Mr. County Agent:

Get set to roll with the punch, boys!

Here's the revival of the VEGETARIAN on Friday the 13th. Not defying the Fates, but your many requests to crank-up again, along with others, have given us confidence that the odds are worth bucking.

We've a lot to catch up on, but thought a good place to start would be a coverage of the recent (June 5) Vegetable Training School for North and Central Florida County Agricultural Agents. Come to think about it, it's just remotely possible that the Heat momentarily distracted a few. They'd want you others to be up-to-date too, wouldn't they?

Observational: would like to see it replicated.

Was definitely gratifying to have so many assistant agents in on the vegetable training. Just believe that it would be a sound investment anytime. Think you older agents will agree you'd liked to have had additional subject matter training before taking on a county of your own. Particularly in this day and time, with a specialized subject. Present counties gain, too.

Exposure means a lot in any picture!

Morning Session

The Department of Horticulture staff led a safari through the vegetable plots of the Main Station.

Soil Fumigation—residual effects?

Dr. V. F. Nettles, reviewing the reports of possible adverse effects from the use of soil fumigants, reported on his studies where three crops of beans have been grown on the same spot with dichloropropene-dichloropropane and ethylene dibromide as the fumigants. Plots are arranged so that he may study both the broadcast and in-the-row methods and nitrate, ammonia, and half and half nitrate-ammonia sources of nitrogen. Dr. Nettles stood "pat" on the general recommendation of using fumigation only where it is justified to produce a crop, and then to use the in-the-row method only. He pointed out that in these tests both materials were giving nematode control, thereby increasing yields, and that once fumigation was applied it may be necessary every year to hold the nematode population in check.

There's still a lot to be learned on just what takes place in the soil. As you know, several stations are working on this phase.

Overhead Irrigation—good insurance.

Satisfactory results have been obtained with ½-inch of water every six days applied as irrigation or from rainfall, according to Dr. Nettles' tests on numerous vegetables since the start of the experiment in 1945. Irrigation increased yields about every year, particularly in the spring crops. Studies this year are on watermelons and tomatoes, including a comparison to determine the effect of nitrate side-dressings on quality under the various irrigation levels. You'll see a new Experiment Station Bulletin (495) soon..."Irrigation and Other Cultural Studies with Cabbage, Sweet Corn, Snap Beans, Onions, Tomatoes and Cucumbers."
Dr. R. A. Dennison pointed out some interesting points concerning tomatoes from irrigated and non-irrigated fields from several sections of the state. In preliminary studies it seems that non-irrigated tomatoes had higher pigment content but generally ripened softer. Early breakdown was tentatively attributed to higher temperatures of the fruit on sparse-foliation plants. Shaded fruit on irrigated plants ripened slower and were less subject to bruising than exposed fruit.

CANTALOUPE LINES---valuable conglomeration!

You should have seen the pocket knives come whipping out as Dr. F. S. Jamison pointed toward the cantaloupe patch. Guard rows weren't ready, of course.

Several commercial varieties are planted in comparison with selected lines of Smith's Perfect. This segregating material will undergo further selection for promising types with mildew resistance, yield, earliness, netting, and plenty of that good Smith's Perfect quality. It's still a good variety as recommended, but this project is out for even better. If field observations for the past two years mean anything the road to improvement isn't as long as it has been.

Another variety receiving considerable attention was Georgia 47. It's another high quality line with mildew resistance, but has small fruit exhibiting a predominant button or navel end. Other selection work is being conducted at the Central Florida Station and their selection known as No. 9 appears exceptionally good.

VARIETY-FERTILIZER RELATIONS---if any.

Bean and sweet corn plots were viewed which were designed to point out any varietal differences in response to several fertilization programs. Contender, Tenderlong 15 and Black Valentine beans, and Calumet, M. J. 101, Improved Sencross, Golden Cross Bantam and Ioana corn were grown with 1200 pounds 4-7-5 applied in one application prior to planting, in split 600-600 pounds, and in 400-400 pounds per acre split. A similar test last season resulted in no yield differences, says Forrest Myers. Contender is still recommended for trial planting on the basis of its high yield and common bean mosaic resistance. Many sweet corn hybrids are good but Ioana and Golden Cross Bantam remain in standing.

It was observed that Helminthosporium leaf blight was on the move in the corn plots for the first time...enough for the uninitiated to get some pointers on identification. No absolute control is known, however, it was pointed out that researchers say zineb has been promising...both on arresting the disease and as a preventative schedule; depending on the season and location. Time and lots of work will tell...

