

# A Survey of Basic Horticulture and Plant Science Courses in U.S. and Canadian Colleges and Universities

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The basic horticulture course in many colleges and universities was replaced with essentially a basic plant science course(s), covering horticulture, agronomy and/or forestry, beginning with the low-enrollment Vietnam War years. A few institutions have switched back to basic horticulture with the objective of regaining identity and increasing horticultural majors. In recent years however, there has been a general and rather marked increase in enrollments in nearly all plant-oriented courses due apparently to a growing interest among young people in the outdoor environment.

There is interest among most U.S. and Canadian horticulture departments in what happened when the basic horticulture course was or was not replaced with a general plant science course during the recent war years of low student enrollment. The results of a 1973-1974 survey presents shifts in the basic horticultural teaching, the present enrollment situation, and any plans for changes in the immediate future. The results are summarized in Table 1.

Table 1. Basic horticulture and general plant science courses taught in U. S. and Canadian institutions, 1973-4.

Country	No. institutions surveyed	No. of institutions				May re- turn or have returned to Basic Hort
		Only Basic Hort	Only Gen Pl Sci	Basic Hort and Gen Pl Sci	Neither Pl Sci nor Basic Hort	
United States	68	27	26	9	6	4
Canada	8	1	4	1	2	—

## UNITED STATES

**Alabama.** *Auburn Univ., Auburn.* No pl sci course offered. A 3-qr core biology series is required, university-wide, bringing students to ag campus; an intro to hort and a basic hort are well attended by non-majors. Hort enrollment is at all-time high due perhaps to student interest in "environment." *D. Y. Perkins.*

*Agricultural & Mechanical Univ., Normal.* In fall '72, hort & agron combined into a course, intro to plant science; enrollments in both hort and agron dropped drastically, starting a present recruitment drive. *G. C. Sharma.*

*Tuskegee Inst., Tuskegee.* Gen pl sci course taken first, then basic specialty courses in fruit, veg, orn or ldsc. *B. T. Whatley.*

**Alaska.** *Univ. of Alaska, Fairbanks.* Little agr taught, few students, limited industry, no agr dean, but some hort taught in pl phys course. *H. F. Drury* and *D. H. Dinkel.*

**Arizona.** *Univ. of Arizona, Tucson.* Developed a basic pl sci course, "Growth and Development of Plants," taught by agron and prerequisite for basic hort course which has 2x enrollment of 4 yrs ago; also majors have doubled (90); same is true in ldsc arch program. Instituting a major in ldsc and park mgmt. *A. E. Thompson.*

*Arizona State Univ., Tempe.* Dropped basic hort course for pl sci course led by agron with hort taking part; are shifting to gardening interests by student demand. Hort program small but interest increasing, particularly in ldsc. *V. J. Miller.*

*Mesa Community College, Mesa.* Offers basic hort course and a separate crops science course; no pl sci course given. *J. D. Claridge.*

*Maricopa County Community College, Glendale.* Offers both basic hort course and pl sci course in ag dept. *R. C. Decker.*

**Arkansas.** *University of Arkansas, Fayetteville.* Offers basic courses in hort, forestry, agron, using best teachers; prefer students with good coverage in one course rather than having a general pl sci survey course. Some students take all three. Rely on top botany course heavy on higher plants, light on molecular biology. If biologists won't cooperate with type botany agric requires, then concept course may be needed. Pest mgmt group is "pushing" nationwide for a single pl sci course covering hort, agron, and forestry. This could be their only course in pl sci, hence, question arises, which is more important — managing pests, or growing a top crop? We think growing the crop comes first. *George A. Bradley.*

*Arkansas State Univ., State University.* Offers basic hort course which is mainly service course to agric (300 students); have discussed but not yet adopted pl sci course. Offers a degree in hort (only few majors). *A. J. Langlois.*

**California.** *Univ. of California, Riverside.* Teach basic pl sci for majors in pl sci but non-majors dominate, so now have a pl sci II for non-majors, mainly, and also for majors with no previous practical experience. Fall '73 showed big increase in pl sci majors who like field labs and open-schedule audio-tutorial labs. *R. K. Soost.*

