to survive they are capable of producing a super-race of the original species, while the control starves to death for lack of food.

Another way an introduced species fails to control is if it finds more palatable other species that exist here. This happened in the case of at least 20 introduced enemies of the Oriental fruit moth which is a serious threat to peaches. All found tastier insects on which to feed, or species that were easier to capture.

Those who think scientists are neglecting biologic controls would do well to understand the many other controls that can be used. Today, there are several brands of bacterial cultures incorporating Bacillus thuringensis which are all-but-perfect controls for many food crop pests. The use of male-sterile techniques have wiped out the screw worm menace to cattle in many areas of the Southeast. Disparlure, a sex attractant, can be scattered over wide areas, confusing male gypsy moths so they cannot find mates.

Even aluminum foil can be used as a biologic control preventing the female squash borer moth from finding the right spot to lay her eggs: the reflection disorients her so she can't tell up from down!

Probably the easiest method of biologic control that has been in wide use is the breeding of varieties that are insect and disease resistant or immune.

It should be abundantly clear from this view of the problems of developing successful biologic controls that anyone who accuses scientists of deliberately side-tracking this method of protecting plants and animals is dead wrong.

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* From News and Views, The American Horticultural Society. Printed with permission.

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REGION 1 AUCTION

Bee Warburton reports that the SJI netted $15.00 in the sale of Japanese irises contributed to the annual Region 1 auction.

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SUPPLIERS OF JAPANESE IRISES

The following are known to be suppliers of Japanese irises. If there are others, your Editor would like to have their names for publication.

Hazzard, Arthur H., 510 Grand Pre Ave., Kalamazoo, MI., 49007
Imperial Flower Gardens, Box 255, Cornell, IL., 61319
Laurie's Garden, 17225 McKenzie Hwy., Rt. 2, Springfield, OR., 97477
Melrose Gardens, 309 Best Road South-A, Stockton, CA., 95206
Ouweneel, W. E., R.R. 31, Box 206, Terre Haute, IN., 47803
Vogt, Adolph, 5101 Fegenbush Lane, Louisville, KY., 40218

Section of THE AMERICAN IRIS SOCIETY
RR 31, Box 206,
Terre Haute, Ind., 47803
October 4, 1973

Mrs. Lorena M. Reid, President,
The Society For Japanese Irises

Dear Mrs. Reid:

In accordance with Article IV, Section 2, of the Bylaws of the Society the Nominating Committee of the Society nominates the present Directors at Large to serve additional terms during 1974 and 1975. They are

Mrs. F.W.Warburton, Westboro, Mass.
Mr. Leonard Jugle, Elmhurst, Ill.
Mr. W.J.Gunther, Del Mar, California

In accordance with Article VI, Section 3, of the Bylaws of the Society the Nominating Committee of the Society nominates

Mrs. Lloyd Zurbrigg, Radford, Va.

to serve as a member of the Nominating Committee during 1974, 1975 and 1976 succeeding Mr. W.E. Ouweneel.

Yours truly,

W.E.Ouweneel, Chairman,
Nominating Committee

P.S. Permission has been obtained from each of the nominees to use his or her name.