The Contender bean was checked on response to standard fertilization, reduced phosphate, wet vs. dry fertilizer band, and several rates of starter solution applied directly to the seed in the planting row. No conclusions...subject to statistical gymnastics.

SEEDLESS WATERMELONS---knives came out again.

Several seedless types were grown beside standard varieties for pollination. Did they have any seeds? None.

Then how do you plant 'em? Simple, according to Dr. A. P. Lorz. First, a plant is treated with colchicine. It does things to the chromosomes and you get a fertile tetraploid. But that doesn't worry YOU, you cross the tetraploid with a diploid (gives the seed), and come out with a sterile triploid. Then to really nail the lid on the matter, you grow a normal plant for every ten or so triploids, they cross, and you have a seedless watermelon! Heck, man...nothing to it.

To date, file under "novelty". Until we can get seedless melons of a large commercial type there's little likelihood of more than a specialty item. Seed expense, with the above outlined ordeal is a limiting factor.
BEAN AND PEA BREEDING...selections every day.

How he keeps up with it we'll never know, but there are scads of promising lines to undergo further selection and study. For example, Dr. Lorz in a matter of about five minutes pointed out a promising Cherokee x Streamliner wax bean, a purple-podded pole bean to soon be released for home garden use, and a heavy bearing concentrated bush lima. Move a few steps and you see southern peas of every possible form, but particularly interesting is a type from the yardlong or asparagus bean x a white-seeded cream. Of course, located throughout these selections are commercial varieties and new varieties such as the Dixielee (Mississippi AES).

Maybe it's too soon to say, but if you're in a pole bean area you'll want to follow the progress of a new rust resistant line from FM 191 x Pinto No. 5 now in the seventh generation. If you use the word...it's beautiful!

POTATOES...winning over skinning.

Don't know definitely but would guess these plots, well in the confines of the Station Farm, were one of the few fields not visited periodically by a buyer this season.

Dr. C. B. Hall reviewed the work in progress and stated that in last year's trials there was reduced skinning when the tops were removed at 90 days from planting and the potatoes dug two weeks later. Storage at $60^\circ$ F. for a day also reduced skinning when handling was resumed. Previous tests indicated no differences between vine cutting and killing with a dinitro spray (2 pints sinox plus 2 pounds aluminum sulfate and 2 gallons diesel oil per 100 gallons water, applied at the rate of 125 gallons per acre.) No results were available on this year's study.

TOMATO VARIETIES...extensive.

Can't be said that Lawrence Halsey isn't looking for a better Florida tomato! Out of a dozen advanced lines and varieties in a replicated test and 66 observational types of every description, one of the most obvious points was the importance of the coverage afforded to the fruit in spring plantings. Might even rank it next to wilt resistance in the already long line of qualifications for a good variety to replace some of our present standards. Along with good yields, multiple disease resistance, and other factors, Mr. Halsey feels it's important that a variety be adaptable to mature-green picking, and that it in turn ripen firm and with a good color in controlled ripening rooms.

It was indicated that STEP 89 will be released probably under the name "Dade". This is a product of the Regional Vegetable Breeding Laboratory, Charleston, S. C., which has shown up well in cooperative preliminary trials.

CUCUMBERS...Southern Cooperative Variety Trials, that is.

Dr. V. F. Nettles explained at this point that choice of a cucumber variety may depend on what kind of disease control schedule is to be followed.

Where mildew is held in check, the Marketer variety holds its own with any of the resistant South Carolina lines available to date. However, as in these plots where the disease definitely affected yields, Marketer produced around 70 bushels, Palmetto and Santee around 185, and some of the newer resistant strains went well over 200 bushels. And on Quality, Marketer is still among the best.

SWEET POTATOES...business picking up.

Dr. Nettles answered some moot questions on the much discussed Clieett Bunch. Tests here indicate it yields less than the Unit No. 1 Porto Rico. His main objection has been that it has been very difficult to secure slips and vine cuttings when planted for propagation.
Bright spots in the variety line are several high-carotene selections. These are high yielding types and the excellent orange-colored interior made them outstanding. Most of these are numbers only, but the "Virginian" is one of the same type being grown on a look-see basis.

Dr. Nettles had a good demonstration showing the poor preformance of homesaved seed compared to planting new seed. The imported seed was definitely best this year and it was quite evident that as far as vine vigor was concerned the saved seed was played-out. No explanation can be offered.

