FROM THE GROUND UP

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AGRONOMY NEWS

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PESTICIDE RECOVERY PROGRAM SUCCESSFULLY COMPLETED

The Northern Colorado Front Range Agricultural Pesticide Recovery Program collected 17,000 pounds of banned, unusable and unwanted pesticides from 67 participants in a four county area during a 10 day site-to-site collection in October. Total program budget was $125,000 which was funded by a $75,000 EPA non-point pollution prevention grant, $2,000 from each of the four counties (Adams, Boulder, Larimer, Weld), plus $42,000 in matching funds from Cooperative Extension, the county weed departments, and various organizations such as Colorado Corn Administrative Committee, Colorado Department of Agriculture, Colorado Greenhouse Growers Association, Farm Bureau, Farmers Union and Rocky Mountain Plant Food and Agricultural Chemicals Association. The program was provided at no cost to the participants.

The hazardous waste contractor was ENSCO (Environmental Services Company) from Baton Rouge Louisiana. Transportation was subcontracted through ETS (Environmental Transportation Services) from Oklahoma City Oklahoma. The majority of collected pesticides will be incinerated at ENSCO's facility in El Dorado, Arkansas. The remaining pesticides will either be land-filled or retorted

since laws prohibit incineration of heavy metals.

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The goal of the pilot project is to turn the pesticide recovery program into a statewide effort. In order for that to become a reality, the legislature will need to give one of the state agencies, i.e. Department of Agriculture, the authority to conduct such a program. Individuals can assist by contacting their state senator and/or representative, expressing the need for such a program.
▫Apley

REMINDERS

Certified Crop Adviser Exams

All applicants should plan to mail their applications by December 1.

The 1996 Certified Crop Adviser Exams will be given on February 2 at the Adams County Fairgrounds near Brighton, Colorado and August 2, 1996 in Alamosa, Colorado. The deadline for receiving exam registration papers and fees for the February exam is December 15. All applicants should plan to mail their applications by December 1 because late registrations will be placed on the August exam.

To obtain an application form for taking the national and or state exams, please contact Jeri Dreher, Extension Soil and Crop Sciences, 970/491-6201.

1995 Integrated Crop Management Workshops:

West Slope workshop:
December 5-6, 1995, 8 a.m.-5 p.m.
Friendship Hall, Montrose Fairgrounds
Montrose CO
Host: Wayne Cooley
Number registered: 49

Northeast Workshop:
December 12-13, 1995, 8 a.m.-5 p.m.
Morgan Community College
Aspen Founders Room
Fort Morgan, CO
Host: Bruce Bosley
Number registered: 12

*Southeast Workshop:
December 13-14, 1995, 8 a.m.-5 p.m.
Otero Junior College
Room at Student Center
La Junta, CO
Host: Leonard Pruett
Number registered: 2

*Due to lack of registrations, this workshop may be canceled. Please contact Kathryn Apley (970/491-6201) for current status.

The Colorado Department of Agriculture has approved the second days' afternoon sessions for continuing education credits for the following:

1 core credit in Pesticides and Their Families - Session 1
1 core credit in Environmental Protection - Session 2
▫Apley

THE 1995 U.S. DRY BEAN CROP

Dry bean production in the United States was estimated to be 30.58 million cwt in 1995, 1.39 million cwt higher than the 1994 crop according to the USDA Crop Reporting Service. The higher production figures in 1995 reflect more acres harvested and higher unit production than in 1994. Average U.S. yields rose from 1,582 in 1994 to 1,649 lbs/acre in 1995. Production in Colorado was estimated at 2.7 million cwt in 1995, compared to 3.3 million cwt in 1994, based on

Pinto beans represented the largest market class of dry bean exports in the September 94 to June 95 trading period.

figures prepared by the Colorado Agricultural Statistics Service. Colorado ranked fifth in total U.S. production. The decline in the Colorado bean crop was due to a decline in area harvested from 205,000 acres in 1994 to 185,000 acres in 1995. The USDA estimated that production per acre remained at 1,600 lbs in 1995. However, reports by processors and producers suggest that yield levels were lower due to an early freeze and weathering losses in the field after undercutting. The pinto market class constituted the majority of the Colorado dry bean crop.