*California Polytechnic Univ., Pomona.* Offers a basic hort 4x a year with overflow each time. Two elective courses required outside for educ majors, so dept picks up 5-10 new students from educ majors each year. Big drawing card is strong orn dept, good job placement, and good records of graduates. *O. A. Batcheller.*

*California Polytechnic State Univ., San Luis Obispo.* Orn hort and ldsc dsgr dominate in ag div.; no basic hort or pl sci course taught. Basic veg and fruit courses in agron. Orn hort majors increased from 157 (1968) to 517 (1974), due possibly to positive career orientation. *T. E. Eltzroth.*

*California State Univ., Chico.* Basic pl sci course successful; not likely to reactivate basic hort. Big increase last 2 yrs in orn hort and pom options, which are new. *G. J. Van Laan.*

*Univ. of California, Davis.* No basic hort course; pl sci I and II required of majors and transfers who have no comparable courses; and also of grad students with no comparable undergrad courses. *A. M. Kofranek.*

**Colorado.** *Colorado State Univ., Fort Collins.* Offers a 5 cr (qtr sys) basic hort course, well received, no intention of dropping it; demand increasing. Offers also a suburban hort for non-majors with increasing demand. *K. M. Brink.*

**Connecticut.** *Univ. of Connecticut, Storrs.* Discontinued highly successful basic hort in 1970 due to all-ag enrollment drop; now offering gen pl sci course "Man and His Environment" taught by hort and agron profs, covering, respectively (a) fruits, veg, orn, breeding, water mgmt, crop hazards, (b) energy, crop fundamentals, climatic variables of environment, forage & grain crops. Enrollment in all ag courses up markedly. Basic hort was better for hort majors. *Joseph M. Lent.*

**Delaware.** *Univ. of Delaware, Newark.* Dropped basic hort several years ago, replaced with a pl sci or agric botany course. Now discussing return to basic hort for majors, non-majors. Enrollment in pl sci increasing. *C. W. Dunham.*

**Florida.** *Univ. of Florida, Gainesville.* Dropped basic hort 10 yrs ago for basic pl sci taught 3 qtrs, 50 students ea; covers agron and hort. Students may major in pl sci, or pl sci and specialty or a specialty (e.g., veg, orn, or fruit). We are reviewing situation in '74; agron wants out, may go back to basic hort course. Recently combined all hort programs (not food tech) for MS, PhD degrees in hort. *A. H. Krezdorn.*