**Tomato and Pepper Fertilization...old timers.**

Dr. R. A. Dennison reminded the group that is quite some of the years of work that have gone into fertilizer studies, there's still a lot we'd like to know about the use of the big three...N, P, and K. He also noted that the over-fertilization trend is becoming evident in an increasing number of crops.

On tomatoes they're checking the time of application and varying levels of nitrogen and potash. A 4-7-5, 4-7-12, 12-7-5 and 12-7-12 are applied at the rate of 1200 pounds per acre prior to setting, 800# at setting and 400# to 8" plants, and 400-400-400 with the last increment at the time of limb fruit setting.

On peppers there is about the same set-up without the varying levels of N and K. Instead the workers have substituted treatments of all nitrate vs. 40% organic N. The organic source was milorganite, and to date the all nitrate source seemed to be producing the best growth. With both crops it appeared that the heavier rates prior to setting may have given the crop a little earlier start, however, yield differences have not been determined.

**Urea Sprays...still no.**

Foliar and soil applications of urea are being compared with soil applications of sodium nitrate as a tomato side-dressing by Jim Montelaro. It was explained by Dr. F. S. Jamison that previous tests have not shown any advantage for the foliar applications. Work in several Branch Stations conclude about the same. Some of the reported grower responses have been without the benefit of an adequate check, and others have been getting results through spraying on the foliage in such quantity as to get a drip on the ground and soil response. Others are prefacing their foliage applications with high rates of soil fertilization.

**Tomato Hybrids...tailor-made.**

With some of the F1 going at $30 an ounce, Dr. C. B. Hall has lots of room to work! Instead of the hybrids being put together under northern conditions, he is developing the idea of making-up hybrids down here for use under Florida conditions. To date no one has reason to get excited about the imported ones we've seen. Wilt resistance will be considered, of course. One interesting observation was that everywhere one particular parent was used, Cladisporium thrived.

**Southern Peas...better quality possibilities?**

Using three planting dates and harvesting for six different stages of maturity, Bill Hoover is checking shell-out, dry weight, specific gravity, protein, carbohydrates and vitamins, and maybe more... He's going to have some good information for the processing and fresh trade on just how these stages of maturity affect quality. So he won't have to stay idle over the week-ends, he's attempting to correlate temperature and humidity records as required for southern pea maturity. You know what's been done with English peas and sweet corn up Mauth.
PEPPER VIRUSES...more than we thought we had.
Dr. Phares Decker, showing a World Collection of pepper explained that we may have as many as 8 different virus strains on pepper in Florida according to virus technologist Dr. Chris Andersen. You're familiar with the many questions yet to be unanswered in this field...the current approach is that we must find out and catalog just what viruses we're being subjected to.

WATERMELONS...yield and quality.
Tests at Leesburg and Gainesville last year were summarized by Dr. C. B. Hall.
It seems that studies of 20, 60 and 100 pounds of nitrogen and 20, 60, 100 and 140 pounds potassium in both locations indicated that the greatest yield came from plots with low nitrogen and the medium potash levels. No differences were evident in the plots this year and yield data were not yet available.

VEGETABLE PRODUCTS LABORATORY...facility orientation.
Strange, but the water fountain was quite popular!
The Hort Staff ability to keep the group interested shifted to some of the studies in progress following harvesting of the crop. Most of these projects are directly related to field studies. For example, in the preparation room it was outlined that a taste panel was used to judge the quality of given products. Another item displayed was a new paper bag for sweet corn which could be packed with ice; preliminary tests indicate it holds up well and the idea is worth consideration.
Several new developments in processing equipment were viewed, including such items as a southern pea sheller, sweet corn kernel-cutter, bean snipper and cutter, and many others. The significant point was that most of these machines were adapted to small operations.
It was brought out that the lab was equipped to develop its own specialized machinery such as the tomato transit simulator and a new extractor used in determining pesticide residues.
It was explained that a series of controlled rooms were used in many of the storage and ripening studies so that such conditions as temperature and humidity could be altered and the results studied.