Among the major dry bean producing states, only Colorado and Idaho had lower production in 1995 compared to 1994. The largest production for the past two years was in North Dakota which had a 7 million cwt crop, 15% higher than 1994. North Dakota also had the largest production of pinto beans in the United States. Production in Nebraska and Idaho was 4.5 and 2.0 million cwt, respectively. Michigan produced a near normal crop at 6.6 million cwt, compared to 4.7 million cwt in 1994.

Bean yields in Colorado during 1995 were similar to 1994 at 1,600 lbs/acre. The cool wet spring delayed planting, but warm weather in July and August advanced maturity, such that much of the crop was ready for harvest in early September. The most severe climatic impact on the crop was the hard freeze on September 22 and 23 in NE Colorado and the freeze in late September in SW Colorado. The freeze reduced both the quantity and quality of the late planted bean crop. Leaf rust outbreaks were observed in many areas of eastern Colorado, but did not cause widespread damage due to the late onset of the disease. Bacterial brown spot and common bacterial blight, foliar pathogens that have caused widespread crop damage in recent years, did not cause significant damage to the Colorado bean crop during 1995, which was likely due to the high temperatures during July and August that do no favor these pathogens. Yield levels for the non-irrigated pinto crop in the San Juan Basin of southwest Colorado, on approximately 40,000 acres, were low again in 1995 due to lack of precipitation. Furthermore, the irrigated production in that region was damaged by the freeze in late September.

Grower prices for pinto beans are presently $14 to $17/cwt in Colorado. The lower price from last year can be attributed to the relatively large pinto crop produced in North Dakota, a sizeable carry-over crop and buyer uneasiness about export demand. In contrast, prices for great northern beans are $25 to $27/cwt range. The price differential between pinto and great northern beans reflects the short carry-over of great northern, reduced production of great northern due to freeze damage in Nebraska and a firm export demand for large white beans in Europe.

Pinto bean prices should remain firm in the 95-96 market year and could go higher if export markets open. Pinto beans represented the largest market class of dry bean exports in the September 94 to June 95 trading period. Pinto exports rose 124% from the previous year with almost 3 million cwt exported. If demand for pintos on the international market continues in 95-96, as the USDA offers to buy beans for October, 1995 delivery, pinto prices should increase. Further accentuating the demand for pinto beans may be the short pinto crop in Mexico due to drought and freeze damage. Duty free exports to Mexico as a result of the North American Free Trade

Agreement (NAFTA) will provide increased exports to Mexico this year, but may not meet their entire need. This year the NAFTA agreement will allow 8% more than the 50,000 metric tons (1.102 million cwt) allowed to be imported duty free during 94-95. The short crop in Mexico, coupled with the increase in allowance of duty free beans, should maintain the demand for pinto beans in the near future. The unknown factor in the pinto market is the size of carry-over stocks held by large processors. Carry-over stocks are thought to be fairly large, consequently the price may remain stable even though export demand increases. In summary, all accounts point to steady ($14-17/cwt range) to higher pinto prices depending on export demand and the volume of the carry-over stock. Looking ahead to the 1996 crop, diversifying into light red kidney and great northern beans may be the best option to take advantage of potentially higher prices because those market classes have enjoyed two consecutive years with strong prices.
▫Brick

The reason is that the number of seeds planted influences the number of plants in the field, which in turn can affect yield.

PLANTING BY SEED COUNT

An increasing number of seed growers are labeling their seed products with some indication of seed size, usually seeds per pound, and more seed buyers are demanding this information. The reason is that the number of seeds planted influences the number of plants in the field, which in turn can affect yield. For many years, seed corn has been sold on the basis of kernel count. More recently, most Colorado produced pinto beans have listed the number of seeds per pound on the tag, and an increasing number of wheat seed lots are being labeled with that information.

