

BUCKWHEAT PRODUCTION IN MICHIGAN

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Buckwheat has been grown in Michigan for many years, particularly on less fertile soils, newlands or as an emergency crop following other crop failures. It is also grown as green manure, wildlife feed, weed control, livestock feed, and for buckwheat honey.

Buckwheat is used for human consumption in breakfast cereals, pancake mixes and breads. Much of the buckwheat produced in Michigan under contract is exported to Japan where it is processed into buckwheat noodles. The protein in buckwheat flour is of high quality and is rated as one of the best sources of high biological protein in the plant kingdom.

Buckwheat is cross-pollinated by insects. Honey bees can aid in seed set and yield where natural pollinators are in short supply.

Crops which can allow the use of selected herbicides or cultivation to control volunteer buckwheat should be grown following buckwheat.

Most elevators in Michigan do not handle buckwheat, so make arrangements ahead of time to sell the crop. Various companies have contracted buckwheat acreage in the past few years and usually specify a price and market for seed produced.

Soil and Climate Requirements

Buckwheat grows under a wide range of soil conditions, and, on infertile soils, will normally yield better than other small grains. Buckwheat is susceptible to frosts and can be damaged by late spring or early fall frosts. The date of seeding is determined by allowing a twelve-week period between planting and the first early frost.

Although buckwheat grows well in warm weather, it is sensitive to stress such as high temperatures or drought, at blooming time. Cool nights and high humidity are ideal for buckwheat growth.

Selecting the Variety

Varieties of buckwheat grown in Michigan differ greatly in yield performance. Mancan gave the highest

Table 1. Michigan Buckwheat Variety Performance Trials, 1979-1980

Variety	Source	Seed Yield per Acre (pounds)			Height Inches
		1979 Schoolcraft Co.	1980 Alger Co.		
Mancan	Canada	480	1066	44	
Giant American	Minnesota	414	—	48	
M78 111	Minnesota	342	538	36	
Pennquad	Pennsylvania	286	413	35	
Common	Michigan	266	570	44	

seed yield in variety trials conducted in northern Michigan in 1979 and 1980. Characteristics and yields of varieties are presented in Table 1. Wide ranges of buckwheat yields in Michigan (200 to 2,000 pounds per acre) have been reported by growers over the past few years.

Land Preparation

A shallow, firm seedbed produces good stands and helps to prevent lodging. Disking or harrowing, followed by cultipacking prior to seeding, is the preferred method.

Soil Testing and Fertilizer Needs

A soil test should be made to determine the proper fertilizer rate needed by the crop.

Buckwheat grows well on slightly acidic soils. Fertilizers will usually improve buckwheat yield when the crop is grown on soils with low fertility, but their use on fertile soils may actually decrease yields because of lodging. In most studies, the addition of phosphate fertilizer is likely to give the most consistent yield increases. Phosphate application is similar to that recommended for small grains. Nitrogen fertilizer application should be minimal because of the lodging potential. On soils where potatoes are grown there may not be any advantage to added fertilization because of higher soil nutrient levels.

Planting Management

A seeding rate of 40 to 50 pounds per acre will produce good stands of buckwheat. Buckwheat plants branch extensively and tend to compensate for thin stands. A regular grain drill works well in seeding buckwheat. Seeding depth should be shallow (1 to 2 inches) in moist soil.

Weed Control

There are no herbicides recommended for use with buckwheat for weed control. Good seedbed preparation helps control weeds by destroying small germinating weeds and aids in providing a vigorous stand of buckwheat to compete with weeds.

Insect Control

There have been few reported insects associated with buckwheat. Cutworms and aphids cause damage, however, control measures seldom become necessary.

Disease Control

Leaf spot diseases occur some years but have caused little damage.

Harvesting and Storage

Buckwheat is usually swathed and left in the field until the plants and seed have dried out, and then combined. A frost while the crop lies in the swath will speed up drying time. Because buckwheat continues to flower and produce seed until it freezes, it is best to swath at a stage when about 75 percent of the seeds are

mature. If the crop is left until frost occurs, there can be considerable loss due to seed shattering. Swathing should be done in the morning when the dew is on to prevent seed shattering.

The crop can also be harvested by direct combining. However, harvesting losses increase greatly from seed shattering caused by the delay.

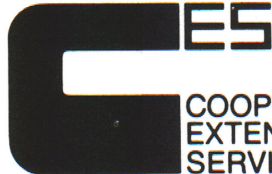
Buckwheat should be stored at a moisture content of 16 percent or below.

REFERENCES

BUCKWHEAT

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