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- Georgia.** *Univ. of Georgia, Athens.* Basic hort dropped; no pl sci course taught. Most majors are transfers at jr level. Freshman and soph hort "interest" courses are taught for non-majors, attracting much interest. *C. H. Hendershott.*
- Hawaii.** *Univ. of Hawaii.* Offering principles of hort course both semesters (since 1970) due to increased enrollments. *H. Kamemoto.*
- Illinois.** *Univ. of Illinois, Macomb.* Basic hort dropped for pl sci which covers also agron in corn-belt area, but not doing justice to hort majors who are increasing as transfers from community colleges which are teaching more hort. *H. W. Schmalfeld.*
- Univ. of Illinois, Carbondale.* No pl sci course offered; do offer gen hort course at soph level; also basic courses in crops and soils; changing from qtr to sem system. Offer freshman non-major courses, "Pl for Man" and "Soils for Man." *G. D. Coorts.*
- Univ. of Illinois, Urbana.* Still offers a basic hort course, well received. New course, "Organic and Traditional Veg Crops" is full, closed for next fall. Have 173 majors under limited acceptance. Most hort courses next fall are full; 12 courses are closed to all but majors. Ag enrollments climbing. *C. J. Birkeland.*
- Indiana.** *Purdue Univ., Lafayette.* Offers a basic hort course both semesters, excellent enrollments. Basic hort also offered at state campuses in Indianapolis, Vincennes, Calumet, North Central, and Ft. Wayne. No plans now to change. *H. T. Erickson.*
- Idaho.** *Univ. of Idaho, Moscow.* Teaching gen pl sci with lab, spring, enrollment doubled 36 to 78 since '70. Have basic prop course, then upper gen pl mgmt courses. Considering 6-wk spec courses (e.g., fruit in industry) for 1-2 cr. *Glen Murray and A. A. Boe.*
- Iowa.** *Univ. of Iowa, Ames.* Offers basic hort course for majors and one for non-majors. Enrollments increased 10-30%/yr since 1969-70. No need for pl sci course. *A. E. Cott.*
- Kentucky.** *Eastern Kentucky Univ., Richmond.* No basic hort taught. Plant prop first required course after biology, environmental, pl sci, or botany course. Ornamentals emphasized. *W. A. Householder.*
- Univ. of Kentucky, Lexington.* Dropped basic hort for freshman pl sci, animal sci, and soc. sci courses. Teach gen hort for non-majors that recruits majors. Intro hort course for majors who have increased from 12 to over 100, due to environmental emphasis and to personable teachers. *Hubert Mohr and Horst Schach.*
- Kansas.** *Kansas State Univ., Manhattan.* Dropped basic hort course many yrs ago for pl sci taught by hort and agron depts; has done little to attract hort majors. So have added lab to home hort course (formerly only 2 hr lecture); now in heavy demand and attracting majors. Kansas has completed cycle back to basic hort. *R. W. Campbell.*
- Louisiana.** *Louisiana State Univ., Baton Rouge.* Offering basic hort course with rapidly incr enrollment; have resisted pl sci course because (a) likely loss of identity and (b) our philosophy that students need basic hort stimulus early in college. *D. W. Newsom.*
- Univ. of Louisiana, Hammond.* Still offer basic hort required of other ags; enrollment increasing, but majors slightly less than 7-9 yrs ago. *A. D. Owings.*
- Univ. of Southwestern Louisiana, Lafayette.* Discontinued basic hort course and basic agron in 1967 for pl sci covering hort, agron, and forestry, taught by hort prof, which brings hort prof in contact with more students with increase in hort majors. *J. A. Foret.*
- Maine.** *Univ. of Maine, Orono.* Switched in 1968 to crop sci course giving broad overview basic principles of economic crops, then added a crop mgmt course with 12, 2-hr guest lectures by dept expertise staff with other half of 4-hr course dealing with crop mgmt lectures. Following these courses, students spec in chosen areas; increase in course numbers. *C. S. Brown.*
- Maryland.** *Univ. of Maryland, College Park.* Dropped basic hort 20 yrs ago, replaced with (a) garden mgmt (190 students), (b) freshman course in intro to ldsc (100) for hort and ldsc majors, recreation students and housing and applied design students, (c) freshman course in ldsc arch for general student (50), soph course in pl prop (86), soph course in forestry (170), soph course in basic pom (35), veg soph course (50). These courses seem to be much better than one pl sci course touching on many things, little detail on anything. *F. C. Stark.*