The accompanying table shows a comparison of seed count data on three varieties of winter wheat. The table, compiled from Colorado Seed Lab data, compares seed size of the 1992-1994 crops with the same varieties for 1995, and also gives the range of seed counts for each variety over the 1992-1995 time period. Sample numbers for Lamar and Yuma were not large, but there were 36 TAM 107 samples which will give the trends more reliability.

It appears that the 1995 season, a good crop year with ample moisture, produced larger wheat berries and therefore lower seed counts than previous years. The highest TAM 107 seed count (smallest seed) in 1995 was 13,428, which is approximately 10,000 seeds/pound less than the highest count in the four year base. The 23,916 seed count might be an anomaly, but 2/3 of the 1992-1994 samples had a higher seed count than the highest 1995 sample.

All of these numbers may be interestingn but what it really means is that by using a flat pounds per acre planting rate over a several year span could mean drastically different numbers of plants per acre depending on seed size. If a planting rate of 40 pounds per acre was used when planting TAM 107 over the last four years, the average field in 1992-1994 would have been planted with about 565,000 seeds/acre (14,119 x 40), and in 1995 with 470,000 seeds/acre (11,738 x 40). It is logical to assume that if there are almost 20% less wheat plants in the field, there will be some effect on yield.

Research has shown some benefits in seedling establishment and yield by planting larger seed, and other work shows economic benefits of planting wheat at higher rates, even approaching 900,000 seeds per acre.

I have some questions about the applicability of both of these tests to Colorado conditions, so I don't recommend planting only the largest seed or very high seeding rates. But, it is becoming increasingly important that growers look at and know the seed size and number planted per acre to economically maximize yield. ▫Stanelle

Average Wheat Seeds Per Pound

Variety	1992-1994	1995	1992-1995 Size Range
Lamar	12,515	13,501	10,662-16,994
TAM 107	14,119	11,738	9,938-23,916
Yuma	14,290	12,085	11,139-16,851

HOLDING TIMES FOR WATER SAMPLES

The standard holding times help in being consistent in water analysis, which can be very important for comparative studies in evaluating sampling sites over time.

A commonly asked question about water sampling is: "How long can a water sample be stored until it is analyzed by a laboratory?" The Environmental Protection Agency (EPA) has specific holding times for water samples depending upon the compound being analyzed. The EPA has found that holding times must be followed since water samples can change chemically once the water is removed from the site and placed in a container. The table below is a partial list of some common measurements, the necessary preservatives, and the holding times.

Some of the holding times can be quite short, so it is important for water samples to be sent to a laboratory as soon as possible. Most individuals do not have the capacity to do water analysis on site and it is a common practice to take the sample and store it until it can be sent to a laboratory. The effect of storage can be reduced if the sample bottle is completely filled to the top to minimize air space and if it is refrigerated. If samples cannot be submitted to a lab on a timely basis, the results may not be similar to the analysis of a fresh water sample. The standard holding times help in being consistent in water analysis, which can be very important for comparative studies in evaluating sampling sites over time. Although it may be difficult to comply with all of the holding times necessary for lab analysis, a water sample that is handled with care can ensure good analytical results. ▫Self

Measurement	Preservative	Holding Time
pH	none	analyze immediately
Conductance	cool, 4°C	28 days
Dissolved metals	filter, HNO_3 to pH<2	6 months
Total metals	HNO_3 to pH<2	6 months
Alkalinity	cool, 4°C	14 days
Chloride	none	28 days
Cyanide	cool, 4°C, NaOH to pH>12, 0.6 g ascorbic acid	14 days
Nitrate	cool, 4°C	48 hours
Ammonia	cool, 4°C, H_2SO_4 to pH<2	28 days
Sulfate	cool, 4°C	28 days
Orthophosphate	filter, cool, 4°C	48 hours

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