AFTERNOON SESSION

VALUE OF SOIL TESTING...apparently some misunderstanding.
"Apparently a lot of people don't understand soil testing and the Soil Testing Laboratory", were the opening remarks of a discussion led by Dr. F. B. Smith, Head, Department of Soils, Main Station, Florida Agricultural Experiment Station.
Dr. Smith outlined the procedures followed with a given sample from the time it reached the Laboratory until the result went back to the sender. His answer on whether he recommended kit tests for the public was, "No. Analysis is one thing. Interpretation is another."
Taking up the terms "low", "high" and "medium", the researcher indicated that there were certain levels set up for the different components of the soil test but it was asking quite a lot to define them in terms of crop needs. Several examples were cited by Dr. Smith but he feels we have a long way to go on this point. This information can be accumulated by on-the-spot field experiments only. Correlation of the data is another sticker.
The discussion included some of the problems involved such as crop differences, soil differences, methods of taking the sample, relation of the sample to fertilizer and plant, and many others. A significant point was that an alert county agent could in many cases short-stop the problem by a thorough analysis of the situation.
Two publications came into the discussion. Pull out your copies and study. Florida Agricultural Experiment Station Press Bulletin 617, "Soil Testing", was referred to in part... "It is impossible to tell from a chemical soil analysis alone what is the best fertilizer to use. However, chemical soil analysis is indispensable in soils research and is a useful aid in diagnosing abnormal soil conditions..." Florida Agricultural Experiment Station Circular S-48, "The Value of Soil Testing Kits in Vegetable Crop Production" in the way of summation says in part... "However, the principal value of the tests is believed to be diagnostic; when results show adequate levels of nitrate and potash to be present, any unsatisfactory growth condition cannot be corrected by additions of more of these materials... in fact, such conditions may be actually harmful..."

O.K., boys. How do you stack up in your county? Give this one some thought.

INSECT AND DISEASE CONTROL...inevitables.

Dr. A. N. Tissot, Head, Department of Entomology, and Dr. W. B. Tisdale, Head, Department of Plant Pathology, Main Station, Florida Agricultural Experiment Station, were crowded for time but gave some on-the-spot answers to questions from the floor.

It's quite evident that the impact of the new organic pesticides is still being felt, both in better controls and in added precautions against improper use. The subjects of incompatibility, physical, chemical, and toxicological seems to be even more important as their use continues. The group was reminded that it is very important to use recommended materials and proven methods.

Several specific topics are summarized below:

a. Parathion is still a good insecticide on watermelons. Burning from use of the dust on wet plants is a common mistake. It has been reported that spray forms are more likely to burn if the leaves do not dry before night.

b. Toxaphene for weevil control on southern peas is recommended with the precaution that if the peas are harvested for snaps they should be washed before use.

c. The incompatibility of DDT emulsion and zineb has in part been solved by the use of casein in the mixture. It was pointed out that there were several formulations and differences depending on the products.

FOOD FOR THOUGHT...vegetables, of course.

Final remarks were toward the common tendency of many to consider the vegetable deal a concern of the South Florida group only. Well, look around!

Take just Alachua and the adjacent or adjoining counties and the vegetable acreage adds up to around 45,000. Acreagewise that's bigger than the Sanford Area, Bradenton Area, Immokalee Area, Ft. Pierce Area, Pompano Area, or Dade County. O.K., to approach the Palm Beach County deal you'd have to put your line from the south edges of Levy, Marion, Putnam and Flagler counties, but the acreages aren't concentrated. It's an eye-opener, and if bigness means anything, you agents in Central and North Florida ARE in the vegetable deal.

WHERE WAS STANLEY?

Maybe some of you thought the retail marketing specialist, Stanley E. Rosenberger, should have been on the program. Well, he was up learning about the short end of the marketing stick.

Purdue University played host to Extension marketing specialists from several states in a "Retail Marketing Workshop". One of the best quotable quotes Stan brought back goes something like this...

"For the past 20 years agricultural specialists have been working on marketing
at the production end. All the while the greatest portion of marketing costs come in transportation, wholesale and retail levels, with retail alone ringing up 50% of the marketing cost. If the total amount of production-end marketing cost was eliminated it would still not appreciably affect the farmers share of the consumer's dollar. Maybe the work has been at the short end of the marketing stick."

Certainly this slant shows the importance of Extension's approach from the retail angle; several other states have similar programs to show the retailer more efficient methods.

Sincerely,

[Signature]

FORREST E. MYERS
Asst. Veg. Crop Specialist

P. S.

Just harvested Ga. 47 cantaloupe. Quality and mildew resistance equal to Smith's Perfect while fruit is earlier and smaller. Believe this variety has extra-ordinary merits for home garden and trial commercial planting.