- Massachusetts.** *Univ. of Massachusetts, Amherst.* Shifted from basic hort in 1965 to basic pl sci course when agron and hort depts were combined, satisfying an undergrad core requirement in natural sci for majors and non-majors. Enrollment in basic hort in 1962 was 6, gradually incr with basic pl sci to 66, whereas majors in pl and soil sci (BS) incr from 18 to 175. Increases, we believe, are due to general upswing in student interest in environmental courses and good rapport between instructors and students. *F. W. Southwick.*
- Michigan.** *Michigan State Univ., East Lansing.* No basic hort or pl sci course. Do have "Fruits and Veg for Home and Grdn" and "Indoor Pl and Flowers". Hort majors increased from 80 in 1970 to over 160 in 1973-74. *John Carew.*
- Minnesota.** *Univ. of Minnesota, St. Paul.* Offers 2 basic courses: "Fund of Hort", 4 cr, required for majors (biology prereq), and "Home Ldsc Gard and Design" (4 cr), no prerequisites for non-majors. Both courses very popular with latter course recruiting some hort majors. *Andrew Duncan.*
- Mississippi.** *Mississippi State Univ., Mississippi State.* Combined hort and agron courses into pl sci in 1962, then in 1968 due to loss of a hort staff member, course funded 100% in agron. Most hort majors transfers from community colleges and credited for a pl sci course on entry. Hort now has a 1-hr cr (2-hr lab contract/wk) course of appl tech in all hort plants with majors on increase. *Clyde C. Singletary.*
- Missouri.** *Univ. of Missouri, Columbia.* Switched from basic hort to pl sci course, initially team-taught, now by agron with some guest hort lectures. Do offer specialized courses that may account for significant increase in hort majors past two years, including (a) ldsc apprec (b) home grounds & grnds, (c) flower arr, (d) microenviron design (e) pl for interior design, and (f) garden flowers. *R. A. Schroeder.*
- Montana.** *Montana State Univ., Bozeman.* First U.S. univ to combine hort & agron depts in 1950's. Teach pl sci in agr course reg all freshmen ags (1qtr/yr 200+ students). Curric is "recreational area mgmt"; teach hort produc, turf & grnds, 2 pl mats, ldsc recreation, pl prop, nur mgmt, give pl & sci degree. Many students in ldsc arch & home ec take pl mgt and ldsc courses. Marked student enrollment increase. *K. C. Feltner.*
- Nebraska.** *Univ. of Nebraska, Lincoln.* Switched to intro pl resources course covering mainly hort and for, not agron, with greatly incr majors in hort, natural resources and pre-forestry. *J. O. Young.*
- Nevada.** *Univ. of Nevada, Reno.* Offering basic hort sci yearly, not required, has good enrollment of townspeople and college students. All ag majors required to take "prin pl sci & water resource use" followed by "prin pl prod" for plant-soil majors, both taught by dynamic hort teacher. Hort majors increase more than agron majors because freshmen largely from cities. *R. A. Young.*
- New Hampshire.** *Univ. of New Hampshire, Durham.* In 1964 combined agron and hort in "Concepts of Pl Growth" using Janick et al. *Plant Science*, followed by "Environment and Plant Response" course (not required sequence). Pl sci majors were 15 in beginning now 115 and are turning away as many due to inadequate staff numbers. Planning to teach "concepts" course 2 sem and increase students to over 160 yrly. *L. C. Peirce.*
- New Jersey.** *Rutgers Univ., New Brunswick.* Dropped intro hort, forestry, & crops courses, 10 yrs ago for gen pl sci course, due to low ag enrollment (380). Good move, then, though majors suffered. With ags now 1700, going to 3500 by 1975, shifted back to basic hort in 1974 spr, with gen pl sci course a prereq. Basic hort now is ¼ plant principles, ¾ hort tech. *R. H. Merritt.*
- New Mexico.** *New Mexico State Univ., Las Cruces.* Teaching basic hort without labs, along with 6 other basic agr courses. If entering student has low ACT score, he takes 1 to 3 of ag courses to get acclimated, which serves as retention tool, and has increased our majors. To replace labs, students take module-type projects home or to rooms and grow plants. This entices new students from dorms and helps increase hort majors. *F. B. Widmoyer.*
- New York.** *Cornell Univ., Ithaca.* Offering for about 10 yrs a pract basic hort course in spr (*Ray Sheldrake*) with 150 students some non-majors, basic pom in fall (*Louis Edgerton*), and an intro orn covering flor, turf, orn, and some ldsc arch (*J. Boodley*). Been talk of shifting to gen pl sci course (action doubtful). *J. W. Boodley and L. J. Edgerton.*

**North Carolina.** *North Carolina State Univ., Raleigh.* Still teaching prin of hort course; very popular with majors and non-majors. Strongly convinced to continue basic hort rather than a too general pl sci course. *A. A. Banadyga.*

*North Carolina State Univ., Greensboro.* Ten yrs ago dropped basic hort for pl sci with no effect on hort majors since most students had selected major before taking course. *C. A. Fountain.*

**North Dakota.** *Univ. of North Dakota, Fargo.* Offering basic hort twice/yr with greatly increased enrollment; no thought of pl sci course. May offer basic hort in summers. *E. P. Lana.*

**Ohio.** *Ohio State Univ., Columbus.* Gen hort and basic agron were combined several yrs ago to give a required gen pl sci course, half taught by agron and half by hort. Majors entering hort seemed to be less. In 1974, students select 3 of 5 basic courses incl gen pl sci. Last 2 yrs have seen marked enrollment increases. New hort intro courses very popular: "Intro to Ldsc Arch" has 800 students; "Fruit and Veg for Man" had 50 students when first taught; "Wine in Western Culture" expected to be popular. These intro hort courses attracting marked increase in majors. *H. A. Rollins.*

**Oklahoma.** *Oklahoma State Univ., Stillwater.* Offers basic hort slanted toward ldsc dsgn (half of students) and home hort in labs. Agron also gives basic pl sci course, including hort, agron, and little for, not req of hort majors. Have 110 undergrad majors with half in ldsc dsgn, other half in veg, fruit, nurs, and flor, with 15 grad students; no problem placing grads which draws more majors. *W. R. Kays.*

**Oregon.** *Oregon State Univ., Corvallis.* Have 2-term basic hort for majors. Hort dept has strong opposition to changing to gen pl sci course. Hort majors have doubled from 58 in '72 to 196 fall '73 and basic course enrollment has greatly increased. *Maxine Thompson.*

**Pennsylvania.** *Pennsylvania State Univ., University Park.* Still offer a basic hort sci course, req of hort majors with many non-majors seeking a pl course. Sequence hort prod lab (1 cr) is also popular. Also have 3 basic 2 cr courses: home grnds, indoor pl, and fr and veg gardn; pl sci curric not been very successful with 19 majors; 152 majors in hort, 100 in agron. *R. W. Hepler.*

**Puerto Rico.** *Univ., of Puerto Rico, Mayaguez.* Dropped basic hort for basic pl sci which incl agron and hort, mostly hort. Hort majors increasing, as other fields except agron. *F. L. Jordan Molero.*

**Rhode Island.** *Univ. of Rhode Island, Kingston.* Depts combined to pl & soil sci in war yrs; switch basic hort to "Pl, Man & Environ" (100 students, mostly sophs, fall '74) course which is 1 of 5 basic courses students select 4. Teach basic veg (50 students, fall '74), fruit (45), flor (57) pl mat (38), flor dsgn (87), ldsc apprc (460 to 800+), nur mgmt (65). Hort majors increasing markedly, probably not related to basic hort course, but like to get "crack" at students before late soph or jr yr. *W. E. Larmie.*

**South Carolina.** *Clemson Univ., Clemson.* Fall basic hort being req all hort majors (27 enrolled, fall '73). Pl sci req all agr majors who get little or no hort; ag educ majors may elect 6 hr hort. Hort does own recruiting, public relations, and doubtful if pl sci has hurt hort-major numbers. *T. L. Senn.*

**South Dakota.** *South Dakota State Univ., Brookings.* Basic agron (100+ students, 2 sem) and basic hort (40 students, 1 sem) courses offered. Soph to sr courses in orn, fruits, veg. *R. M. Peterson.*

**Tennessee.** *Univ. of Tennessee, Knoxville.* Shifted 10 yrs ago from basic hort to pl and soil sci. 5 qtr hrs cr, freshmen, taught by 3 sr staff from agron and hort. Had doubtful effect on number of hort majors. In 1971, established 2 departments: orn hort and ldsc dsgn and pl and soil sci (veg, fruit and fld crops). Fruit and veg majors about same as before but orn hort majors shown big increase. Factors affecting hort majors incl job opportunities available, teaching quality, and competition from other area majors. *H. D. Swingle.*

**Texas.** *Texas Tech Univ., Lubbock.* Teaching basic hort sci course to 120-140 students each sem, 40% from outside ag; derive some majors from course. No plans for pl sci course; have 45 undergrad majors. *G. Tereshkovich.*

*Texas A and M Univ., College Station.* Taught intro hort course many years; strongly opposed to change to pl sci course. *J. Benton Storey.*

**Utah.** *Logan.* No basic hort; do have intro to pl sci., most majors are orn hort. *David Walker.*

*Brigham Young Univ., Provo.* Still offers basic hort with increasing enrollments; may become a req course for gen educ majors.

**Vermont.** *Univ. of Vermont, Burlington.* Combined hort and agron depts several yrs ago. Now offer (a) prin pl sci (175 students with hort prof) and (b) intro to soil sci (115). Dept of pl and soil sci has 92 majors (20 in 1970), due to changing times. Assign best profs to beginning courses. Started veg course '74; half of pl and soil majors in orn hort and ldsc arch. *Samuel C. Wiggins.*

**Virginia.** *Virginia Polytech Institute and State Univ., Blacksburg.* Teach basic hort, 2 sec of 60 ea fall, and alt yrs summers; many non-hort taking as elective. Agron has basic course too, with less enrollment. Must have 15 students to teach a course. Decided against a gen pl sci course after 2-yr deep study. *C. Leslie McCombs.*

**Washington.** *Washington State Univ., Pullman.* Offering 2 basic hort courses; (a) pl and grdns for non-majors mainly outside ag college (increased from 35 to 129 fall 1973); (b) pl-enviro relations course for hort majors and others with practical pl sci backgrounds (20-30 students). Decided against teaching a gen pl sci course now and in future. *W. B. Ackley.*

**West Virginia.** *Univ. of W. Va., Morgantown.* Have only pl and soil sci majors with options in, e.g., floriculture. Teach gen pl sci for all pl sci majors, others. Also, teach gen hort; hort majors usually take both courses, then go into selected option. *M. E. Gallegly.*

**Wisconsin.** *Univ. of Wisconsin, Madison.* Continue to offer basic hort course; decided not to switch to gen pl sci. Beginning hort course grown gradually from 80 students in 1969 to 271 in 1973. Hort has 150+ majors. Begin agron losing enrollment but forestry gaining. Hort has most appeal to students today. *Malcolm N. Dana.*

**Wyoming.** *Univ. of Wyoming, Laramie.* Offering several basic hort courses for those interested in gen pl sci. No hort major offered as such. *G. H. Bridgmon.*

#### CANADA

**Alberta.** *Univ. of Alberta, Edmonton.* Continue to offer several basic hort courses; no reason to combine in a gen pl sci course. *W. H. Vanden Born.*

**Ontario.** *Univ. of Guelph, Guelph.* Offering gen pl sci course (50-50 hort/agron) fall soph semester; in soph spring hort majors must take basic hort. Dramatic increase in hort majors, due likely to more interest and jobs in applied than basic sciences. *D. P. Ormrod.*

**Quebec.** *Univ. Laval, Cite Universitaire.* Dropped basic hort several yrs ago for gen pl sci covering agron, hort and pl protection. Shift definitely decreased hort majors. *Fernand M. Guathier.*

*McGill Univ. (MacDonald campus) Ste. Anne de Bellevue.* Dropped basic hort. A basic pl sci course for non-majors is taught by hort prof but not required of pl sci students because same content gotten in hort and agron courses. Hort majors have doubled due possibly to introducing hort into other options. *C. D. Taper.*

**Saskatchewan.** *Univ. of Saskatchewan, Saskatoon.* Basic hort course (top prof) required past 9 yrs of all ag students has increased hort majors. In 1975 offering basic course taught by hort and agron, plus intro hort course for non-majors. Retaining identity as dept hort sci by stressing ornamentals and recreation phases. *S. H. Nelson.*

**New Brunswick.** *Univ. of New Brunswick, Fredericton, and New Foundland. Memorial Univ., St. Johns.* No hort taught at either institution. Interested students go to Univ. of Guelph (Ontario), MacDonald College (McGill), Univ. Laval (Quebec), or Univ. of Maine, Orono (U. S.). *W. B. Collins.*

**Nova Scotia.** *Nova Scotia Agricultural College, Truro.* Switched from basic hort to gen pl sci. Offer 2-yr certf for "technician" in pl sci; can specialize one more year to be a "technologist". Prod courses offered in veg, fruit, orn, ag eng, etc. Students may go on to a Canadian univ or Univ of Maine, Orono. *Wilfred Badcock.*